MYTHSTAKES VOL ONE: GOSPELS OF WEALTH

CHAPTER ONE

Ever since he was 12 years old, Jean-Marie Chauvet had been spelunking. The region of France he grew up in- Ardeche- was an ideal location for adventurous types who liked to explore the underworld of potholes, caves and caverns. Chauvet and two other spelunkers by the names of Christian Hillare and Eliette Brunel Deschamps began to carefully survey the region in 1988, and over the following six years they were able to discover many new caves.

On the afternoon of December 16, 1994, those three were, once again, exploring the gorge at Ardeche. There was no reason to suppose they would make any notable discovery on this day, because the area they were exploring, close to the entrance to the gorge, was not a remote one. The group followed a mule path, worn down by the many shepherds who had passed this way before. And who knew how many spelunkers had been this way? No, there was not much hope of a great discovery, but December 16 was a cold day, and since this location was a sunny area, it made the trip more comfortable.

Onwards Chauvet's team went, until the mule path took them to a cliff. Before long, they found a hole in that cliff, one barely large enough for them to crawl into. Upon entering this hole, they discovered it was the entrance to a passageway that sloped downwards for about a hundred yards. At the end of that narrow passageway, the path was blocked by rubble.

So, not much to see here, just as they must have suspected? Actually, there was a hint that something might lie beyond that debris, because they could feel a slight draft. Deciding it might be worth a look, the three began to clear away enough rubble to be able to progress further. This was arduous work they were obliged to carry out on their tummies, heads downwards, but eventually enough space had been cleared to let the smallest member of the team wriggle through to let the others know if the effort had been at all worth it.

Eliette Deschamps was the smallest, so onwards she went. After crawling a further ten feet, the passageway opened up, and there, illuminated by the beam of her flashlight, was a giant gallery, the floor of which was some thirty foot below her current position.

The other two joined her, and they used ladders to descend to the gallery's floor. As they made their way deeper into this underworld, they discovered a mammoth. A little further on, a trio of lions were illuminated in the beam of their flashlights. More and more animals were spotted, until the count reached four hundred. Four hundred animals of various types, sometimes solitary, sometimes in great herds. But these were not live animals nor their fossilised remains. It was something far more fascinating: Images that people had painted at least 32,000 years ago.

But why should cave paintings be so much more fascinating than animal remains or the cave itself? Simply because Chauvet's team's discovery invites us to ask questions that cannot reasonably be asked of anything not created by a mind as intelligent, inquisitive and creative as a human being's.

To see why, let's suppose there were no signs of human activity in this cave, nor any animals or animal remains. Nothing but rocks, minerals and other inorganic stuff. In that case, yes, they may well have found things that caught their attention. They may have found stalactites or rock formations that happened to be shaped in an interesting way, like that rock that's meant to look like a witch in the English cave known as Wookey Hole. If they were really lucky, they may have chanced upon gemstones whose rarity and beauty have fascinated us since time immemorial.

But still, if only inorganic stuff had been in that cave, then setting aside the cultural significance attached to gemstones, the questions that could legitimately be asked of such discoveries would be limited, restricted to questions concerning 'What?', and 'How?'. "How did this stalagmite get to be this shape?". "How old is this rock?" "What caused this section of the tunnel to collapse?". Questions of this type would be legitimate, but questions that begin "why…?", cannot sensibly be asked.

Imagine that it was not just our imaginary cave, but the whole universe that contained nothing but inorganic matter. In this universe, there are no minds. No animals, no people, no gods, just stuff in the various forms stuff takes. In such a universe there would be only one reality- objective reality. There would be no ambiguity about the existence of things; either X exists, or X does not. If 'X' did exist, it could not be asked why, unless such a question could be rephrased as "how' or 'what', as in "why does the sun shine?/ "what causes the sun to shine?". But if you were curious to know why the sun shone, like there was some purpose or plan behind such phenomenon, well that's not a legitimate question to ask of our hypothetical universe. A universe devoid of life or mind is a pointless, purposeless universe comprised of nothing but random events and semi-stable patterns. Nor would there be any beauty, ugliness, hope or fear, because subjective states like these cannot exist without minds to experience them.

But let's leave our 'dead' universe and instead imagine one that has life in it. Nothing as complex as human life, let alone gods, mind you. Just plants and animals. The first difference we would likely notice is that there is a great deal more complexity in this universe, particularly complexity of a particular kind, namely 'functional complexity'. Sometimes, inorganic matter can achieve functional complexity. Stars, for example, can be likened to nuclear fusion reactors, or 'factories' producing the elements of the periodic table.

But while stars could be said to have some functional complexity, it pails before the extent to which life seems designed for a purpose. In 'The Blind Watchmaker', Richard Dawkins (b. 1951) devoted several pages to the echo-location ability of bats, inviting the reader to ponder the many design issues an engineer would have to overcome in order to create an autonomous flying object that uses sonar to home in on targets. The point of all that detail was to leave no doubt that something as complex as a bat could never have come about by random chance.

Dawkins was not the first to reach such a conclusion. Up until the 19th century, others had ruled out random chance being responsible for the functional complexity evident in lifeforms, and then concluded that only a god could have been responsible.

But, in the 19th century, Charles Darwin (1809-1882) figured out that there was a purposeless but non-random process that could naturally come about and which was capable of building up biological forms of immense complexity, including human beings. This process is what we call evolution by natural selection, and for folk like Richard Dawkins the existence of such a process means we no longer need attribute life's existence to the handiwork of gods.

As well as increasing functional complexity by orders of magnitude, life also brought about more ambiguity and uncertainty. In the objective world of the lifeless universe, there was no deception; nothing was anything other than what it appeared to be. But deception became a handy survival option that natural selection bred for in its blind way. A small fish spots a worm and is drawn towards an easy meal. Alas, it is no worm but the lure of an anglerfish, and the little predator becomes prey, paying for its mistaken assumption with its life. Another predator creeps among the branches of a tree, on the lookout for a meal. It does not know that the twig it just crept past was actually an insect.

Once brains evolved, not only deception but also lies became possible. Primatologists have discovered that monkeys and apes make particular vocalisations to warn their fellow primates that a particular predator is close by. Play the vocalisation for "beware! Bird of prey!", and monkeys will nervously scan the sky while running for cover. A green monkey was spotted emitting the call for "lion!". On hearing this warning, another green monkey fled, abandoning the banana it had been eating. Having frightened away its fellow monkey, our liar was able to steal the precious fruit for itself.

Once minds like these evolved, the objective world co-existed with another, subjective world. As we have seen, there is good evidence that animals have the capacity to lie or to believe in things that are not real. But can they also appreciate beauty or withdraw from ugliness beyond a purely reactionary kind of way? We cannot know for sure what is going on in an animal's mind, but since animals do have minds we can ask the question that was non-sensical when asked of a lifeless world: Why? For example, why does this bird bother to collect shiny objects and arrange them into neat little piles?

But, really, all 'why' questions asked of animals have the same answer. In nature, X happens because the genes that coded for X were more successful at getting themselves spread throughout the gene pool compared to genes that did not. So: why do beavers build dams? Because the genes that coded for dam-building behaviour were more successful at spreading through the gene pool. Why do birds of paradise have elaborate courtship rituals? Same reason.

But Chauvet's team found not just rocks, minerals and signs of animal life, they found cave paintings, an unmistakable trace of human imagination. That meant the questions they could ponder multiplied beyond anything that could be asked of lesser minds or no mind at all. The reason why is because such paintings are evidence of minds capable of not just subjective thought, but inter-subjectivity.

Is this really a capability that is uniquely human? Earlier, we imagined a universe with animals but no people. This might have made it seem as if 'people' describes a whole separate category of life, and indeed, this was a general assumption that persisted for

thousands of years. Such a belief was challenged by the theory of natural selection, because the way it works requires us to accept that every living species is the modern descendent of a common ancestor that existed billions of years ago. In other words, life on earth comprises of one family and, far from being separate from other animals and plants, our species is just one more branch on that vast family tree.

Since humans are just another species, a question necessarily arises: Do our behaviours, beliefs etc also reduce to the one explanation that ultimately explains behaviour in the natural world? Is it all just because such practices had some beneficial outcome for certain genes? If not, then why should our species be alone in having motives beyond successful procreation? When a dog chases after a ball, is it really motivated by nothing beyond a rational strategy to increase its chances of successfully mating? It's hard to shake the feeling that dogs chase after balls just because they enjoy that kind of thing, just as we like to engage in all kinds of play.

Other primates are known to use sex in ways that seem to have motivations beyond simple procreation. It can be used as a means of diffusing tension, or to establish political alliances, for example. As these undeniably social animals form such complex alliances, what is going through their minds? Is it all ultimately reducible to a drive to procreate, or are such concerns as remote to a chimp trying to climb up its social ladder as they may be to a human being working towards advancing a political career?

In the case of the dog and the chimps, one can always portray such behaviours as ultimately, in a convoluted and roundabout way, being about procreation. Ball-fetching helps hone hunting behaviour and it keeps the dog fit and healthy, all of which helps to make it more attractive as a mate. A chimp with good, strong political alliances stands more chance of having an opportunity to mate and see its offspring survive long enough to do likewise.

But then, you could say the same thing about people's varied motivations. Why play? Why work? Why pursue art? Why engage in religious worship? Because, ultimately, these are convoluted and roundabout rational strategies for spreading our genes? Well, yes, maybe. But these are such convoluted and roundabout ways of achieving such an aim as to make such a claim seem, well, bizarre. There's got to be other motivations behind the complexity and variety of human behaviour.

If only we could really talk to the animals, that might clear things up, but alas we cannot. Whatever is going on in an animal's mind, most of it has no way of being communicated to the outside world. Trying to understand how an animal makes sense of the world and its place in it is a matter of trying to figure out how it would be to live without the capacity to understand complex language. Such a thought experiment is as hard for us to comprehend as a fish imagining life not immersed in water.

Or is it? Maybe I am doing the human imagination a disservice? After all, we can at least give form to the question "what would it be like not to have language?", and chew over that idea in our minds. But a fish has never heard of 'water', and does not know it's a fish. It certainly cannot ponder the question of what being a fish out of water might be like. As a creature without language, it not only cannot communicate such ideas to others, it cannot form them in its own mind.

The theory of evolution is pretty clear that, if you trace human ancestry back far enough, you would find yourself contemplating creatures that no longer resemble primates, but instead look more like fish. Neal Shubin's (b. 1960) book, "Your Inner Fish", lays out the evidence for that assumption in such things as genetics, comparative anatomy and the fossil record.

It inevitably follows from this that if you were to trace that fish-like ancestors line of descent forwards in time, taking care to avoid other paths as the lines of decent branch off into other, non-primate species, you would eventually find yourself contemplating a great-great….great grandchild of that fish which could understand language as well as you or I. Most other animals come in a great variety of species. Think, for example, of how many bird species we have. The one exception to this rule are human beings, of which there is only one species. However, the evidence of evolution gives us every reason to suppose that, a long, long time ago, there were many different species of homo sapiens.

These homo sapiens would have had the same adaptations that enable the last remaining species of homo sapiens (us) to bring about a reality that is additional to the objective and subjective: A brain big enough to handle complex language, and the imagination and creativity such an ability enables, coupled with the ability to communicate such thoughts to others possessed of the same ability, so they can maybe join in and contribute their thoughts, their hands, to a drive to give physical form to subjective states. These were the adaptations that led to that additional reality: 'Intersubjectivity', or the shared beliefs of many minds. What an amazingly varied and complex world inter-subjectivity is. It is the world Chauvet and his team had to contemplate as they shone their torches on those many cave-paintings and wondered…why?

Like they presumably did, let's also ask why our ancestors felt a need to daub those walls with images. For all we know, the motivations for some may have been simple defiance, akin to the crude graffiti yobs of today scrawl across surfaces. The images Chauvet's team uncovered included paintings of hands. What do these represents? A crowd of people? A method of counting (as in, raise your hand to vote for this proposal)? Or was it as rude to these people as a raised middle finger is to some cultures today?

Not all the images in Chauvet's cave, or in other caves that have paintings, are of instantly recognisable images like hands, people or animals. There are also more abstract shapes. What meaning lies behind these mysterious forms? Should we attach some spiritual or religious significance to them? Were they meant to convey some kind of philosophical idea? Most likely, the significance and purpose of these mysterious cave images were no doubt as instantly familiar as a dollar sign, the image of a crucifix or the Golden Arches of McDonalds are to us. But since we lack pretty much all context, it's as hard for us to interpret such images as it would be for people who are completely ignorant of our culture and history to guess the meaning of a symbol like £.

At least when it comes to the images of animals we feel more at ease interpreting their meaning, because we know what we're looking at. But really, we only know on a superficial level. Yes, this is an image of a herd of animals, but why did the artists paint them and not something else? Because they thought such animals were beautiful? Because they thought

the god of hunts would be pleased and bless them with a successful hunt if they decorated the cave in this manner?

Or was it something more abstract than that? The novelist and social philosopher, Elias Canetti (1905- 1984), suggested they might have been a means of expressing a startling idea. By drawing images of great herds of animals, these artists were challenging the viewer to ask: What would it be like if people were to amass in such vast numbers? What if there were mega-tribes living in mega-villages comprised of hundreds, thousands, millions of people? What would such an unimaginably vast gathering of people be capable of doing? What connections would they form? What would hold these societies together? Or would it not hold together but instead inevitably disintegrate? Is it just impossible to organise humans into such a herd?
In other words, these images of great herds of animals were our ancestors' way of imagining cities and metropolises, where we really do find millions of people living together, with all the opportunities and problems for cooperation and conflict that comes with it. If Canetti is correct then, long before people gathered together to build cities out of physical materials, they were building cities in their minds, at least to the extent that ways of life so unfamiliar from their own could be imagined.

CHAPTER TWO

The images on these cave walls invite us to ask so many questions we could probably study them for a lifetime and come nowhere close to exhausting the possible ways to interpret them. But why restrict ourselves to just these images? There's a whole universe out there. So, let's leave this cave and step into the light of real life. Now we are no longer contemplating the concepts of long-dead ancestors; we are back in objective reality.

Or are we? Yes, we have imaginatively stepped out of Chauvet's cave, but there is another cave which we can never escape. This is because the mind is locked inside the skull, where no light ever penetrates. But, that can't be right, because we have sensory organs that feed the brain with information about the outside world. If we want to know what's out there, we need only open our eyes, those windows to the soul.

Ah but, you see, eyes are not windows. They don't really let light into your head. Instead, their job is to gather photons and assist in interpreting the information they carry into a coherent representation of the world. This means that there is an objective world…but also the way we interpret it in our subjective mind. We like to think that how we see the world, and how the world actually is, are one and the same. After all, if that were not the case, would we not be mad, believing in delusions?

But, actually, once you understand how the eye functions you have to accept that appearances are, indeed, deceptive. Today, you can buy a VR headset that uses a technique called 'Foveated Rendering". It is computationally expensive to render stereoscopic images quickly enough to achieve effective VR, so any way to reduce the number-crunching is welcome. With foveated rendering, the headset calculates the exact spot you are looking at, and renders just that location in high detail. Everything outside of your direct attention is rendered in lower resolution. As soon as your attention snaps to a

different part of the scene, that part now gets the high-fidelity treatment, and the previous spot joins the rest in making do with lower-resolution rendering.

In reality, then, most of the VR environment is rendered in lower detail, with only the part you are directly looking at given the high-viz treatment. But, this is not how it appears from the perspective of the player wearing the headset. As far as they are concerned, the whole world appears to be rendered with high-quality graphics.

Still, you might be supposing that there must be a way to ‘cheat’ this illusion and see the world as it is really being rendered. Can you not see those lower-resolution parts of the scene in the periphery of your vision? The answer is no, because of the way our eyes work. Only a small part of the eye- the fovea- is capable of seeing the world in high detail. The rest of the eye can only see low detail. So, really, the illusion that you are looking at a high-resolution environment when, really, most of it is rendered in low detail, is not an illusion restricted to expensive VR headsets, it’s how we always see the world! It’s just that the eyes and the brain employ a variety of techniques that work to bring about a very convincing illusion of seeing the world in full detail, all of the time.

What’s really out there? What form does the world outside of our skulls actually have? Is there light? Colour? Modern science tells us no, there are just electromagnetic waves, and ‘light’ and ‘colour’ are just our mind’s way of interpreting the information carried by those waves. There are no sounds out there, just vibrations of air molecules. In fact, there really are no molecules, vibrations, planets, people, atoms…There is, in fact, nothing in the universe that you can name which has any more existence outside of the human mind, than those images painted on cave walls 32,000 years ago. Everything we know are but human concepts, names and stories we give to things as we try to make sense of the world and what we believe is in it. Whenever we talk about reality we are really talking about fictions that exist nowhere in objective reality but are, instead, a creation of intersubjectivity. We live in a fantasy world from which we can never escape.

But there is still an objective reality out there, and it can be a dangerous place. There is obviously great survival advantage in honing that fantasy so it coincides as closely as possible with objective reality, or at least aspects of reality relevant to survival in whatever environmental niche we occupy. It’s fair to say, then, that our everyday perception is indeed a fantasy that coincides with reality. This is because our brain is not just a VR machine; it is also a prediction engine. It constantly ‘asks’ how our fantasy of the world matches up with what’s actually out there, making adjustments where necessary. It does not always get things right. It employs assumptions that can be manipulated to make you see things that are not as they appear. That’s how illusions work, and how the stage magician gets you to believe that the pretty assistant really did disappear. But for the most part, our fantasy matches up with reality really well. After all, it has been fine-tuned over millions of years.

Notice, though, that I said we have a close match with aspects of reality relevant to survival. Most animals concern themselves with things they really need to know if they are to survive, and dismiss all else as utterly irrelevant. But we are not like that. Some of us actually strive to know about things so remote from everyday experience it really does not affect survival chances if we know about such things or not. It really does not matter, for instance, to know if light is a wave, made up of packets of particles, or some mysterious thing that is neither

wave nor particle but both of these at the same time. Nevertheless some of us go to great lengths to determine what light may actually be. And the existence of stage magicians prove something else. We like to experience fantasies that have nothing to do with reality, at least some of the time.

When a stage magician shows us an illusion, or a performer acts out a scene, or a narrator tells us a story, none of these are true, but nor are they, properly speaking, lies. A lie is when somebody wants others to believe in something they know to be false. If a person said “I can read people’s minds” when, in fact, he’s just using tricks that have nothing to do with mind-reading, such a person would be a liar. Stage-magicians don’t really do that, though. They know, and we the audience also know, that it’s all fake. It’s not a lie, then; it’s a consensual fantasy, as are the worlds portrayed in stories or on the cinema screen.

Or, rather, sometimes the person on stage is an illusionist inviting us to enjoy a consensual fantasy. But sometimes the person on stage is a priest, mystic, guru or scientist insisting that the fantasy they convey to us is all real. Sometimes, the story we are being told is said to be “based on real events”.

One might say, then, that, in terms of how they relate to reality, stories come in various forms. There are those narratives that are backed up by a good deal of evidence. If you believe that water is wet, that you cannot jump over a mountain, and that evolution by natural selection explains the natural world better than any alternative explanation, you can rest assured that such beliefs are backed up by a huge amount of corroborating evidence. Indeed, in our everyday lives, most of the time our prediction engine matches our model of the world to reality so well, it’s not worth questioning what we believe. Everyday life experience is made up of countless self-evident truths.

Things we can be very confident about almost certainly make up an infinitesimal part of all reality. We might think of these certainties as tiny islands amidst an infinite ocean of complete ignorance. Most of reality is so mysterious, so incomprehensible, it does not even register on our mind in the form of a coherent question. Or, rather, I assume this to be the case.

For obvious reasons, there’s not much you can say about categories beyond human imagination. They may even be so alien, even simple labels like ‘does/does not exist’ cannot meaningfully be applied. Let’s leave such abstractions, then, and instead consider the next kind of story. Here, we are dealing with beliefs for which there is either insufficient evidence to settle the question, or evidence is simply not applicable.

Do you believe in aliens? Or do you believe we are alone in the universe? People have come up with arguments for either possibility, but we really don’t know if aliens exist somewhere or not. How do you distinguish between a real UFO sighting or alien abduction scenario from a charlatan who is out to trick you, or a deluded soul who has misinterpreted some other phenomenon and honestly believes in what is, in actual fact, not evidence of alien life at all? I for one do not think we have ever found definitive proof of other inhabited worlds, but then again it’s a big universe and absence of evidence is not evidence of absence.

Still, at least with aliens we can imagine a way in which the question could be settled. Maybe one day we'll visit an alien planet and find it inhabited? Or maybe aliens will come to us, and in such a manner as to leave no doubt of their presence? But some beliefs can never be proved or disproved. Can machines have souls? Is my perception of red the same as yours? Is there a god? It's not just that we currently lack evidence needed to definitively settle such questions. Rather, it's because questions like these transcend the very idea of 'evidence'. They are more like mysteries to be experienced than problems to be solved. While we may one day build robots that act as though they are having conscious experiences, philosophers have succeeded in constructing thought experiments that show we cannot know if this is merely an illusion or not. Some people mistake this for proof that conscious machines are impossible. But it's not. Rather, it's an argument that we can never really know if a machine that certainly seems conscious does, in fact, have the necessary subjective states the term 'consciousness' refers to.

People also believe in gods, spirituality, heaven, for reasons that have nothing to do with 'evidence'. For such people, belief in the supernatural has nothing to do with explaining things, like how the world came to be, or where evil came from. It's more to do with giving expression to the inexpressible; of accepting that there's something greater than ourselves.

For those of us who are non-believers, followers of religion, mysticism and certain schools of philosophical thought can seem, well, weird. But, really, these are not the weirdest beliefs people hold. If a belief cannot be disproved and incorporating it into your life provides you with meaning, why not believe it? But now we come to the final category: Believing in something when there is actually a good deal of evidence to show it is false.

To illustrate what I mean, consider the following allegory. John, an Englishman, believes all swans are white. Evidence appears to corroborate such a belief, because all his life John has only ever seen swans of that colour. But then, Sally invites him to Australia, where she shows him something that should change his mind. "Look!", she says, "there's a black swan, a whole flock of them in fact". John does indeed see the black swans, but nevertheless he persists with his belief that all swans are white.

That was obviously just a story, but people like 'John' do exist. They may not believe all swans are white even though there is such a thing as a black swan. But they do believe in things when evidence should persuade them such beliefs are false.

Your next thought is probably: Ok, but even if there are such people, you must mean ancient people, or people stubbornly clinging to ancient ways, because only those people who tried to make sense of the world with non-scientific methods could make such mistakes. No, I am talking about modern people who insist their beliefs are derived at using science. Ah, your next thought may be, in that case you must mean folk on the far fringe, such as holocaust deniers or Trump supporters who believe the election was stolen.

But no, I am not just talking about ideas on the far (some would say lunatic) fringes. I am talking about people very much within the mainstream of their profession. If you read their pop-science books, attend their lectures or watch their documentaries, they will tell you things as though they are supported by evidence. They will lead you to believe they are matters of historical or contemporary fact. But, actually, they are falsehoods. They never

really existed. They are fantasies that do not coincide with reality and indeed have been refuted by evidence.

The world we experience is always a fantasy. We are a social, storytelling animal, and the world we inhabit is a narrative spun by our imagination. We live in a world of myth. Sometimes, the myth coincides with reality. Sometimes, myths portray a world beyond evidence's ability to confirm or deny. But what we are talking about here are myths that are provably false, but we are asked to believe in them nevertheless.

These are not just myths but 'mythstakes'. They are not lies, nor consensual fantasies, because the people asking us to believe in them believe in them themselves. They think they are talking about categories of reality, when in fact it is a myth's take on evidence that really should be looked at in an entirely different way. But doing so requires asking questions that the mythstake prevents us from asking.

CHAPTER THREE

How is it possible for mythstakes to become so widespread as to become part of mainstream teaching, when there is supposed to be an effective method for filtering out falsehoods from bodies of knowledge, namely 'science'? There are two main reasons why mythstakes occur, which we will be looking at in greater detail over the coming volumes of this work. Here, though, we can only offer an introduction to the two main reasons.

Firstly, there are two ways in which to investigate the world in a 'scientific' way, neither of which is one hundred percent capable of uncovering all the facts, and one of which seems more susceptible at generating myths presented as though they are matters of fact.

In either case, the task of the scientist is to explain how some aspect of reality came to be. Let's say you wanted to explain how species came about. One way in which to go about shining light on that mystery would be to go around gathering knowledge from those who work with nature, such as farmers and horticulturalists, learning how, through selective breeding, they are able to modify the descendants of current breeds into remarkable new sizes, shapes, colours etc.

You would collect specimens from the wild, noticing how, on closer inspection, what seems like great diversity turns out to be modifications on a general theme. For example, the skeletons of birds, bats, fish and primates look different at first, but on closer inspection you hardly ever find unique bones, but rather the same basic skeletal structure, only with some bones modified to suit a particular way of life. Examining biological forms even more closely, focusing in on the molecular level, you discover even greater similarities among seemingly diverse species.

But, a person who just goes around amassing a great collection of information is not really doing science. This is merely a part of the process, akin to gathering the scattered pieces of a great puzzle. As in puzzle solving, the greater challenge is to put all those pieces together to form a single coherent picture.

This is particularly challenging for scientists, because, unlike a person doing a jigsaw puzzle, there is no handy picture on a lid of a box to show them exactly how those pieces should fit together. Furthermore, whereas one expects to find all the pieces needed to assemble a jigsaw puzzle, science must live with the fact that most of the pieces will be missing, and therefore the picture will always be incomplete, leaving us to figuratively fill in those gaps, imagining what the complete picture ought to represent.

So, anyway, you've gathered up all these 'puzzle pieces', but now you must ask the question: how do all these pieces fit together? In order to answer that question, you need to generalise from all this data you have gathered, hypothesise about what physical processes would have produced these pieces and how, given such processes, they should fit together.

In the case of species, your hypothesis might go something like this: "breeders have shown that future generations can take on remarkably different forms when people are consciously choosing which animals or plants will breed and which will not. Call this process 'selective' or 'guided' breeding. Could there be a process in nature which is in no way intelligent or conscious but which nevertheless does what breeders so, allowing some animals and plants to successfully breed while filtering out those other lifeforms which, for whatever reason, don't make the grade?

OK, how about this? The Earth naturally provides a great many environments. Within these environments, lifeforms adopt various strategies in their drive to survive into the future. We need not suppose that there is necessarily any conscious thought or planning involved in such 'strategies'. We need only suppose that, while all lifeforms do eventually die, some die sooner than others. No doubt, a lot of these fatalities will be due to sheer accident, but if enough are due to some defect that the animal/plant happened to have, could we not then speak of the environment acting like a breeder, 'deciding' that this animal or plant should not have offspring? Not conscious deciding, mind. We are talking here of a blind process that selects against animals and plants in a non-random way. Along with arbitrary forces of nature that indiscriminately kills life, what if there were other natural forces which happen to take out lifeforms in a more, well, selective fashion?

We know that lifeforms have the ability to produce offspring. We also know that offspring resemble their parents more than any other species, but they are never really exact copies. If the child was always an exact replica of its parent, neither selective breeders nor this hypothesised process would have anything to work with. But, if a child should happen to be born with some advantageous trait, and that trait could be inherited, then wouldn't it be the case that, over time, animals and plants with favoured traits would out-compete their disadvantaged rivals so that, over time, life evolved to better fits its environmental niche?"

If it is to be at all useful, this narrative we are constructing ought to have explanatory power. In this case, what we are trying to explain is 'functional complexity'. In other words, how did it come to be that lifeforms took on such well-designed forms, adapted to fit their environment? Since we are trying to explain functional complexity, we can rule out gods being involved in the process. In making this choice, we are in no way suggesting that 'God' is a concept that has been disproved; we are merely acknowledging that saying 'God did it' is no explanation of complexity because it relies on an even greater (infinite?) level of complexity to bring

about the comparatively lesser complexity we're trying to account for. That is to say, the 'God' hypothesis compounds, rather than explains, the problem of functional complexity.

A successful explanation would be one that shows how some process could build up greater complexity from lesser complexity. Of course, one could make up all kinds of just-so stories concerning various hypothetical processes, and indeed before Darwin proposed his version of evolution by natural selection, earlier thinkers like Jean-Baptiste Pierre Lamarck (1744-1829) had proposed their own evolution hypotheses. But Darwin's hypothesis succeeded where these alternatives failed because it had greater predictive ability.

The test of predictive ability is this: future observations and experiments confirm hypotheses formed in the past. Returning to our puzzle analogy, it's like looking at the pieces you have gathered so far, and then forming an image in your mind of the picture these pieces represent. With that picture in your mind, you can predict what shape and colour the missing pieces ought to have. If you find more pieces and they fit your image of what the puzzle ought to look like, all well and good. But, what if you were to find puzzle pieces that did not fit your imagined picture? Well, the puzzle is always incomplete, so you might predict that future pieces will be found that connect everything together after all. Having said that, what you are imagining the complete picture to be may not be merely incomplete, but fundamentally wrong. In that case, puzzle pieces that are completely out of place are not waiting future confirmation, but are instead demanding that you abandon your image of what the completed puzzle looks like.

Now, obviously, practical scientific work progresses into the future. But what this empirical method does in an imaginary sense is to expand explanatory power outwards and backwards in time, starting with observations and experiments in the here-and-now, and figuring out how things fit together in a way that sheds light on realities that are more distant in time and space. The better the narrative, the less likely we are to come across some obvious contradiction, and the more pieces we gather, not just in our specific area of interest but in other sciences as well, the tighter the correspondence between theory and observation we ought to see.

For example, as geologists and palaeontologists came to understand the processes that have shaped life on earth, it became increasingly obvious that life had been around for millions, even billions, of years. But this presented a big mystery. If you follow any food chain back to its root, you will discover that all life ultimately depends on the energy coming from the Sun. The trouble was, up until the 20th century nobody knew of any energy source that could power the sun for billions of years. In Darwin's day, it was thought that the Sun was a massive ball of iron that had been heated up by friction until it glowed white-hot. Also, as sweaty miners knew all too well, the deeper you descend into the earth, the hotter things get. William Thomson (better known as Lord Kelvin) (1824-1907) thought that this was residue heat left over from the developmental phase of the solar system, when it was supposed planets formed via a process whereby smaller rocks banged into each other to form larger rocks, which banged into each other to make even larger rocks….and so on until, thanks to all that energy being released in these collisions, you end up with a gigantic ball of molten rock that gradually cools down.

How long would it take for an earth-sized ball of molten rock to cool right down? Lord Kelvin calculated that the earth had been in a molten state a hundred million years ago. But, geologists and palaeontologists were beginning to realise that life had been around for a far longer stretch of time, not hundreds of millions of years but several thousands of millions of years. But, if life had existed for billions of years, what kind of energy source could power the sun for such a vast length of time? As far as pre-20th century science was concerned, no known energy source existed that could keep stars shining for billions of years. Still, if life really had been evolving for billions of years, there had to be an unknown energy source that could power stars for that amount of time.

Then, in 1846, fourteen years after Darwin passed away, a French physicist named Henri Bequerel wrapped a piece of uranium salt in a photographic plate. When the plate was developed, he discovered bright spots, as if the uranium was releasing rays of energy. Then, seven years later, Marie and Pierre Curie showed how a lump of radium emitted what seemed to be an unlimited amount of heat.

Discoveries like these led to the recognition of a hitherto unknown source of energy in the basic structure of atoms. This led us to nuclear physics, and the realisation that the Sun is not made of iron, but is instead a prodigious mass of hydrogen, the further collapse of which is balanced by nuclear fusion going on in the core of the star. Nuclear fusion is not an unlimited, inexhaustible form of energy, but it is more than capable of powering the Sun for many billions of years.

So, in a sense, the theory of evolution predicted that nuclear power would be discovered, because it required an energy source that could power the sun for as long as life had been around according to fossil and genetic records.

If you think about it, it makes sense that a good empirical theory should fit neatly with facts not just within its own narrow field, but in other fields as well. After all, it is only in reductionist thought that reality is compartmentalised into separate ‘fields’. This is nothing but a convenient fiction that makes an impossibly complex reality somewhat easier to model in our minds. But, in reality, the universe is holistic and everything fits together in an interrelated way.

So far, we have been talking about the empirical method as it is presented in pop-science, which is of scientists gathering data, doing experiments, and coming up with a plausible narrative that explains what we find, is compatible with what we know in other disciplines, and which won’t be falsified by future predictions. But, there is something in addition to all this that empirical science needs to do, something usually omitted from pop-science narratives.

The scientific method would be lacking if all we had were narratives outlining the gist of a hypothesis. A good scientific model needs to not only describe relevant processes in general terms, but to describe those processes quantitatively. In other words, a proper scientific theory requires mathematics, bringing about more precision than a mere ‘just-so’ story can provide.

In the case of evolution by natural selection, the theory was eventually combined with genetics to create the ‘Neo-Darwinian Synthesis’, and scientists like William Hamilton and George Price (1922-1975) produced mathematical equations showing how ‘game theory’ strategies could account for the diversity of life we see today. Such equations are usually absent in pop-science accounts (it’s thought to lower sales if you include much math) but they are a vital tool for any serious scientist.

From the viewpoint of empirical science, that is the most accurate way to think about the relationship between mathematical equations and the processes they are describing. The equation is a tool of sorts, the purpose of which is to describe some relationship observed in nature. What determines the validity of such equations is purely the ability to describe current relevant knowledge and future observations in the relevant fields. The equations ought not to be judged according to some intrinsic logic or appeals to ‘beauty’ or some such thing. They are useful only because they can help us make successful predictions. They have no value beyond this one practical use.

Anyway, you have the framework of your theory, quantified with mathematical tools. Suitably equipped, you can imaginatively work backwards from today’s world and describe events that extend ever further backwards into the past. How do you know this tale of the past you are portraying is valid? Well, ultimately you do not, but if there are no contradictions between what your theory says the past should be like, and what appears to have actually been the case according to the latest findings, there would be no need to adopt an alternative narrative. But if, for example, your model predicts that life is no more than a few thousand years old, and then palaeontologists find fossils that are millions of years old according to measurements that are reliable enough not to be seriously questioned, your current model is wrong.

Inevitably, because the scientific reconstruction of the past is always incomplete, you will find that the further back into the past we try to look, the vaguer our understanding becomes, until we are no longer able to rely on any hypothesis let alone theory.

For example, the theory of nuclear fusion not only explains the process that powers stars, it also accounts for how much of the elements of the periodic table were created. Hydrogen atoms combine to produce helium and because E=MC squared, a tiny bit of mass in those atoms gets converted into energy. In fact, the equation is basically a tool that tells us how much energy you can obtain from a given amount of mass (just as there is a mathematical tool that tells us how to convert degrees Fahrenheit into degrees Celsius).

Imagine that you had a super-sensitive set of scales. On one side you place four hydrogen atoms, and on the other, one helium atom. The mass of four hydrogen nuclei can be written as 1+1+1+1=4, and since a helium atom is like four hydrogen atoms joined together, you would expect the weight of one helium atom to balance that of four hydrogen atoms.

But, actually, the helium atom weighs slightly less, about 0.7 percent less than those four hydrogen atoms. Where did that missing mass go? It was converted into energy. How much energy? Well, the equation tells us it’s 450,000,000,000,000 times greater than the missing mass.

Now imagine that, every second, four million tons of hydrogen is being transformed, via nuclear fusion, into helium, during which process 0.7 percent of that mass becomes 450,000,000,000,000 times as much energy. But, you don't really need to imagine, because this is what goes on in stars as nuclear forces transform hydrogen into helium.

It's not just helium that gets produced this way. In fact, all the atoms in your body, as well as the cells of all other animals, plants, and the carbon dioxide or oxygen we need to live, all are, ultimately, recycled star ash.

Astrophysics therefore tells us where the building blocks of life come from. Darwin's theory shows how, once life arises, it must necessarily diverge into different species. But, in between the building blocks of life being created, and life subsequently arising, there is a big mystery: what lead to the origin of life?

This was not a question that Darwin set out to answer in his book 'On the Origin of Species'. As you can see from the title, this work takes it as given that life exists, and then explains why subsequent generations won't all be carbon copies of their ancestors. The question of how life began in the first place is not really the point of this book. But, still, there is obviously a big gap in our understanding, akin to missing segments between 'the building blocks of life are produced in stars', and 'life diverges into species', in our imaginary jigsaw puzzle.

Personally, I favour hypotheses that don't assume life began and then evolution could get going. Instead, it was the other way around. The question then becomes, what conditions are needed to get evolution started? You need something that can generate imperfect copies of itself, and which can pass information on to future generations. As the chemist Graham Cairns Smith (1931-1976) has shown, crystals have both such properties. Crystals are certainly not alive, but in certain conditions they can behave in lifelike ways, growing and multiplying like bacteria in a Petri dish. Straight away, we can see how a crude form of evolution could get underway. Crystals only exhibit lifelike behaviour in certain conditions, so any crystals that, for whatever reason, sustain those conditions would have a selective advantage.

However, evolution could only get underway if crystals could pass on genetic information. Actually, the way crystals grow naturally allows a very crude from of genetic information to be recorded. Crystal 'genes' are nowhere nearly as sophisticated as the DNA molecule with its four-base pairs, but then we shouldn't expect the very first replicators to rely on such a sophisticated method of storing and transmitting genetic information.

So, you have crystals 'competing' to sustain the conditions necessary to keep them growing and multiplying. Now suppose that some accidentally find that organic molecules can assist them. Cairns-Smith tested this hypothesis and found many useful ways in which clay crystals could have used organic molecules. Also, the inorganic chemical industry frequently makes use of organic molecules. As Dawkins explained, "tannins, a kind of organic molecule, are used in the oil industry to make muds easier to drill. If oil drillers can exploit organic molecules to manipulate the flow and drillability of mud, there is no reason why cumulative selection should not have led to the same kind of exploitation by self-replicating minerals".

We might imagine how, over time, clay crystal replicators incorporated organic molecules in increasingly sophisticated ways. This might explain a mystery surrounding DNA. DNA is like an arched bridge, in the sense that both appear to be paradoxical structures. Why? Because every 'brick' must be in place or else the whole structure collapses. So how on earth do you build an arch one brick at a time? The answer is, you first erect a scaffold to support the construction, removing it once the completed structure supports itself. In Cairns-Smith's hypothesis, clay crystals acted like that scaffolding. They started off 'exploiting' organic molecules for their purposes, but along the way organic molecules were also exploiting clay, until finally something like DNA emerged and a whole new branch of purely organic replicators came on the scene.

What I like about this scenario is that you cannot really pinpoint the moment when something with lifelike properties actually becomes 'alive'. We inquire into 'the' origin of life, as though such an event occurred in one splendid step. In reality, there probably never was a single step whereby non-living replicators became alive, but rather a system of growing complexity, blurring the line between inorganic replicators that are not alive, and biological ones that clearly are.

This story I just retold, of how biological evolution was preceded by natural selection increasing the fitness of clay crystal replicators, is just that: a story. Nobody really knows if this is how life emerged, and other scientists have proposed alternatives. Scientists have been trying to create life from scratch in the laboratory, but so far all such attempts have included a 'cheat', meaning we cannot strictly speaking call these true 'life from non-life' demonstrations. As things stand, then, the stories of life's emergence that we have come up with belong in those categories of myth where the evidence is too ambiguous to confirm or deny any hypothesis. The best we have managed to do is to propose hypotheses that have some plausibility but also raise questions to which we have no answer.

CHAPTER FOUR

I want to return to the stars now, as a way of getting us unto the subject of the second methodology used in science, which is 'deduction'. What are stars made of? Most people know that matter can exist in three states: solid, liquid and gaseous. Given those options, you might say that the Sun is a great big ball of hydrogen gas. But, actually, there is a fourth state of matter. Although people tend to be less familiar with this fourth state, it's actually the most common state ordinary matter comes in, making up 99 percent of ordinary matter in the universe. What is the name of this fourth state of matter? Plasma.

Unlike dark matter, which is an entirely hypothetical form of matter unrelated to ordinary matter, plasma is routinely created and studied in laboratories. This is what plasma physicists do, and plasma physics developed along two parallel lines. One such approach took a more empirical line of investigation. This hundred-year-old line of inquiry began with investigations into what were labelled 'electric discharge in gases'. Practitioners of this method studied plasma and its behaviours in the laboratory, and in so doing they showed how plasma could exhibit such things as 'double layers', 'striations', and all kinds of oscillations and instabilities. But, what they did not do was come up with elegant mathematical theories that could explain all the complexity of plasma behaviour. Real plasma is too unruly and complex to lend itself to elegant mathematics, and this branch of

plasma physics remained mostly experimental and phenomenological, with the theoretical side of things developing much more slowly.

The other approach to studying plasma came from a highly developed theory, which was the kinetic theory of ordinary gases. An alternative name for plasma is ‘ionised gas’, and the thinking was that the field of study known as the kinetic theory of gases could be extended to include ‘ionised gases’ aka plasma. This branch of physics succeeded in producing very elegant mathematical models, and claimed to derive all the properties of plasma from first principles.

But, really, such claims were a huge exaggeration. This approach to plasma physics was highly theoretical and had little to do with experiments in real plasma behaviour. In order to simplify that behaviour, a number of approximations were introduced in order for the complexity of plasma to be reduced to something that could be described in a mathematically elegant way. But, while these approximations were necessary if you wanted elegant equations, they were not always appropriate. Contact with real plasma and how it actually behaves would have shown this, but this line of inquiry was heavily theoretical, hardly ever concerning itself with experiments and ignoring most of the complexities that real plasma was known (by those who actually did conduct such experiments) to exhibit.

Meanwhile, astrophysics and cosmology were also developing in a way that lent heavily towards the theoretical and, because of this, these scientific fields greatly favoured the study of plasma physics derived from the kinetic theory of ordinary gases. As for the pioneers of the alternative method, their ideas were almost completely neglected and even now you would be hard-pressed to find any pop science book on space, stars and cosmology that so much as mentions them.

Now, you would be forgiven for supposing that, if plasma physicists running experiments had practical demonstrations that the theorists were wrong, it should have been easy to show those theorists that they were in error.

But, when one of the leaders in the field of practical studies in plasma- Hans Alvfen (1906-1995)- tried to show such demonstrations to Graham Chapman (1888-1970) (the leading figure on the theoretical side of things) he found that nigh on impossible to do. At one point, Alvfen recreated an experiment that a pioneer in the practical side of plasma physics- Kristian Birkland (1867-1917)- had once set up. The plan was that Alvfen would show Chapman this demonstration, and hopefully that would start a discussion on why the Birkeland currents that manifestly were produced could not also occur in space. But, as Alvfen recalled, “he flatly refused to go down to the basement to see it. It was beneath his dignity as a mathematician to look at a piece of laboratory equipment!”.

Eventually, the theoretical side of plasma had to confront all the complexities it had been ignoring for commercial reasons. Once it was realised that stars were powered by controlled nuclear fusion, a tremendously abundant form of energy presented itself. If nature could manipulate plasma into causing nuclear fusion, why could we not do the same? Indeed, the theoretical branch of plasma physics supposed this ought to be possible. After all, their theories seemed to show that laboratory plasma could easily be confined in magnetic fields,

and then heated up to a temperature that would allow thermonuclear reactions to commence.

But when this was tried, the plasma absolutely refused to behave itself, exhibiting all those wild, complex and unpredictable behaviours the theoreticians had ignored, making sustained nuclear fusion a far harder form of energy generation than theory had led us to believe. Even now, nobody has managed to commercialise sustained nuclear fusion. We can, at great expense, achieve nuclear fusion for a brief time, using tokomak reactors that try to tame plasma with gigantic magnets, but attempts to achieve sustained nuclear fusion that outputs more energy than was used to start the process remains an elusive goal.

Meanwhile, that practical branch of plasma physics suggested alternative ways, methods that worked with plasma instabilities rather than trying to tame them. This line of inquiry has had as much success in developing fusion toward a commercial energy source, but sadly its advocates get only a fraction of the funds poured into mainstream approaches and remain a small group, out on the fringes, largely ignored.

This last point is an important one, because it addresses a question that may well be raised about ‘mythstakes’. So what if there are thinkers out there who cling to long-disproven theories? Why should that affect my life? Well, it certainly affects our lives in a material sense, because some ‘mythstakes’ have wasted gigantic sums of money, many trillions of pounds in fact, and have frustrated research into such things as practical nuclear fusion that might have saved us a lot of environmental damage if only theoretical dogmatists wedded to ‘mythstakes’ had not succeeded in diverting so much R+D into bogus ventures.

Now, in that discussion regarding the two ways in which plasma physics developed, there were hints as to how the alternative way of doing science operates. We heard about elegant mathematics derived from first principles, and that’s pretty much how the alternative approach works. This is known as the deductive method, and it works in the opposite direction to empiricism.

In other words, it does not begin with practical experiments and observations. Rather, the deductive approach begins in an imaginary past, where certain initial conditions are assumed to have existed, and from where you can work forwards from such conditions to arrive at reality as we perceive it today.

Sometimes, those ‘initial conditions’ may include phenomenon that has absolutely no experimental verification, but are instead the product of some authoritative assumption; initial conditions that appeal to some religious, philosophical, mathematical or aesthetic authority. Whereas the empirical approach prioritises observations and experiment, and is not too bothered if the phenomenon does not lend itself to elegant equations, the priority of the deductive approach is entirely the other way around. In other words, the priority is heavily slanted towards creating equations that are ‘elegant’ or ‘beautiful’, and if reality does not correspond to how such models depict it, well, no matter. This is but an illusion, a temporary error due to the fact that experimental or observational science has not yet matured to the point where it can confirm the way those theoreticians know reality must be, due to logical or aesthetic necessity.

Returning to our ‘puzzle’ analogy, we might imagine such a theoretician contemplating an incomplete puzzle, and proposing what it must be depicting. “Ah yes, logical necessity requires this to be a snake”. Others, though, are finding other puzzle pieces that do not suggest it must be a snake. In fact, it would appear that the puzzle is of an entirely different animal. Something large, grey, standing on four legs and possessed of a snake- or trunk-like appendage. “Oh no!”, our theoretician responds, “do not be fooled by mere appearance and the evidence of your own eyes! Do you not know that experimenters can make mistakes? And besides, so much of the puzzle is still missing. My beautiful theory strongly suggests that, when these missing pieces are found, the elephant illusion will be revealed for the mistake that it is, and my snake theory (which must be, from logical necessity) will be confirmed!”.

As we shall see, something very much like this- clinging to long-disproven theories due to a reluctance to abandon a theory that is deemed ‘beautiful’ or ‘logically necessary’- does in fact happen every now and then. Indeed, it is the methodology that dominates modern theories of money and cosmology.

But, having said that, It should be understood that the deductive method is not in itself a bad way of getting to the truth. In fact, when used properly it can be an extremely powerful approach that can construct more certain conclusions than any other method we know of.

So let’s look at the circumstances in which deduction works best. We find the deductive method working most effectively in the field of mathematical theorems.

A theorem is our most assured way of guaranteeing a conclusion. The idea is to begin with a set of assumptions that everyone agrees are true (the more self-evident the better) which we call ‘axioms’. Then, you construct a logical argument that proceeds step-by-step from those axioms until you reach a conclusion. If the axioms are correct and each logical step contains no flaws, then the conclusion is utterly irrefutable.

To see the power of deduction it helps to go through a practical demonstration that anyone can follow, even without any mathematical skill other than the ability to count. We can do this with something known as the ‘mutilated chess board’.

The ‘Mutilated Chess Board’ is a standard chess board that has the two white squares on opposing corners removed. Now, imagine that you have 31 dominoes, and each one is sized to exactly fill two squares of a chess board. Is it possible to arrange the dominoes so that all 62 squares are covered?

One way to find out would be through the empirical method. That is to say we conduct experiments, laying down dominoes in different patterns to see if any such configuration can indeed cover all the squares. After dozens of failed attempts we might suspect the challenge is impossible, and after trying and failing after thousands of attempts you might feel with near certainty that you cannot cover all 62 squares with 31 dominoes. However, ‘near certainty’ is as close as you can get to an answer via the empirical method. You cannot be sure that there isn’t a pattern that has not been tried which could succeed. The best you can do relying only on experiment and observation is to prove something beyond reasonable doubt, which is not quite the same thing as proving something once and for all.

Ok, now let's see how the deductive method fares. We begin by establishing some 'axioms of the chess board', facts that everyone can agree on. Such axioms might be statements like:

A standard chess board is divided up into 64 squares.

Squares always alternate in colour, so if a square is black its neighbouring squares are always white; if a square is white, its neighbouring squares must be black.

With those axioms in place, we can begin to construct a logical argument that proves beyond any doubt that the challenge is impossible. Something like this:

"A standard chess board has 64 squares. Since half of those squares are black, there must be 32 black squares and 32 white squares on a standard chess board.

However, in this case, two white squares have been removed from opposing corners, meaning this chess board has 32 black squares but only 30 white squares.

Whenever we place a domino, it must cover two neighbouring squares, and neighbouring squares are always opposing colours.

Regardless of how they are arranged, then, the first 30 dominoes we lay down must cover 30 black squares and 30 white squares.

Since there are 32 black squares and 30 white squares in total, that means we must end up with two black squares remaining after the first 30 dominoes are placed.

But if each domino has to cover two neighbouring squares, and neighbouring squares are always opposing colours, then the fact that the remaining two squares are always black means you cannot cover them with your one remaining domino.

Conclusion: It is impossible to cover all 62 squares of the mutilated chess board with 31 dominoes".

In some circumstances, then, the deductive method can establish final and absolute truths. Once a mathematical theorem is proved true, it is proven forever. Whereas a scientist using the empirical method must live with at least a tiny amount of uncertainty that his or her theory might be modified or even rejected entirely in the future, anyone who succeeds in constructing a theorem will have their name associated with a truth that will remain the truth for all eternity.

One such person was Pythagoras (571-496 BCE) , whose name is given to a theorem he proved way back in the sixth century BCE. This theorem concerns right-angled triangles, and the conclusion you reach by following the steps in its proof is summarised like so: 'In a right-angled triangle, the square of the hypotenuse is equal to the sum of the squares on the other two sides".

Using Pythagoras's theorem, you can construct an equation that is true of all right-angled triangles. This is another way of saying that it is the right-angle itself that is defined by this equation. Moreover, the relation of the vertical to the horizontal (the 'perpendicular') is defined by the right-angle, and so, ultimately, is the relation between the three spatial dimensions of anywhere in physical space.

All of which means this humble equation has far-reaching implications. As Simon Singh (b. 1964) said in 'Fermat's Last Theorem', "mathematics, via the right angle, defines the very structure of the space we live in".

Clearly, then, deductive logic can be a very useful tool. Perhaps it's little wonder that early philosophers like Pythagoras came to worship Number. Earlier peoples had used math in a practical way to aid in the construction of canals and other things, but they never really asked why such techniques were so reliable; the fact that they produced the right results was good enough. Pythagoras and other early philosophers took Reason to another level, not just applying math in an everyday, practical sense but appreciating and studying numbers, their properties and the patterns they form. Such a way of thinking considered Number to be a world in itself, and Pythagorean thinking elevated the contemplation of Number to a far higher state of excellence than anything that could be obtained through comparatively unreliable human perception.

But this worship of Number was always in danger of falling back into an argument from authority. We saw in the case of the mutilated chess board that you can sometimes construct a logical argument that needs no maths skill beyond the ability to count. In the case of Pythagoras' Theorem, following the steps in its logical proof requires senior school maths, which is a bit more demanding but still not asking too much of a determined amateur.

However, some mathematical proofs are so complex, the ability to understand why the conclusions they reach must be true cannot be achieved by anyone other than mathematical geniuses. And in some cases, we now have proofs that cannot be verified without the aid of computers to crunch through more data than human beings can comprehend. This leaves the vast majority in the position of having to take an authoritarian's word for it that such proofs really are the absolute truths we're told they are. You can see how such situations slip back towards arguments from authority, even if only slightly.

Furthermore, it's one thing to construct a flawless logical argument when one's object of study is something like right-angled triangles or chess boards. In that case, we're dealing with a simplified reality of two-dimensional geometric shapes. It's one thing to tease out objective facts about a cartoon world like that, but figuring out fundamental truths about the far more complex real world is another matter altogether.

We saw how Pythagoras' equation is related to the physical universe, but what is the true nature of this relationship? If we were to take an empirical standpoint, we would say the equation is a handy tool that describes an aspect of the physical world.

However, if we were to take deduction as seriously as a Pythagorean philosopher, we might suppose that Number does more than describe reality. It is reality. We might then claim that what we can deduce from a rational contemplation of Number must be a superior form of

understanding compared to unreliable experiment and observation. If we insist we are right to think that, we might then insist that ‘truths’ derived through the deductive method must remain true, and if reality is in disagreement, then rather than us changing our minds it must be ‘reality’ itself that should be modified or rejected.

In some sense the eternal nature of maths seems self-evident. It’s impossible to imagine a world in which parallel lines drawn on flat space would meet, or where one plus one does not equal two. Such things do seem like logical necessities that were facts before we discovered them and which therefore exist independently of human opinion.

Number appealed to the Pythagorean mind because it seemed to produce such clear, precise and definitive answers. But, actually, even the realm of Number was not quite as well-defined as Pythagoras wanted to believe. When he said that the world was governed by Number, he was thinking of whole numbers or fractions of whole numbers. These are known as ‘rational’ numbers, and they can be precisely written down. True, there were what are known as ‘recurring decimals’, such as 0.111.... where the pattern of repeating ones goes on forever, but that’s just equivalent to ‘one ninth’ which can be expressed as a whole number fraction.

However, when they turned their minds to the study of circles, the Pythagoreans made a shocking discovery. There seemed to be something very troubling about the ratio between the circumference of a circle and its diameter. This ratio is known as ‘Pi’, which can be approximately written as 3.1459265… What was troubling was the fact that ‘Pi’ can only ever be written approximately. Unlike with the simple pattern of recurring fractions, ‘Pi’ can never be written down exactly because the decimal places go on forever without any pattern. If you calculate Pi to 39 decimal places you would have a number sufficient to calculate the circumference of the known universe, accurate to the width of a hydrogen atom, but nevertheless you would be nowhere close to having determined the exact value of Pi itself. A number such as ‘Pi’, one which cannot be expressed as a whole number or a fraction of a whole number, is known as an ‘Irrational Number’.

We now know that Pi is a useful mathematical tool that describes a variety of natural phenomenon. For example, if you calculate the actual length of a river from its source to its mouth, and the direct length if the river were to flow in a straight line rather than meandering, the ratio you end up with varies from river to river, but on average the value is always slightly larger than 3. In other words, the actual length of a river is always slightly larger than three times the distance it would be if the water travelled to its source as the crow flies. In fact, the ratio turns out to be 3.14, the first three digits of Pi.

But although Pi has turned out to be a mathematical rule underlying all kinds of natural phenomenon, Pythagoras simply couldn’t accept that there could be such a thing as an irrational number. In fact, it was such an abhorrent concept to him that he denied the existence of irrational numbers altogether.

You can see the potential problem with authoritarianism. Pythagoras wanted to believe in a mathematically ordered, neat, and perfect world, but the fact that irrational numbers can only ever be written down approximately suggested the world is not at all perfectly neat and ordered. Rather than accept this truth about the world, Pythagoras was prepared to kill in

order to suppress such a revelation (according to legend, he drowned a student of his, one Hipparchus of Tarentum, after he revealed the existence of irrational number to the outside world).

And then there were the mathematical truths he did believe. For example, Pythagoras believed ‘justice’ was the number 4 because that is a square number. That’s like saying the answer to life, the universe and everything is 42, it’s a meaningless answer. But had you challenged Pythagoras, I would imagine his reply would be something like “I know that 4 is justice and if you can’t see why it must be, you are just not smart enough to ‘get’ it”. Thus does Reason and logic slide into ‘mathematical mysticism’.

To the Pythagorean mind, the circle was the geometric shape that got as close as anything could to representing perfection. So when Plato (427-348 bce) and his disciples turned their attention to the heavens they looked for some manifestation of that perfection, and came to believe they had found it.

The planets seemed to trace out circular paths as they moved against the backdrop of the stars. Plato’s students took astronomical observations and attempted to match those with the Platonic ideal of perfect, circular motion. A disciple of Plato’s called Eudoxus (390-340 bce) modelled the planetary system as a system of nested ‘crystal’ spheres, rotating around the Earth which lay at the centre. One sphere carried the moon, another the Sun, and there were also spheres for the six known planets. In this context, the word ‘crystal’ really meant ‘invisible’, so it was imagined that the heavenly bodies moved in a circular pattern around the Earth as they were carried on their rotating invisible spheres.

It’s important to emphasise that this cosmological model was not derived at via an empirical approach, whereby observations and experiment guide us toward a model that best matches whatever data we have. No, it was a product of the deductive method, whereby we begin with a priori assumptions of how things must be, guided by some presumption of ‘perfection’, and then construct a model that conforms to our expectations.

As plasma physicist Eric Lerner (b1947) explained, “A theory of the universe based on ideal mathematical forms relies on the authority of a priesthood of reason that can dictate which mathematical forms are the most ideal, most beautiful, most perfect… Maths can make the myth more impressive, but not more objective”.

The problem was that as astronomical observations were refined, this greater accuracy did not seem to re-enforce the underlying assumptions of these models but rather gave cause to doubt their validity.

For example, Aristarchus of Samos (210-230 bce) used Euclidean geometry to estimate the size of the sun compared to the Earth, along with how far apart they were. His estimate was that the Sun was five or six times larger than the Earth and five million miles away. It didn’t seem sensible to him that a much larger sun should circle at so great a distance around a far smaller earth.

We now know that his estimates were way off. The Sun is actually ninety million miles away and its diameter is a hundred times larger than the Earth's. But that only strengthens his argument that such a huge and distant object cannot realistically be orbiting our tiny planet.

The merchants who were travelling to distant lands also had to make use of practical astronomical observations, since such data was essential in plotting trade routes. They too noted discrepancies between the ideal cosmological model and observations. According to Eric Lerner, "while Greece generated two methods of learning about the cosmos, two cosmologies [one based on empiricism, one based on deduction] it was a mongrel synthesis of mathematical myth with observational method that triumphed. The reason again lay in social development. Neither authoritarian Sparta nor free Ionia became the model for the social development of the Mediterranean. Instead, slavery, free labour and expanded trade all co-existed in the century that followed the fall of Athens".

This awkward co-existence between two ways of looking at the world was reflected in the cosmological models that were invented during this period. On one hand you had the cosmology based on Platonic dualism which used pure reason to deduce a heavenly realm of perfect, circular motion and a worldview that justified Plato's ideal of a hierarchical society, but not quite enough political dominance to make this a cosmology that was universally accepted. On the other hand there were Ionian free traders using the empirical method for the practical purpose of navigating the world and who could therefore not accept Plato's disdain for observation, but who lacked the political strength to do away with geocentrism and the Platonic ideal it was based on.

Instead, as Lerner said, there was a mongrel synthesis, an awkward compromise between the deductive method and empirical data. In other words, all data was interpreted on the basis that the geocentric model's a priori assumptions had to be correct. If any observations disagreed with those assumptions, ad-hoc new assumptions were to be added to the model in order to close the gap between theory and observation.

So, a model that started off as an elegant system of spheres had complexities added to it, such as circles within circles ('epicycles') or 'deferents', in which an orbit's centre is itself placed on an orbit, or the addition of additional tilted spheres.

This was not so much a model whose assumptions were confirmed by later observations, but rather one in which subsequent observations warranted additional complexities being added so the model could be retrofitted to fit the facts. It was, as Lerner said, "a fantastic clockwork", a Neoplatonic Rube Goldberg invention that was forced into being compatible with what was really falsifying data, data that could never quite debunk the model because the political and philosophical ideology it was based on was too strong.

In fact, the ideology underlying the model was so strong it survived the accumulation of falsifying data for many centuries, most famously in the case of the Catholic Church threatening torture, execution and life imprisonment on anyone who questioned the validity of geocentrism.

To those of us now very familiar with the solar system model and how well it matches observations, it may seem bizarre that our ancestors should cling so stubbornly to a failed

theory for so long. But we should not be so quick to mock our ancestors for their dogmatism, for the possibility of the deductive method to become mathematical mysticism, forcing evidence to match a priori assumptions, did not disappear with the eventual abandonment of geocentrism. No, it lives on even in modern theories, most especially the Big Bang and mainstream theories of markets.

CHAPTER FIVE

The weird way in which mainstream cosmology developed, becoming one of the most dominant mythstakes of our time, will come to make more sense once an understanding of historical developments, with various myths and mythstakes, is in place. Hence, it's really a topic best left until the final volume of this work, when we'll have a clearer understanding of how religion, philosophy, science and myth have evolved in complex ways, sometimes complimentary, sometimes antagonistically, to create our mainstream worldviews.

But still, I want to say a little about its strange career here. Some time between 1915 and 1919, Albert Einstein (1879-1955) took his General Theory of Relativity and applied it to the universe as a whole. Before applying the mathematical principles of relativity theory, Einstein assumed that matter was spread evenly throughout space. That is to say, he assumed that the universe is homogenous. This homogenous universe appealed to Einstein for purely aesthetic, philosophical reasons. But, in reality, it was in wild contradiction with observation.

Rather than being spread evenly throughout space, matter was observed as clumping inhomogenously together. This is important, because General Relativity does not just describe our universe; it describes infinite possible universes. The sort of universe you get out of the theory depends on the 'initial conditions' you plug into the equations. One of the basic principles of general relativity is that mass causes space to curve. The larger a mass of a given density you have, the more curvature of space you get. A large enough mass would curve space so much it curves entirely around onto itself. Given a universe that is homogenous, then, with matter of the same density everywhere, such a universe would be finite in space. So, if you travelled far enough into space, you would come across a boundary, beyond which is…well…nothing. So, what happens when you reach out and put your arm across this boundary? What a philosophical headscratcher! Then again, maybe if you travel far enough you just find yourself back at the start, just as you can sail right around the world, never falling off the edge of our finite globe.

Actually, the globe analogy provides a handy way of showing how Einstein justified his assumption when all available evidence suggested it was wrong. From the perspective of a tiny human, the curvature of the earth is so large it appears flat. Our ancestors thought it was flat, because it sure looked like it was. But then, as our measurements improved, the belief that it was flat became less valid, and now that we can view our planet from space we can see it's more like a globe than a flat disc.

Similarly, Einstein assumed (purely for aesthetic reasons) that matter was only clumpy and inhomogenous on 'local' levels, and that future telescopes able to look further than was currently possible, would reveal the universe to be homogenous on larger scales.

When Einstein's ideas concerning general relativity were first tested, his work was elevated to the status of 'theory' on the basis of just two observations- one to do with how light bends around the Sun, and the other to do with Mercury's orbit. This was an unusual move in science. Normally, a hypothesis is elevated to the status of 'theory' after having been verified by hundreds if not thousands of independent observations. So, to grant general relativity that exulted status on the basis of just two experiments was premature, to say the least.

Not to worry, though, because since then Relativity theory has been tested a great many times, passing so successfully we can now say, almost unquestionably, that it is an accurate theory of gravitation. For example, in order for it to work properly, GPS has to take into consideration the weird time distortions that must necessarily be, according to Einstein's theory. So, we can be sure Relativity theory is a valid theory.

Or, at least, it's valid on scales up to a galaxy, but what about beyond that? Could it 'break down', just as Newton's theory passed hundreds and maybe even thousands of tests before it was found it could not quite handle the extreme gravitational conditions Mercury experiences, orbiting so close to the Sun?

Well, if we went along with observations and assume the universe is inhomogenous, general relativity and its whole mathematical approach would be a mere nuance on the cosmological scale. But, when Einstein plugged 'homogeneity' into his model, the results he got back were very disturbing. It predicted that the universe would collapse. So, according to general relativity and Einstein's 'initial conditions', not only was the universe finite in space, it was finite in time, too.

The reason this was disturbing was because the general belief in science back then was one of a universe that had always existed and always would, forever evolving. In order to preserve this conception of the Universe, Einstein searched his theory and determined that there could be a hypothetical, repulsive force that, provided it were not too weak or too strong, would counter the attractive force of gravity and prevent any collapse. He called this hypothetical force the 'Cosmological Constant'. Now, Einstein's model had all the initial conditions set up in a way that led to a universe that was philosophically satisfying to him.

But then, from 1929 onwards, subsequent observations profoundly challenged this picture. Astronomers were discovering that light coming from distant stars was shifted slightly to the red end of the spectrum. When a German astronomer called Carl Wirtz put all such observations together, an interesting correlation emerged. The fainter the galaxy, the further its spectra was shifted to the red.

What was going on? The simplest explanation appeared to be this. Imagine you had a wavy line drawn on a rubber band. Now, as you stretch that rubber band, the wavy line will elongate. If that wavy line represents the peaks and troughs of an electromagnetic wave, and the two ends of the band represent, say, an observer at one end looking at a galaxy way over there at the other end, then the elongating wavy line represents spectra from the galaxy's stars shifting to the red as the galaxy moves away from us.

As these astronomical observations were refined, it became clear that galaxies were not moving in a random fashion, but instead all seemed to be moving away from us. Moreover,

the more distant they were, the faster they seemed to be moving. By now, other theoreticians with the mathematical skills required to work with general relativity were discovering that it actually allowed for infinite possible universes, depending on how you set the initial conditions (which now included that cosmological constant). ‘Einstein’s Universe’, these theoreticians found, required an extraordinarily precise balance between gravity and this hypothetical ‘constant’. If either the cosmological constant was even a tiny bit weaker/stronger, and ditto for gravity, the universe would either blow itself apart or collapse. Indeed, depending on how you set the parameters of the model, the result could be a hypothetical universe that, mathematically-speaking, collapsed into, or emerged from, a point of zero dimensions. Eventually, the redshift data was held up as proof that this must have been what happened in our universe, and Einstein later denounced his own model, with its perpetual balance between expansion and collapse, as his “greatest blunder”.

But, maybe Einstein was a bit too hard on himself? It takes courage to own up to the fact that something you have worked so hard on may actually be invalid. In 1934, Einstein wrote about how he saw ‘science’ developing. “The theoretical scientist is compelled in an increasing degree to be guided by purely mathematical, formal considerations in his search for a theory, because the physical experience of the experimenter cannot lift him into the regions of highest abstraction”. As a theoretician working at such an abstract level, Einstein could have chosen to save his model like the Ptolemaic astronomers had tried to do. But he did not do that. Empirical results suggested his model should be rejected, so rejected it was.

Another thing to bear in mind is that, when it comes to making failed predictions in cosmology, Einstein is hardly alone. In fact, Big Bang cosmology has may what be the worst track record, in terms of predictive success, of all major scientific theories.

You may recall how Einstein anticipated astronomers finding matter evenly distributed once sci-tech developed sufficiently to enable us to carry out large enough sky surveys. Sci-tech did indeed advance, but instead of revealing the expected homogeneity, we instead discovered matter organised into structures on a truly stupendous scale, so large that entire galaxies are but pinpricks in comparison.

Not only are these structures unimaginably big, they are also unbelievably old. After all, natural forces can only compel matter to move so fast, so it takes time to build up structures like this. So, how old are they? Somewhere between 80 and 100 billion years old.

In a universe of infinite or indeterminate age, it would be of no great importance to discover the existence of something with such a grand old age. But, in a Big Bang universe it leads to absurd results. After all, Big Bang cosmology estimates the age of the universe to be no more than 20 billion years old. Indeed, many Big Bang cosmologists assert confidently that the universe is 13.7 billion years old. To have structures that are over 80 billion years old in a universe that has only been in existence for less than 14 billion years is a total contradiction, of a kind that usually leads to the downfall of a theory.

But not Big Bang cosmology, the history of which goes something like this. Theoreticians make certain predictions based on what the model says must be, and wait for empirical science to advance to the point where those predictions can be tested. When the tests are carried out, the predictions turn out to be wrong, often by orders of magnitude.

The theoreticians express surprise and shock. This was not the results they predicted at all. But then they decide that this is actually exciting news, because the contradictory results mean we must search for ‘new physics’. They go off an invent weird abstractions, such as unknown forms of matter, exotic types of energy, hidden dimensions contorted into geometries that lesser minds not as gifted at abstract mathematics can even imagine. By plugging such abstractions into the model, they are able to retrofit it so that it appears to fit observational data. Things then seem to be progressing well, for a while. The model they have seems to agree with observations (and it kind of gets ignored that the model was retrofitted to fit data, rather than one that predicted observations that were later verified).

Often, those hypothetical energies/ matter/ dimensions etc are beyond current sci-tech’s ability to detect. Sometimes, though, sci-tech advances to the point where such hypotheticals can be tested. The result? The model is even more wrong than was previously assumed. Cue the familiar shock and surprise from the theoreticians, and then that familiar assertion that ‘new physics’ must await discovery, and even weirder abstractions are made up that would be even harder to verify empirically, but which can be shoehorned into the model so that, theoretically at least, it appears to match results.

The thing is, is this kind of approach really ‘science’? Not really, no. These theoreticians are more like mystics, reading arcane texts written in a language too obscure for lesser minds to comprehend, describing in exacting detail how imaginary past events must have played out, but with an increasingly hazy understanding of how such hypothetical events could have led to the universe that is actually revealed to us through empirical science.

The contradiction between the age of these gigantic structures and the supposed age of the universe (according to Big Bang cosmology) is one of the biggest problems for the theory, but it is not the only one. I shall give one more example, this time regarding the so-called ‘cosmic microwave background’. From pop science accounts people learn how the Big Bang theory showed that the universe must have been filled with hot radiation during its birth, and that this heat then cooled down over time. But even after 13.7 billion years it should still have some detectable heat, pervading the universe with a blackbody radiation. When radio telescopes capable of picking up that tell-tale signature were pointed at the sky, they did indeed detect what became known as the ‘cosmic microwave background’. Therefore, the Big Bang must have happened.

But this way of telling the story leaves out some crucial details. Firstly, Big Bang cosmologists were by no means the only ones who hypothesised that space would be filled with blackbody radiation. Others did, too, but for reasons that have nothing to do with the Big Bang. For example, in 1933 Regener expected to find space permeated with a blackbody radiation at 2.8 degrees Kelvin; in 1937 Nernst predicted 2.8 degrees Kelvin, and in 1954 Finlay and Freundlich predicted temperatures between 1.9 and 6.0 degrees Kelvin.

So, that’s what non-Big Bang cosmologists predicted. But what did the Big Bang cosmologists predict? Well, in 1961, George Gamow, who was a major figure in the development of Big Bang cosmology, wrote a book called ‘Evolution of the Cosmos’, and in it we find the following prediction. “Thus when the universe was one second old, one year old, one million years old, its temperature were 15 billion, 3 million, and 3 thousand degrees

absolute, respectively. Inserting the present age of the universe into that formula, we find Tpresent equals 50 degrees absolute".

As you can see, then, while cosmologists not working on the assumption that there was a Big Bang predicted blackbody radiation of between 1.0 and 6 degrees K (with most opting for 2.8 degrees K) the Big Bang cosmologists predicted a blackbody radiation of fifty degrees K.

Five years later, a radio telescope capable of detecting that heat signature was pointed at the sky, and the results were as they usually are in Big Bang cosmology. The predictions of the Big Bangers were hopelessly wrong. Rather than matching the prediction of fifty degrees kelvin, or being in the ballpark of that figure, the recorded measurement came in at 2.7 degrees kelvin. Once they had the actual temperature, Big Bang cosmologists were able to make use of seven free parameters in the model in order to tweak it so that it could be retrofitted to the observations.

What is a 'free parameter?'. Well, returning to our puzzle analogy, think of actual puzzle pieces. An actual puzzle piece is of a specific size and shape. It has specific colours and patterns painted on its surface. It either belongs in the picture you imagine the completed puzzle to be, or it does not. This is nothing like what a 'free parameter' is. A 'free parameter' is more like an imaginary puzzle piece. What size, what shape, what colouring, what patterns, does an imaginary puzzle piece have? Well, being imaginary it has whatever property you want it to have. As plasma cosmologist Eric Lerner commented, "the curve that was fitted to the data had seven adjustable parameters, the majority of which could not be checked by other observations. Fitting a body of data with an arbitrarily large number of free parameters is not difficult and can be done independently of the validity of any underlying theory".

Now, it's true that when radio telescopes are pointed at the sky, they do return results that show something like a cosmic microwave background exists. But what is it that these instruments are really picking up? One idea from non Big Bangers is that early stars released radiation during the process of making a certain type of helium that we now observe in our universe. We now know that the intergalactic medium is filled with magnetically confined plasma filaments. As the radiation from that helium-making process passes through those plasma filaments, a fundamental law of radiation, Kirchofff's Law, comes into effect. According to this law, any object emitting radiation of a given frequency is able to absorb the same frequency. So, if the electrons in those filaments absorb photons from the background and then radiate them in another, random direction, this would cause the energy to become thermalised and isotropised. Thus, what we are detecting may not be the afterglow of the Big Bang at all, but rather a diffuse glow from a fog of plasma filaments. What this hypothesis gives us, is results that accurately match the spectrum of the observed blackbody radiation, according to the best-quality data set from the COBE satellite (a space-based instrument sent up to verify the Big Bang, but which instead returned results that strongly conflicted with the theory, for reasons I won't get into at this stage). The fit involved three free parameters and achieves a probability of 85 percent.

“85 percent?”, you might be thinking, “that hardly sounds like a perfect, 100% result”. That is true, but compare it to the Big Bang ‘CMB’ results, where, even with seven free parameters there is still not a good statistical fit. Indeed, the probability that the curve actually fits the data comes in at under 5 percent.

It’s not just the so-called cosmic microwave background that has serious problems (only a few of which have been mentioned here). Everything to do with the Big Bang, whether it be the size of structures in the universe, the relative abundance of light elements, and even redshifted spectra (the phenomenon that convinced Einstein to junk his favoured model) all are in at least some (and often violent) conflict with the hypothesis that our universe began 13.7 billion years ago. The fact is that, empirically speaking, our universe actually looks nothing like how a universe would look, if indeed it had been born in a Big Bang. When these cosmologists say they can achieve a fantastically accurate fit, this has nothing to do with prediction, but instead all to do with them retrofitting that data with hypothetical phenomenon made up after results came in to show their hypothesis is fundamentally flawed. The hypothetical phenomenon comes in three kinds. Either it is imaginary phenomenon that is completely beyond any ability to test; or it has some way of being tested but the expected results have never been found, even though in some cases we have run billions of experiments using very sensitive and expensive equipment that should be capable of picking up those tell-tale signs if in fact they existed, or we have detected phenomenon…but it is actually phenomenon that we should NOT be able to detect if the Big Bang and/ or the hypothetical phenomenon it depends on ever really existed.

All in all, as of the 2020s, the idea that our universe began with a Big Bang is in disagreement with sixteen independent datasets, and in agreement with just one. And yet, despite this litany of failure, we are asked to believe in the validity of this hypothesis, as if its existence is as certain as that of the existence of Mount Everest, or that the battle of Hastings took place in 1066. The Big Bang Theory is, in other words, a perfect example of a ‘Mythstake’.

CHAPTER SIX

How could a situation like the one mentioned just now come about? There are a couple of explanations. Firstly, the ratio of theoretical and practical scientists in mainstream cosmology is unusual. In most scientific fields, the vast majority of experts are doing the practical work of running experiments and making observations- gathering the puzzle pieces to return to that analogy. Then, you have relatively fewer theoreticians whose job it is to philosophise about what it all means; how the jigsaw pieces should fit together and what picture you would have if only all the pieces needed to complete the picture were available (an ideal which is never fully realised). Because theoreticians are so outnumbered, if empirical results show their models are wrong, they have to cave in under the pressure and begin the search for a whole new theory.

But, in mainstream cosmology, the vast majority of practitioners in this field are engaged in purely theoretical work. They do not look through telescopes, but instead hunch over paper, manipulating equations. One such theoretician, the fundamental physicist Anthony Zee (b. 1945) said of such theoretical work, “the system of aesthetics used by physicists in judging nature draws its inspiration from the austere finality of geometry. Following the ancient

Greeks, who waxed eloquent on the perfect beauty of the spheres…I will continue to equate symmetry with beauty".

The real scientific work, from this point of view, involves the construction of equations that are 'beautiful'. Not in any way that is perceivable to most people, mind you; such austere beauty is only revealed to those minds trained to work at the highest levels of mathematical abstraction. When the relatively few practical scientists come up with empirical results that show all these theoreticians are wrong, it's easy for those theoreticians (who, after all, control all the peer-review systems and access to instruments needed to to astronomy and particle physics at a professional level) to say those experimenters are obviously mistaken- too incompetent to get the right results or still too primitive to gather the sort of data that would confirm the theoreticians 'beautiful' theories.

Now, this is not to say that pointing out contradictions between observation and theory is forbidden. Rather, the situation is best compared to a familiar fairy tale. Imagine that a king is due to parade past a crowd of people, and that this monarch will be wearing splendid new clothes. Along comes that king, and the folk in the crowd are at liberty to shout out what they actually see. "I can see the king's nipples!", shouts one. "I can see the king's belly button!", yells another. A third even exclaims, "I can quite clearly see our monarch's big hairy backside!". But, woe betide anyone who draws the obvious conclusion from such observations, pointing out, "but…surely this means the king is naked!". Those who dare make that suggestion are branded as fools who have no business being in the crowd. They are ejected, and meanwhile the "really clever people" invent elaborate hypotheses about how a king who looks very much like he is naked is actually splendidly clothed.

The other reason has to do with the connection between theory and society. Why do we form the conceptions of reality that we do? Why do some such conceptions rise in popularity to become part of mainstream consciousness? The simple answer would be, "because these ideas are true!", but the existence of mythstakes requires a more subtle answer. The society we live in influences the way we view reality; and our models of reality serve to justify the societies we have built for ourselves.

For example, Medieval society with its socioeconomic model of Feudalism, was a deeply hierarchical society. Learned people in this society gazed at the heavens and imagined it to be organised into a hierarchy of spheres, each lower sphere ruled by the outer one. Just as the heavens were justly organised into a hierarchy of angels, archangels, and, at the very apex, the Catholic God, so too was society rightly organised, with peasants ruled by lords, who were subordinate to higher lords, who answered to the King or Queen.

Our dominant economic system is not feudalism but Capitalism. Whereas feudalism aimed to maintain a steady-state economy, Capitalism depends upon an economic system that is perpetually growing and expanding. Actually, it fundamentally has two contradictory imperatives, these being to aim for infinite growth while also perpetuating some degree of scarcity. But we're just interested in the 'growth' part here.

As models show, capitalism is an inherently unstable and quite possibly unsustainable system. As it inexorably grows, it continually concentrates wealth, always increasing the gap between the majority and a small elite group who appropriate ever more wealth, a group

who by the rules of the game can never be satisfied no matter how rich they become. It may also lift the prosperity of lower classes somewhat, including the very poorest classes, but only at the expense of increasing environmental harm. As it grows and grows and grows, like a cancer, toxic social problems and environmental pollution accumulate until, unless increasingly miraculous technological ‘fixes’ are brought online in good time, the whole crazy, cancerous system undergoes catastrophic collapse.

But, if such a collapse is a future event, how is it fair to blame ‘capitalism’ for this tragedy? Failure is built in to the very laws that govern our universe and birthed it 13.7 billion years ago. Wind the clock back to that time, and everything begins with the theoreticians’ Eden, which was not a pretty, fruitful garden but all the forces of Nature existing in a state of perfect symmetry, an austere and beautiful mathematical concept.

But this state of symmetrical perfection did not last. The Fall came ten to the power of minus thirty-five seconds after the moment of creation. Not because of sin, but because symmetry began to break down, so that there was no longer one grand unified force but many forces that could no longer be expressed with the most beautiful equations but rather using uglier, non-symmetrical equations for separate forces: Gravity, Electromagnetism, the Weak Nuclear Force and the Strong Nuclear Force. The supreme energies required to bring about the theoreticians Eden was cooling down, breaking the symmetry and starting the Doomsday Clock inexorably ticking as entropic decay and disorder spread, until all of humankind’s and Nature’s work would be undone, decayed, like the cold embers of a fire that once burned so brightly before being extinguished, leaving nothing but an endless cold, dead night.

So, inevitably (or so the Big Bang story goes) everything must come to ruin. So if we happen to have a cancerous ‘economic’ system putting unsustainable strain on our finite world, it’s not really a fault that can be blamed on Capitalism. Such is the way things must be, according to the dominant cosmology of our age.

Given this connection between popular theories and society, one would expect to find concepts from the dominant cosmology becoming adopted in the dominant economic system, and this is exactly what we find.

For example, the dominant form of money used today is a kind of credit-based currency known as ‘Fiat currency’. ‘Fiat’ comes from the Latin phrase ‘Fiat Lux’, or “let there be light”, that familiar phrase from the first chapter of Genesis. Just as God was said to have created the world out of nothing, through an effortless act of will, earthly authorities bring money into existence by performing the necessary rituals and incantations, as laid out by our systems of politics, banking and finance. Truth be told, all they really do is pretend the money is there (just as when they claim “there’s not enough money”, they are pretending it’s not there). Creating money is not very hard; the difficulty lies in getting sufficient numbers of people to behave as though this is money, too. Preferably, they should believe it is money and not merely go along with some pretence. In other words, ‘Fiat money’ is a creation of intersubjectivity. It exists because so many believe it exists and adjust their behaviours to fit such a belief.

In the mid 80s, financial reforms swept through the financial and banking centre in the city of London. The purpose of these reforms was to do away with fixed commissions for buying

and selling shares on the London stock exchange. The reforms also included the introduction of something called “dual capacity”, meaning market makers could now also be stock brokers and vice versa. These reforms were called “the Big Bang”.

In the USA, changes to the regulatory structure for banking and finance and the tax system occurred throughout the 80s and 90s. During the Clinton Administration, the then head of the Federal Reserve, Alan Greenspan (b 1926), met President Clinton (b 1946) and warned that government spending was becoming unsustainably large. Clinton had been elected on promises of social reform, but if his administration was to ‘borrow’ the necessary funds, interest rates would go up and the fundamental imperative of capitalism- growth- would be harmed.

What the Clinton Administration should do, Greenspan recommended, was the exact opposite. Don’t increase government spending, cut it. That would lower interest rates and free the market to do its magic.

Clinton did as he was told and just as Greenspan predicted, markets boomed. Share prices started to rise, and kept on rising. Some optimists began to believe that this boom in share prices would not collapse like every boom in the past. They believed this because now computers were helping speculators manage and hedge risk in a way that would sustain the good times forever. It was, so the optimists proclaimed, the dawn of a “new economy”.

Greenspan, however, was worried. Share prices were indeed going up and up, but there was no increase in productivity. It was looking very much like a speculative bubble. But then (after his warnings that a speculative bubble might have arisen was met with intense criticism from major players in the financial sector) a startling revelation came to Greenspan. This was no speculative bubble. Rather, the introduction of powerful, networked computers had so transformed business, productivity was now increasing in ways that were so new, current economic models could not see it. At the time, Greenspan described this revelation as “like discovering a new planet”, but really a better term for it would be “financial dark matter”.

It was during the noughties, though, that the growth of this ‘financial dark matter’ really took off. During the height of the subprime mortgage bubble, there was talk of financial instruments of such dizzying complexity, only great geniuses could grasp how they could manifest such explosive growth in property value.

Who created these exotic new financial instruments? Well, many of the brilliant minds behind these immensely complex mathematical abstractions were theoretical physicists. In the past, thinkers of this calibre may have been drawn to pure research, unlocking the mysteries of the cosmos and maybe making discoveries that could one day lead to remarkable new technologies. But now they were leaving higher education with a huge burden of debt that had to be paid off, and the high rewards offered by banking and finance proved a very tempting bait.

And so these minds went to work for the financial sector, creating ‘consolidated debt obligations’, ‘synthetic consolidated debt obligations’, ‘naked credit default swaps’ and other bizarre forms of credit instrument.

In short, the subprime mortgage bubble was the result of a marriage between Big Bang cosmology and the capitalist economy. Why? Because both had evolved to be utterly dependent on speculation. The same theoreticians who dreamed up weird abstractions to be shoehorned into mainstream cosmological models, always with the claim that future observations would ultimately justify their inclusion and show them to be actual natural phenomenon and not just fancies of the theoreticians' imagination, were the same 'geniuses' who were building up increasingly large towers of debt, promising that tomorrow it would somehow transform into genuine value.

I think maybe the most telling evidence for this marriage between Big Bang cosmology and the subprime mortgage fiasco is the following quote. Somebody once said, "these models were both very precise, and very wrong". But what were they talking about? Frankly, this quote would serve equally well as a criticism of both the Big Bang and what the economy had become during subprime mortgage bubble, because it sums up the nature of both of these speculation-dependent creations. Actually, it was Andy Haldane (b 1967) of the Bank of England, who was quoted.

CHAPTER SEVEN

Mainstream cosmology and economics have succeeded in taking that which is, on the one hand, intimately familiar, and then making it seem profoundly strange on the other hand. On a holistic level we are at one with the universe, in no way separate from it as reductionist materialism would have us believe. Yet, how strange, how alien, the universe seems when viewed through the myths of modern cosmology. The same thing is true of money, so familiar and yet so strange. As Stuart Chase (1888- 1985) said, "money is not edible. It is not wearable. It is a symbol without industrial utility…on the tenth of the month, I take out my check book, and I mail around some scraps of paper with my name on it…and the tradesmen profess themselves satisfied. It's all very strange, but there you are. We all agree to take money even if we cannot agree as to what the word means".

When it comes to the universe, it's not too difficult to understand how come it should be so mysterious. How could something so unimaginably large and old, which existed for at least billions of years before any lifeform so much as divided a cell in two, not be profoundly unknowable? But money, well, that's different. We invented money, it is a product of our imagination. So why can we not all agree as to what that word- 'money'- actually refers to? Why do we not have one handy definition that neatly describes what money is and what money does?

The quick answer is this: Money was not invented, and money is not a 'thing'. You can hold a coin, a banknote or a credit card in your hand, but those are physical representations of money, not money itself. Money is an abstraction that evolved and, just as is the case with biological adaptations, where things like organs and limbs get adapted for purposes far removed from their original purpose, many of the current economic practices originated in practices far removed from modern forms.

We are used to handling cash, although it does seem to be on its last legs as more and more we are pushed towards online banking, using digital currencies traded on smartphone

apps. It may feel like a brave or, perhaps, scary new world, this ‘cashless society’. But, really, a proper review of money’s history reveals there’s nothing new about this virtualisation of money at all.

For most of human history, even when we had established the first cities, the vast majority of people did not use cash in their daily lives but instead calculated debt repayment though credit networks.

Indeed, money and debt are so closely related they are essentially one and the same. This is because a debt is defined as an obligation that has been quantified so that a precise sum is owed to a specific person or group. Implicit in this assumption is the idea that a debt can be repaid (if not, we really shouldn’t be calling it a debt) and repayment demands a means to calculate the relative costs of goods and services. Whether it comes in credit form or bullion, money always is that form of measurement we use to quantify and compare the relative costs and values of anything that can be quantified. So, for as long as such a concept can be said to have existed, money is debt and debt is money.

From this, it follows that if anyone wants to understand the history of money, how it began, what forms it evolved into and the political and philosophical debates that accompanied this evolution, the most effective way to do so would be to investigate debt and what it meant to people down through the ages. As for cash, we really shouldn’t pay too much attention to it, for the simple reason that it hasn’t figured in most people’s lives for most of history.

But, incredibly, this is not the approach taken by economists at all, who instead prefer a method that runs contrary to historical evidence. Most accounts of money’s history emphasise the development of coinage, and there is a clear implication that coinage and money are one and the same. As for debt, it’s treated as an afterthought, and in fact most economists’ accounts of money’s origins begin in a world in which debt has been erased.

In order to understand how this strange pseudohistory came about, let’s look at the work of the man most often credited with founding the science of ‘Economics’: Adam Smith (1723-90). It helps to know something of Smith’s history, especially the assumptions that framed his way of thinking and the limitations he was obliged to work under.

As far as limitations are concerned, Smith was an 18th Century philosopher who was writing at a time when monetary history went back no further than the time of Homer (b circa 8th century bce) Egyptian hieroglyphs and Mesopotamian cuneiform had not yet been translated, and so there was literally thousands of years of monetary history that was not available to Smith. Also, Scottish libraries were lacking in ethnographic studies of aboriginal North American cultures, so when Smith attempted to write the origins of money as beginning in such a culture, he had no real case studies to base his assumptions on.

At that time all the societies anyone knew about had governments, and since all governments issued money, it was assumed that this had always been the case. In other words, it was just taken as given that, historically, all cultures lived in states and all such societies would necessarily have their own forms of coinage.

Being an heir of the libertarian tradition, this assumption- that money was essentially a creation of the State- was one that Smith was determined to do away with. If he could successfully argue that money and markets pre-existed states, Smith could then establish the position that if government should have any role in monetary affairs, it should be limited to guaranteeing the soundness of the currency.

So how did Smith go about arguing his case? Well, it all begins with some assumptions regarding people. Smith urged us to forget about groups and instead focus on individuals. Suppose an individual should encounter another. What would happen next? He suggested that such an encounter would invariably result in our hypothetical individuals comparing and swapping things. Why? Because it is “a certain propensity in human nature....the propensity to truck, barter, and exchange one thing for another”.

According to Smith, then, the tendency to engage in exchange is the preeminent human trait. We should even include logic and conversation as aspects of this tendency, this assumption claims, since it sees those as forms of trading too. Smith put it like this: “If we should enquire into the principle of human mind on which this disposition of trucking is founded, it is clearly the natural inclination that everyone has to persuade. The offering of a shilling, which to us appears to have so plain and simple a meaning, is in reality offering an argument to persuade one to do so and so is for his interest”.

So, according to this view, whether we are exchanging goods or exchanging words, the motives are always the same: each individual is trying to seek their own best advantage, which is to say (if we were to put it in monetary terms) seeking the maximum possible profit from every exchange.

Smith argued that the propensity to engage in barter, exchanging stuff back and forth between individuals, was a uniquely human trait. “Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog”, he wrote. As we shall see in later volumes, he was not actually the first thinker to make such an observation.

So, for Smith, everything begins with barter. In order to participate in a barter exchange, though, you need stuff you can potentially exchange, and for Smith this need is what drives both the division of labour and the adoption of currency.

Why does Smith believe barter would lead to a division of labour? Because he supposes people’s varied talents, coupled with the search for personal gain, would inevitably result in individuals concentrating on those tasks that yield the best results.

He asks us to imagine a person who is particularly skilled at making arrows. Now, he could obtain meat by hunting prey. But he learns that he is much more able to obtain meat through barter, swapping his much-coveted arrows for protein. With this realisation comes the decision to specialise. “From a regard to his own interest, therefore, the making of bows and arrows grows to be his chief business, and he becomes a sort of armourer”.

Meanwhile, other people are discovering that they can best profit from concentrating on other skills, such as making shoes, and we transition from a world of generalists in which each individual labours to produce all they need, to a world of specialists where each “finds it

his interest to dedicate himself entirely to this employment". Now we have a world of armourers, cobblers, and other such focused professions, and individuals are obtaining the bulk of their goods not by making them but by engaging in swaps with others.

Eventually, the search for greater profit leads to the realisation that greater division of labour leads to greater productivity, and so the task of building bows and arrows and other products gets broken down into many simple micro-tasks that together make up the production line of a factory.

However, before that stage of specialisation is reached, the people will have become increasingly aware of the difficulties of barter. What we have been describing so far is a world without debt, because whatever debt can be said to exist between individuals when they chance to meet and eye up each other's stuff gets cancelled out as soon as an exchange is made. But you may have noticed a potential problem with the kind of exchange we are talking about here. It depends upon each person wanting what the other person has. There has to be, as economists say, a 'double coincidence of wants'.

What to do in those situations where one person doesn't need what the other has? Smith believed people would get around this problem by noticing some commodities were more commonly exchanged than others, and would try to make sure they had some of that ready to hand for use as a medium of exchange.

Now, normally, as more people possess a commodity the less valuable it becomes, since it becomes less scarce. But, for these commonly-exchanged commodities, the situation is different, because being commonly exchanged means it is essentially currency. According to Smith, "salt is said to be the common instrument of commerce and exchanges in Abyssinia...dried cod at Newfoundland...and there is at this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails instead of money to the baker's shop or the ale-house".

To function effectively as a medium of exchange, this 'commodity-money' would have to satisfy several conditions. Firstly, as we have seen, it would have to be commonly perceived as valuable. Perhaps the very next person you meet would not need it right now, but since both of you understand that very soon you will meet somebody who does covet it, you accept it right now as a kind of intermediary. Eventually the mere fact that it is universally accepted as an intermediary makes it valuable for that very reason.

Secondly, it would need to be something one can carry without difficulty, in other words be portable. You would not want it to spoil but rather remain in a state that is pristine enough to ensure it keeps its value. It would need to be 'durable'. And finally, given that you'll be wanting to buy a variety of goods of different values with this commodity-money, it would be best if you could break it into smaller pieces. It would need to be 'divisible'.

So, swaps carried out using a commodity-money as medium of exchange would compel people to seek out something universally valuable, portable, durable, and capable of being endlessly subdivided into identical portions. The materials that best fit such conditions are precious metals like gold or silver.

According to Smith, “those metals seem originally to have been made for this purpose in rude bars...The use of metals in this rude state was attended with two very considerable inconveniences; first with the trouble of weighing; and, secondly, with that of assaying them”.

In other words, carrying around small lumps of silver or gold makes exchange easier than reliance on pure barter. But it would be even more convenient if everyone could rely on those gold lumps being a uniform weight and purity. The way to go about achieving that is to stamp the metal into uniform shapes, along with designations that guarantee the weight and fineness of each such object, and also to ensure there are different denominations of such objects. At this point, commodity-money has become coinage.

It’s only at this point, according to Smith, that the government needed to figure into the workings of markets at all, since they generally ran the mints in his day, meaning nobody was better-placed to issue the necessary quantities of coins. In other words, the one legitimate role of government when it comes to ‘the market’, is to guarantee the money supply along with the weight and purity of every coin.

So now everyone is using cash in their daily transactions. The next stage comes when people realise you don’t actually need gold on your person at all times. You can write out IOUs that others can later redeem for gold, and such ‘promissory notes’ circulate as currency, their value ultimately backed by gold. Banks realise that they can make out loans in excess of the gold they actually possess, by issuing promissory notes backed by gold they don’t actually have. The system works fine so long as everyone has faith that the bank is good for its money and don’t all try to demand their gold at once. “Belief the bank is good for its money” is another way of saying the bank has credit or that those promissory notes represent the bank’s credit.

And so we end up more or less at modern fractional-reserve banking. According to the anthropologist David Graeber (1961-2020) “this story has become simple common sense for most people...’Once upon a time, there was barter. It was difficult. So people invented money. Then came the development of banking and credit’. It all forms a perfectly simple straightforward progression, a process of increasing sophistication and abstraction that has carried humanity, logically and inexorably, from the Stone Age exchange of mastodon tusks to stock markets, hedge funds and securitised derivatives”.

By the time money has reached this level of sophistication, the world of banking, finance, and the various currencies flowing through its circuits takes on an almost bewildering level of complexity. But still, so long as you believe in the tale of money’s origins in barter exchanges, it can also be believed that such apparent complexity functions on top of a truth that is actually very simple. And the truth, according to this worldview, is that the market, properly speaking, is no creation of the State. The market needs no bureaucrats to bring it into being, because ‘the market’ naturally exists.

Or, to be more precise, the market naturally exists as an inevitable consequence of what human beings are. And what are human beings, according to this worldview? Human beings are individual rational agents who interact with other such individuals for one purpose, and that is to gain a material advantage through the medium of exchange. Ideally, these individual rational agents would remain just that- individuals- never owing anything to

anybody. But, the complexities that develop out of barter being what they are, that ideal is hardly practical. Therefore, networks of debt, social security systems and other evil necessities get added, which unfortunately provides opportunities for governments (which should only protect borders from invaders and guarantee the soundness of the money supply) to screw everything up through well-meaning interventions into the logic of the market. But, fundamentally, you can strip all of that away and see that, at the root of everything it's all about barter.

Running with that idea, economists discovered that their economic models could be radically simplified. As we shall see later, the discipline of economics evolved from theology, but now those sort of arguments and debates no longer seemed necessary. Nor for that matter was the presence or absence of money all that important. This idea, the 'unimportance of money', was described by Graeber as "the final apotheosis of economics as common sense". When individuals meet, individuals barter. It's in our nature to behave this way. Thus, whenever you see an image of one person passing something to another, whether that be the placing of silver in the palm of a hand, a ring slipped onto a finger, or a crown placed on a head, then regardless of what customs or ceremonies might have you believe, it all reduces to barter.

This belief was summed up by Paul Samuelson (1915-2009), a neoclassical economist, in 1958. "Even in the most advanced industrial economies, if we strip exchange down to its barest essentials and peel off the obscuring level of money, we find that trade between individuals and nations largely boils down to barter".

CHAPTER EIGHT.

The reason why this story of money's origin is accepted by so many people is simply because it has been repeated so often, and because most people don't stop to scrutinise it and see that it doesn't really make sense. But the clues are there if you look. For example, a textbook by the economists Joseph Stiglitz and John Driffil contains the following:

"One can imagine an old-style farmer bartering with the blacksmith, the tailor, the grocer, and the doctor in his small town. For simple barter to work, however, there must be a double coincidence of wants...If Henry has firewood, and Joshua does not need any of that, then bartering for Joshua's shoes requires one or both of them to go searching for more people in the hope of making a multilateral exchange". And so, we're on the familiar path from commodity-money to coinage to credit.

Here's another example, from 'Economics' by Karl Case (1946-2016) , Ray C, Fair (b 1942), Manfred Gartner and Ken Heather:

"Money is vital to the working of a market economy. Imagine what life would be like without it. The alternative to a monetary economy is barter..." And again we're told of the problem of the double coincidence of wants and how coinage and later credit make things so much more convenient.

One could even find stories of this kind in factual books written as late as 2014, as can be seen from this excerpt taken from ‘Sapiens’ by Yuval Noah Harari (b 1976)

“In order to understand the limitations of barter, imagine that you own an apple orchard in the hill country…You work so hard that your shoes wear out. So you harness up your donkey cart and head to the market town down by the river…You find the shoemaker’s shop and offer to barter some apples in exchange for the shoes you need.

The shoemaker hesitates. How many apples should he ask for in payment? Every day he encounters dozens of customers, a few of whom bring sacks of apples, while others carry wheat, goats or cloth- all of varying quality…” There then follows the usual analysis of how awkward this barter economy would be.

What we are to make of explanations like these? Well, one thing quickly becomes clear, which is that this sort of ‘origins of money’ tale very much depends on readers who do not pay any attention to the absurdity of the premise. So long as you ignore that, the story has some logic to it. “Yes”, the naive reader thinks, “it is true that barter would entail all kinds of complications and that money would be a far more effective way of conducting such affairs”.

But, if you do happen to notice the absurdity, the whole tale falls apart and cannot be taken seriously as an explanation for money’s origin. Take that last version from ‘Sapiens’. Readers are asked to place themselves in the role of a person (let’s call him ‘Fred’) who has never heard of money. We are then told that Fred owns an apple orchard. Phrased that way, we assume Fred has some sort of property entitlement to this orchard. How can that be? Claiming ownership of land entails legal and bureaucratic arrangements that are a good deal more complex than swapping some apples for a pair of shoes. Fred, remember, is a person who lives in a world where money does not exist. So how did he ever arrange the loan required to buy the property rights we’re told he owns?

Maybe he did not acquire this orchard through property entitlement? Maybe it was just there and Fred was the first to stumble upon it? If that were the case you can be sure that this wild, untamed environment would require substantial work before it looked anything like an orchard. Fred would need seeds, fertiliser, and would have to install some kind of irrigation in order to water his trees. Furthermore, various tools would be needed: pruning shears and saws to remove unruly branches, hoses to deliver water, or at least a bucket so he could fetch water from the river and then laboriously carry it back to his orchard to soak the soil the trees are rooted in. These are just some of the tools and equipment Fred would have to acquire in order to become a farmer running an apple orchard.

Not that this tale mentions much of the equipment needed. All that is referred to is a worn-out pair of shoes and a donkey cart. But, even with these two items we have a vast increase in complexity of exchanges that we are supposed to just ignore. All these people, remember, have never heard of money, and cannot figure out how many apples are equivalent in value to a new pair of shoes. And yet, apparently they have no difficulty figuring out the monetary calculations involved in running their businesses.

Who made those shoes that Fred has worn out (perhaps from trudging all the way to the river to fetch pails of water?) and what did they use to make them? They would have had to

obtain the requisite materials and all the tools a cobbler needs in order to turn materials into shoes. Whoever made the donkey cart would have had to obtain the materials and tools necessary to complete that job. And, of course, they would need to develop the skills such jobs entail, which could only be done through training. How did the cobbler and the wainwright manage to get the training, the materials and the tools they needed, when the only mode of exchange they know of is barter?

Fred harnesses up his donkey cart and makes for the market town. The market town! How many businesses are required to turn a hippy collective or a tribe of hunter-gatherers into a market town? At least hundreds, I would imagine, and probably more like thousands of people. Just think of the complexity involved in all the commercial exchanges (arrangement of property rights, negotiating employee compensation, making deals with suppliers, ensuring the requisite utilities are there as and when needed, to mention just a few).

The folk in Harari's tale managed to figure all of this out and established a market town for themselves. Yet, somehow, they have never heard of money and the problem of "how many apples from orchard X is equivalent to the value of a new pair of shoes" is a calculation too challenging for Fred and the cobbler to figure out!

Clearly, this is an entirely unrealistic tale, one that is about as accurate a portrayal of money's origin, as the Big Bang theory is an accurate tale of the origins of a universe known to be at least 80 billion years old (there is actually reasonable evidence that the universe is at least trillions of years old). But pointing out the absurdity of the premise leads to the question as to why all these authors ask us to dream up an imaginary town with blacksmiths and tailors but no money, where everyday transactions are conducted through barter? Why not inform the reader of an actual town, village or settlement where people really did rely on barter?

In the case of Smith, as we saw, he lacked information about the Aboriginal North Americans that he used as his example. But after Smith published his thoughts on economics and the origins of money, a great many explorers, missionaries, and colonial administrators set out, travelling all over the world, bringing his book with them. They expected to find 'primitive' people relying on barter, but they never did. According to Graeber, "they discovered an almost endless variety of economic systems. But to this day, no one has been able to locate a part of the world where the ordinary mode of economic transaction between neighbours takes the form of 'I'll give you twenty chickens for that cow'".

Indeed, the definitive anthropological work on barter, by Cambridge's Caroline Humphrey (b 1943), completely rejects the story of money's origins in barter. "No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there has never been such a thing".

Furthermore, Ann Chapman (1937-2009) has pointed out that if we define pure barter as something concerned only with swapping objects, and not with re-arranging relations between people, then the notion that barter has ever existed becomes unclear.

That would suggest that barter might exist in some situations (otherwise, barter's non-existence would not be 'unclear'). Indeed, it does exist in some situations. What has

been definitively rejected by anthropologists (but not economists it would seem) is the idea that barter was the main mode of exchange between neighbours. However, there is evidence of barter sometimes happening when strangers encounter one another.

What is actually documented, though, is quite different to how barter is imagined to be conducted. Supposedly, when two strangers meet the following scenario plays out:

Person A: “Hi there. Say, that’s some nice venison you have”.

Person B: “Do you want some? I will trade you some for a few of those arrows you are carrying”.

Person A: “Ok it’s a deal. Thank you and have a nice day”.

In reality, barter exchanges between strangers are not this simple and impersonal. A case in point is how such exchanges are conducted by the Nambikwara of Brazil. If one band spots another, the first thing that happens is that emissaries are sent to negotiate a meeting for purposes of trade. Once such a meeting is agreed upon, the women and children are hidden in the forest before the men of the other band are invited to visit camp.

Each band’s chief gives a formal speech once everyone is assembled, a speech that praises the other party and belittles his own. Everyone else puts aside their weapons and engage in song, and dance in a way that mimics military confrontation. With that formality out of the way, individuals from each side approach one another and initiate trade.

The individual who covets an object conveys his desire by saying how fine it is. If his rival values the object in his possession, he actually signals his desire to keep it not by agreeing that it is indeed a fine object, but rather by denigrating it, saying things like “this necklace is very dull”.

According to Claude Levi-Strauss (1908-2008) who witnessed such exchanges, “this argument is carried on in an angry tone of voice until a settlement is reached. When agreement has been reached each snatches the object out of the other’s hand. If a man has bartered a necklace, instead of taking it off and handing it over, the other person must take it off with a show of force. Disputes, often leading to fights, occur when one party is a little premature and snatches the object before the other has finished arguing”.

Once all such exchanges are completed, business concludes with a great feast. The women are included in this feast, leading to the possibility for seductions amidst all that singing and feasting, and of course the possibility of jealous quarrels that might grow heated enough to result in people getting killed.

You can see how, for the Namibkwara, barter is not conducted in a dispassionate, impersonal manner. Instead, exchange takes place amidst festivities like singing and feasting, and rituals that mimic conflict, as in those dances that mimic military confrontation, angry exchange of words, and the symbolic act of grabbing the object from the other person’s possession.

Why the need for so much custom and ritual? The answer lies in the kind of situation we are talking about. This is an exchange that involves a meeting between strangers who have no interest in developing ongoing relations. All each party in the exchange is interested in is getting the best deal and there's no particular reason why they shouldn't try and take advantage of their opponent. The warlike dancing, the angry negotiations, and the snatching, all serve to remind everyone that this is an exchange close to that most impersonal of encounters where strangers sweep in and simply steal what they want. The festivities help to ensure exchanges don't become quite as blunt as that. As Graeber explained, such barter exchanges are "made possible by laying down an initial mantle of sociability in the form of shared pleasures, music and dance- the usual base of conviviality on which trade must always be built".

Now, you might be thinking, "but, hang on, when I go shopping I don't need to perform ritualistic dances or go through customary speeches. I just make an exchange, say 'thank you' and leave the store". Yes, but in that case impersonal exchange takes place in a market that includes a lot of legal infrastructure in the form of laws, police, courts, bailiffs and so on, ensuring that even if we don't want to have anything to do with someone and are just seeking maximum material advantage from a temporary interaction, we don't do the obvious thing, which is to hit the shopkeeper over the head and grab whatever we want. This provides further reasons for supposing barter exchanges could never have been commonly practiced. As Graeber explained, "such a society could only be one in which everybody was an inch away from everybody else's throat; but nonetheless hovering there, poised to strike, forever. True, barter does sometimes occur between people who do not consider each other strangers, but they're usually people who might as well be strangers- that is, who feel no sense of mutual responsibility or trust, or the desire to develop ongoing relations".

There's etymological evidence that unscrupulous practices are common to barter exchanges. After all, in Indo-European languages, the words 'truck and barter', in the century or two before Smith's time, literally meant "to trick, bamboozle, and rip off".

We seem to be painting a very negative picture of humanity, one that resembles Thomas Hobbes's (1588-1679) portrayal of mankind as nasty and brutish, only restrained from our worst actions by the power of the State.

But it should be remembered that we are talking about one-off interactions between strangers, which is a fairly exceptional type of human interaction. It's far more common for us to interact with people we have ongoing relationships with, and a complex history. We spend most of our lives with family, friends, neighbours and work colleagues. Ongoing relationships like these provide alternatives to barter that are so obvious when pointed out, it really is remarkable that so many economic textbooks fail to recognise them.

You will recall how Stiglitz and Driffield asked us to imagine 'Joshua' and 'Henry'. Henry needed a pair of shoes and Joshua had a pair, but Henry was not in possession of anything Joshua needed at the time their paths crossed. An on-the-spot exchange was not possible. The authors seemed convinced that this presented a problem that was insurmountable to anything except the introduction of cash or paper money.

However, if Henry had been a member of the Iroquois, another solution to his shoe problem would have been available. You will recall how Smith supposed money's origins lay in Aboriginal North Americans swapping arrowheads for meat. However, when Lewis Henry Morgan (1818-1881) subsequently investigated the way the Six Nations of the Iroquois (among others) conducted their daily affairs, he found Smith was wrong and nobody ever traded arrowheads for meat. Instead, the Iroquois' main economic institution were longhouses where goods were stockpiled before being allocated by women's councils.

So, if there happened to be such a longhouse in Henry's community, Joshua wouldn't need to figure in this tale at all. Instead, Henry would let his wife know he needed shoes, she would pass this on to the other matrons, and if they approved, she would fetch whatever materials she needed from the collective store, and sew her husband some moccasins.

Even if we imagine Joshua and Henry living somewhere less communal, like a small town (strangely, one where nobody has heard of money) there would still be an obvious solution that does not involve barter exchange or cash. Henry lets it be known that he could really do with a pair of shoes and Joshua gives him a pair. Why? Well, who knows, it depends on their mutual history. When it comes to impersonal exchanges we're not supposed to be interested in anything but the value of the objects up for exchange but in most human interactions many more factors need to be considered. Are Henry and Joshua closely related, like brothers or uncle and nephew? Are they friends? Is there any kind of antagonistic history between them? Maybe Joshua wronged Henry in the past, and by handing him a pair of shoes he appeases him. Or maybe Henry has nothing Joshua needs right now, but in giving him shoes, Joshua registers a credit. Henry 'owes him one', and can do or give something to return the favour at a later date.

Obviously, anyone who has an ongoing relationship with someone else wouldn't have to rely on on-the-spot exchanges but could choose deferred payments instead. Smith suggested that people would stockpile commonly-traded items and use them as a sort of currency. But now we can see this is not necessary, either. In any small community, the folk simply keep track of who owes what to whom, thereby maintaining and updating credit networks.

Still, even the scenario in which payment is deferred and Henry 'owes Joshua one' implies something like money has to exist. After all, 'money' is not just a medium of exchange, but also a store of value and, crucially, a unit of account. That's crucial in this scenario because if Joshua is to pay what he owes there has to be some way to establish what materials, products, tasks or what-have-you are equivalent to a pair of shoes.

On that note, it would be worth returning to Smith's examples of 'commodity currency'. Recall how he said fish, or nails, were once used as money. Well, when the British diplomat Alfred Mitchell Innes (1864-1956) did some research on the Newfoundland fishing industry, he discovered that they never really used fish as money at all.

His investigations showed that there was no permanent European population in the early days of the Newfoundland fishing industry. Instead, fishers were only there during the fishing season. According to Mitchell-Innes, "those who were not fishers were traders who bought the dried fish and sold to the fishers their daily supplies. The latter sold their catch to the traders at the market price in pounds, shilling and pence, and obtained in return a credit on

their books, with which they paid for their supplies. Balances due by the traders were paid for by drafts on England or France".

So, rather than using fish as money, this was instead a credit arrangement keeping track of who owed what to whom.

And what about the nails? Recall how Smith wrote, "there is at this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails instead of money...to the ale-house".

This suggests the following scenario. A workman enters the ale-house.

Workman: "Barkeep, I am thirsty! Give me a pint of your fine ale".

Barkeep: "Certainly. That will be five nails".

That should strike you as rather silly. Of course nobody really used nails as money. You have to understand that workers receiving regular wages was not always the expected thing. In Smith's day, employers often lacked the cash to pay their employees. Indeed, an employee might have had to wait for over a year before he actually received his wages. So what did those cashless employees do in the meantime?

According to Graeber, "it was considered acceptable for employees to carry off either some of their own products or leftover work materials, lumber, fabric, cord and so on. The nails were de facto interest on what their employers owed them. So they went to the pub, ran up a tab, and when occasion permitted, brought in a bag of nails to charge off against the debt".

So, once again, what we're really talking about here is a credit arrangement.

Indeed, this is what is revealed to be going on in almost every case. It is often said that when empires or kingdoms collapsed in ages past and the currency collapsed with them, people 'reverted to barter'. We have two implications here. Firstly, that people had relied on barter before (how else could they revert to it?). Secondly, that the absence of cash necessarily means the absence of money.

We now know the latter assumption is simply wrong. The absence of cash in no way prevents people from using money. For example, after the collapse of the Roman Empire, people continued keeping accounts in the old imperial currency, calculating credits, debts and balancing their books using the equivalent of pounds and pence as units of account. Or, to give a more recent example, we might turn to 20th century Ireland. During the decade between 1966 and 1977, the country experienced three separate bank strikes. For a total of twelve months, the banks were completely shut and people were prevented from carrying out any banking transaction.

It was predicted that strike would cause such disruption that the banks' demands would have to be granted. But it turned out that the people of Ireland didn't care. No, they just carried on using money, writing cheques and circulating them through credit networks, demonstrating that while communities require banking they don't necessarily need banks.

According to Antoin E. Murphy (economics professor of Trinity College, Dublin), “the nature of the economy greatly facilitated the emergence of this new system...The small size of the population meant that there was a high degree of personal contact amongst members of the community. Where information was lacking at the personal level, a substitute collective information existed in the form of retail shops numbering around 12,000 and that well-known Irish institution, the Public House, 11,000 of which existed in the Republic”.

So, in Ireland at that time there were all these communities where people had ongoing relationships and an understanding of ‘credit’ not as cold, impersonal cash but a neighbour’s good reputation. Where you could not rely on your own understanding of a person’s good name, you could turn to the barman who, through his capacity as mein host, could tell you who was good for her money and who you should steer clear of (as Murphy said, “one does not, after all, serve drinks to someone for years without discovering something of his liquid resources”).

So once again, the absence of cash did not force anyone to ‘revert to barter’, simply because there was nothing to stop communities from continuing to use money as a unit of account. As Murphy said, “there was nobody in charge and people took the checks they liked and didn’t take the checks they didn’t like. So the whole world just revolved around that fact”.

This is not to say that barter systems never crop up in the aftermath of economic collapse, because this has happened on occasion. For example, it happened quite recently in Russia in the 1990s and in Argentina around 2002. There are also reports of inmates in prisoner-of-war camps and prisons using ‘commodity money’ in the form of cigarettes.

In all such cases, we are talking about people who are familiar with money but find themselves in circumstances where they can no longer access cash, making them rather like those ‘origins of money’ scenarios where cobblers and farmers spontaneously appear and start swapping things. So there is some evidence that this sort of thing can happen, it’s just that there is no reason to believe barter is an ancient phenomenon.

As Graeber pointed out, “in most of the cases we know about, it takes place between people who are familiar with the use of money but, for one reason or another, don’t have a lot of it around”. Again, though, it must be stressed that the far more frequent solution is to revert to some sort of anarchistic credit system.

Can we really talk of ‘reverting to credit’, as if doing so recalls how our ancestors conducted their daily lives? Well, in saying so we certainly stand on much firmer ground than if we talk about ‘reverting to barter’.

You will recall how, in Smith’s time, knowledge of monetary history went back no further than circa 800 BC, the time of the Homeric epics. But once Egyptian hieroglyphs and Mesopotamian cuneiform were translated, we gained access to a further three thousand years of history, enabling us to learn about the daily economic lives of people who lived as far back as 3,500 BC. Such records leave no doubt: Credit came first, not barter.

CHAPTER NINE

I think it's fair to say that the standard theory of money's origins as evolving from barter, must stand as one of the most completely refuted and debunked theories of all time. There is hardly a single aspect of this story that does not collapse once the disciplines of archeology, anthropology and properly interpreted history are brought to bear on its claims.

You would think, then, that since this theory is so absolutely refuted, it would be rejected and economists would be writing a true history of money as something that evolved out of primeval credit arrangements. This revision of monetary history was indeed attempted by Mitchell-Innes, the person who, you may recall, debunked Smith's examples of commodity currency. In essays published in 1913 and 1914 he wrote:

"One of the popular fallacies in connection with commerce is that in modern days a money-saving device has been introduced called credit and that, before this device was known, all purchases were paid in cash, in other words, in coins. A careful investigation shows that the precise reverse is true. In olden days, coins played a far smaller part in commerce than they do today...So unimportant indeed was coinage that sometimes kings did not hesitate to call it all in for re-minting and re-issue and still commerce went on just the same".

So, he was quite clear that credit came first; that for most of history the use of coinage spread unevenly and never completely replaced credit, and that if barter happened at all it did so only in fairly recent times, being mainly what strangers do when they are used to cash but suddenly cannot access coinage.

Strange though it may seem, the revision never happened. Think back to those quotes that tell us the only alternative to cash is barter. Stiglitz and Driffield were writing in the year 2000. Yuval Noah Harari, 2011. So, over 91 years after Mitchell-Innes laid down the groundwork for a rewriting of monetary history that actually agrees with the evidence, economists responded by ignoring him and continued to write as though the barter theory of money was valid.

What is it about the myth of barter that makes it so convincing even in the face of so much refuting evidence? Here, we must appeal to the assumptions that drive the creation and perpetuation of 'mythstakes'. Whenever people refuse to change their assumptions, even when faced with a great deal of evidence that those assumptions are wrong, you can be sure that an ideology is in operation. That was the main reason why the geocentric model survived for so long, even as centuries of observations contradicted its premises, and why the Big Bang theory dominates today, despite its awful track record in terms of predictive success. So, what ideology lurks beneath the myth of barter?

Perhaps it is significant that Smith's 'Wealth of Nations' was published just eighty-nine years after Isaac Newton (1642-1726) published his monumental 'Principia', most famous for its three laws of motion and inverse square law of gravity. Newton's theory of physics was considered our best cosmological model until the twentieth century, and even now the predictions derived from it are valid in all but the most extreme cosmic situations.

So, Newton's cosmology had been a part of society for almost a century by the time Smith put his ideas down on paper, and that is enough time for ideas in one discipline to influence thoughts in others.

According to John Gribbin (b 1946), 'Principcia's' biggest impact on society lay in the way it showed, via rigorous experiment, data gathering and math, how the whole universe could be understood using essentially mechanical principles.

Understandably, then, the Newtonian universe is often compared to a great clockwork device. As Gribbin said, "think of a great church clock of Newton's time, not just with hands marking off time, but with wooden figures that emerge from the interior on the hour...a great complexity of surface activity, but all happening as the result of the tick-tock of a simple pendulum".

So one could imagine the Creator setting that pendulum in motion, or analogously, pronouncing some simple equations, and from that moment onwards all else would be set in motion. This is a picture of a universe that is not governed by magic and the whims of capricious gods, but rather a mechanistic cosmos built by a divine watchmaker which would run all by itself, ultimately reducible to a set of physical laws that are, in principle, understandable to human minds.

Well, if you were a libertarian like Smith and were determined to show that an economy could run like a well-built machine, then taking a Newtonian viewpoint must have been the way to do it. After all, if, as Newton argued, God had arranged matter just so in order to ensure an eternal, harmonious universe despite all the chaos we seem to witness (all those supernovae, asteroid strikes and so on) why not also suppose providence would have arranged things so that a balanced, harmonious economy would result from the selfish pursuit of material gain?

The problem is that Newton's theories were concerned with relatively very simple things and phenomenon, such as the paths planets must follow if we assume an inverse-square law. But Smith's field of study was the most complex thing in the known universe, namely humans and human behaviour. It's inherent to the deductive approach to break surface complexity down into its underlying simple foundations. The danger lies in the potential to ignore factors you shouldn't really dismiss.

In the case of Smith's theory, and indeed of anyone whose economic model is based on the myth of barter, the flawed assumption is that anyone and everyone who is lending and borrowing does so based on purely 'economic' motivations. This is another way of saying that credit and debt are intrinsically impersonal and that therefore we treat an obligation a cousin owes as no different to a debt owed by a complete stranger.

Of course that's not really true. In reality, we treat people differently depending on what relationships and history we have built up, and there are all kinds of conflicting emotions, behaviours, morals and so on, influencing our decisions. We lend, borrow, and repay not just out of cold economic logic but out of friendship, animosity, love, spite, altruism, jealousy, solidarity, selfishness...the list of possible reasons why we might do favours, roll over a debt or demand repayment now go on and on.

All these contradictory moral principles, emotions and beliefs are necessary aspects of any theory of human behaviour, but it all makes for an inconveniently messy and confusing subject of inquiry. A lot of what people do is beyond quantification, making it particularly challenging for those who would reduce human behaviour to a set of equations. For those determined to do so, it is preferable to ignore all the complexities involved in real human exchanges and to begin instead with an imaginary past where there is no credit and there is no debt and then to imagine a way in which purely-competitive markets where nobody cares about anything but the value of material goods can arise. The temptation of barter lies in the way it presents an idealised beginning in which rational agents make on-the-spot exchanges, thereby implying a world of individuals who don't owe anything to anyone and who have nothing influencing such exchanges except the best-possible price.

As Graeber said, "for there to even be a discipline called 'Economics' that concerns itself first and foremost with how individuals seek the most advantageous arrangement for the exchange of goods, it must assume that such goods need have nothing to do with war, passion, mystery, sex or death. Economists assume a division between different spheres of human behaviour that simply doesn't exist".

The barter myth demands we ask a seemingly silly question, which is "why make citizens pay taxes?'.

Now, the answer might seem obvious. Governments raise taxes in order to obtain the funds necessary to render services. However, if the origin-of-money stories found in economic textbooks and a lot of monetary history books were true, a far simpler means of acquiring money would present itself.

We are supposed to believe, after all, that markets arose naturally as individuals engaged in on-the-spot barter exchanges and that coinage evolved as a consequence of those same individuals trying to overcome the double coincidence of wants. Supposedly, all this development happens without the State needing to get involved or, indeed, before there even is such a thing as the 'State'.

So, since people are happily using coinage before the State even exists, the simplest thing to do, once the State comes into being and needs to get its hands on wealth, would be to use its monopoly of force and simply take over the mines and mints. Then it could just stamp out all the money it ever needed. Certainly, that seems a lot simpler than paying people in coins only to insist they give some of those same coins back again, in taxes.

But since the story of coinage's natural emergence from barter is just a myth, there is no real mystery here. If we assume (as all evidence suggests) that competitive markets don't emerge naturally, taxation becomes the way to bring those markets into being. Because, if you turn gold or silver into coins, make those coins the legal tender of your kingdom and pass laws that mean taxes, fines and other legally-enforceable payments have to be paid in those same coins, you effectively turn your citizenry into a vast machine for the provisioning of soldiers or for large-scale projects like constructing roads, not to mention all the other myriad jobs that collectively make up 'the economy'.

CHAPTER TEN

‘The economy’ is another concept that seems so familiar to us it’s hard to believe we could ever have thought otherwise. It must exist and it must be really important, after all, because the news talks about it all the time.

But the idea that there is this field of study known as ‘Economics’, with its own principles and laws that could be studied in isolation to ethics, theology and politics, was a novel one in Smith’s day. As Graeber explained, “barter played a crucial role in developing the idea that there was ‘the economy’, which operated by its own rules, separate from moral or political life, that economists could take as their field of study”.

Prior to Smith, it certainly wasn’t assumed that ‘Economics’ was a thing unto itself. No, it branched off from theology, and many of Smith’s most famous quotes concerning markets and market competition were actually derived from a different moral universe.

But what is the ‘economy’? In seeking the answer to that question, we come across a problem much like the one connected to seeking a concise and complete definition of ‘money’. There does not appear to be universal agreement about how to define the ‘economy’.

According to the Oxford English Dictionary, the word refers to “the branch of knowledge concerned with the production, consumption, and transfer of wealth”. Alfred Marshall (1842-1924), author of one of the standard textbooks in this field, summarised it as “the study of people in the ordinary business of life”.

If one searches for other concise definitions, a pattern emerges. All such quotes manage to describe what an economy is and what an economy does, but somehow such summaries seem insufficient. Could our inability to completely define what an economy is have the same explanation as the difficulty in defining ‘money’? I think one could make a strong case arguing that this is indeed so. A regular contributor to a forum I belong to has a saying that’s worth pondering, because there’s a good deal of truth in it. “Capitalism”, this person likes to tell us, “is what happens while you are making other plans”.

What we see in such a quote is reasoning much like that of economists such as Ludwig von Mises (1881-1973) and Friedrich Hayek (1889-1992). These thinkers put forward arguments to show that if you were to try and plan for and command an economy on any large scale, the sheer complexity of that task would soon overwhelm the planners, resulting in disaster. This, they believed, was the ultimate explanation for the tragedies of Stalinist Russia, Maoist China and other dark periods of a history we label as ‘Communist’.

Some politicians and leading thinkers (Margaret Thatcher (1926-2013) being a good example) took findings like these and concluded that the development and domination of Capitalism was somehow a form of manifest destiny. Really, there’s no point in seeking alternative ways of organising ourselves because, as the UK’s first female Prime Minister liked to remind everyone, “there is no alternative”. Although one does not necessarily find any overt religiosity in such statements, one nevertheless gets the impression that advocates of this ‘no alternative’ stance see the hand of God keeping us all in check,

ensuring we always stick to His preferred economic system (capitalism) and punishing us if we ever stray from the righteous economic path. Adam Smith famously spoke of an ‘invisible hand’ guiding our behaviours, which obviously lends itself to this kind of thinking.

Is it really true, though? I don’t think so, and attribute this thinking to mythstakes that have succeeded in diminishing our ability to imagine alternative futures. We’ll be discussing such things towards the end of this volume. But here and now I want to focus on resolving the problem of how alternative economic systems can possibly come into being, if you cannot plan for such an outcome. After all, we know that, if you trace human history back far enough, you find yourself contemplating people who in no way could be considered as being under a capitalist economic system, because back then it did not exist. Somehow, we went from a world devoid of capitalism, to one where it is a global phenomenon. How, when planning large-scale economic change is inevitably a disastrous thing to do?

The answer, as readers have no doubt figured out already, is the same explanation as the complexity and diversity of life and the existence of money, banking and finance. In other words, we’re not talking about something that was planned, but nor should we believe it all came about by accident. We are instead contemplating systems that evolved.

As ever with evolved systems, we have to allow for radical adaptation, by which I mean things later becoming repurposed for uses quite removed from the original purpose. Where money and economics is concerned, a few examples of radical adaptations would be:

The most primitive forms of money almost certainly had nothing to do with the impersonal exchange of goods and the moral duty to clear debts. Instead they were symbolic gestures involved, one way or another, in rearranging human relationships, operating in an entirely different sphere that recognised human life as unquantifiable and understood that, as fundamentally social beings, humans should form relationships that endure rather than seek to cancel out the connections we have with each other.

Today, people talk about ‘rights’ as though they are something people possess, as in the refrain “you cannot do this, I have my rights”. If you trace this way of thinking back to its roots, the starting point is very surprising, for it began in ancient slave law. Other surprising points of origin are medieval Chinese Buddhism (where the roots of investment capital are to be found) and the American Dream, as encapsulated by President Lincoln (1809-1865), which actually revised feudalist practices surrounding ‘services’.

And then there is the ‘ideal family’, or at least what was considered the ideal from the establishment of capitalism by the 18th century to the late 20th century. That ideal, recall, was that a woman’s place was in the home, doing the unpaid work of reproducing the workforce, ‘reproduction’ in both the sense of giving birth to the next generation of labourers, and also in the sense of maintaining their health by producing care, food, hygiene and other basic necessities labourers need so they can continue to be exploited.

In tracing the evolution of the ‘ideal nuclear family’ back to its roots, feminists like Sylvia Federici (b1942) have located its origins in a surprising place: the great and terrible witch trials of the 17th century. Ultimately, the persecutions of witches served two useful purposes for the establishment of Capitalism. It strongly persuaded people to look at the world in a

‘rational’ rather than a ‘magical’ way (the former way of thinking being much more useful for those seeking to quantify and slap a price tag on everything) and it also undermined worker solidarity by sowing the seeds of suspicion and creating divisions like men versus women, and young versus old. Without the paranoia and suspicion that accusations of witchcraft brought about, the fall of Feudalism may well have resulted in a more communist reality than the hyper-individualistic Capitalist system we ended up with.

Remember, none of this came about because some folk planned for things to turn out this way. There never was a group of conspirators, gathering in secret, hatching their nefarious plot to inject a fear of magic and witches into the populace, all so worker solidarity would be undermined and women’s reproductive powers would be ‘enclosed’ and made to serve capitalism’s purposes, much as the common land enclosures forced labourers to ‘choose’ Capitalism. It’s just that, as these developments were put into practice for whatever reason, things developed in ways few if any could have foreseen that eventually led to the modern Capitalist world.

This is just a tiny example of the complex way the web of history wove itself as the modern world developed. We’ll be coming back to the topics mentioned above in later volumes, and in so doing reveal how a good deal more violence went into establishing capitalism than the myth of barter, with its strangers meeting to engage in friendly swaps, would have us believe.

Here, though, I want to consider world that evolved out of our myriad actions and consider that something has obviously gone wrong.

Perhaps the best evidence for this claim would be a remark made by Lloyd Blankfein (b1954). He was the CEO of investment bank Goldman Sachs who, in 2009, made the following claim: “The people of Goldman Sachs are among the most productive in the world”.

Look at the year in which Blankfein made that claim. 2009 was the year following the worst economic and financial crisis since the 1930s. Goldman Sachs had been a major player in bringing about the subprime mortgage bubble, engaging in all sorts of dodgy practices disguised under impenetrably complex financial jargon, before the bubble popped and US taxpayers had to dig into their pockets and hand over $125 billion in order to bail out this company, apparently one of the “most productive in the world”.

Mind you, Goldman was just one company among a whole banking and financial system that got bailed out, a move that cost tens of trillions of dollars to ‘rescue’ the whole system. This rescue package resulted in years of harsh austerity for ordinary workers and hardly any punishment for the executives of the banks and financial services that mostly caused this near meltdown. If anything, firms like Goldman Sachs benefitted from the fiasco they helped bring about, by betting against the very instruments they had created and which were sold to people’s pension funds as “safe investments”.

Perhaps the most surprising thing about this situation is that the ruling classes continue to get away with it, despite the obvious absurdity. Think about it. Whenever people who provide everyday services- railway workers, nurses, carers, shop assistants, people like that- demand pay packets that reflect the cost of living, you can guarantee that two responses will

be forthcoming. First, the question “but where will we find the money to pay for all this?”, will be asked in a tone of voice that makes it clear the question is rhetorical because of course there is insufficient money and such demands are beyond all economic reason. But, while the money needed to pay a living wage is nowhere to be found, somehow politicians have no problem ‘finding’ the trillions needed to fight wars and bail out banksters.

Secondly, calls to raise the pay packets of ordinary people invariably meet the counter “but that would cause inflation”. Do we ever hear such warnings when executives decide to reward themselves a few million on top of the millions they already receive, plus the gold-plated pensions and other expensive perks? No we do not. There is, apparently, no risk involved in vastly increasing the wealth of those who already possess more wealth than is personally practical (what the hell can they spend it all on, other than wasteful luxury or political lobbying to further increase their power over others?). But, woe be to any economy that would pay a decent wage to the blue collar worker, for to do so is to step onto the inflationary slippery slope. In order for a country to be rich, it seems, most of us have to stay poor.

Indeed, not only that, but Capitalism seems to have developed in such a way as to bring about an inverse correlation between the social benefits a class of worker is likely to bring, and the compensation that class receives. In other words, if you do work that obviously benefits people, you’re almost certainly so poorly paid you can hardly manage without family assistance or charity. On the other hand, if you’re, say, a hedge fund manager or a corporate lawyer, engaged in work that is pretty useless for anything other than protecting and increasing the ill-gotten gains of an elite minority, great are the financial rewards that come your way.

In making such a statement I am continuing a debate that has gone on since time immemorial. Ever since ancient times, people have considered economic activity as being of two types. This division can be put in a variety of ways. We might speak of the ‘virtuous’ on one hand, and the ‘vile’ on the other. We might instead speak of the ‘industrious’, to be contrasted with the ‘lazy’. But these days the most popular way of dividing economic activity is this: the ‘Productive’ on one hand, and the “unproductive’ on the other.

Really, it’s odd that this should be how we prefer to think about economic activity, because very little work people do these days should be thought of as ‘productive’. In saying this, it might seem that I am denigrating the contributions of the majority, because today ‘productive’ is used as a synonym for ‘valuable’, ‘praiseworthy’, ‘useful’, and other such virtuous traits. But this is not my intention at all. Instead, I am pointing out that most work does not ‘produce’ anything, and that there are other terms we could use that are much better descriptors of what people actually do in their jobs.

But if that is the case, why do we insist on calling all work ‘productive’? Basically, the overuse of this term serves much the same purpose as the myth of barter. It radically simplifies human activity so as to render it calculable by economists and, as we shall see later, it’s a convention whose origins lie in the theological beginnings of ‘economics’.

Another word we should think about is ‘Work’. What are we referring to when we call something ‘work’?. In my previous book (‘How Jobs Destroyed Work’) I pointed out that,

whenever people refer to ‘work’, they will talk as though that term refers exclusively to ‘jobs’ or, at any rate, to activity one is paid for (wages, commissions, royalties, whatever form paid compensation takes). This attitude leads to some bizarre points of view. Most especially, it is not unusual to hear people say things like “I am no longer working. I gave up work in order to raise our kids”.

It’s rather peculiar how motherhood so often gets classified as ‘not working’. A case could be made that bringing up the next generation is among the most important work anyone can ever do. Similarly, those who devote their time to looking after those who are too elderly or infirm to live without support are doing work of tremendous social value. But by the ‘work equals jobs’ attitude, if such efforts are rendered on a voluntary basis (most carers are family members who care for infirm relatives without expectation of payment) most would conclude such folk are “not working”.

As well as thinking about ‘work’ as if that term should always be thought of as synonymous with ‘jobs’, we also find a tendency to divide human activity between ‘work’ and ‘play’. Here, the dividing line is not drawn between activities one is paid to perform and those services rendered voluntarily, but rather according to whether the activity could be said to have intrinsic meaning in some form or other. Is what you are doing fun? Enjoyable? Spiritually rewarding? In short, could it be said that one would engage in such activity for its own sake? If so, such activity is properly categorised as ‘play’.

Perhaps the best indication that we are supposed to think this way is the career advice that goes something like this. “If you can get paid doing what you love, you’ll never work a day in your life”.

Why should that be so? Well, if ‘play’ is any activity done for its own sake, its opposite or negative would have to be action that’s never carried out for its own sake. No wonder, then, that ‘work’ is a word used to describe activities that are often onerous and repetitive, devoid of any intrinsic appeal (and certainly not enough to maintain one’s interest for long) but which one sets about doing out of a hope or expectation that something else will be accomplished as a result, be that a cooked meal, a tidier environment, the construction of a bridge, or myriad other things that can result when humans perform certain routines.

Dividing human activities into ‘play’ and ‘work’ is arguably another case of imagining human existence to be far less messy and complex than is actually the case. Really, though, people engage in all kinds of practices, customs, rituals, ceremonies, teachings, performances, trials and activities that blur the line between frivolous ‘play’ and serious ‘work’. Children, for example, enjoy playing ‘dress-up’, putting on various costumes and acting out roles. When they do this, we call it ‘play’. But a lot of professions require dressing up in costumes too. Those enforcing the law need to be distinguished from everyday folk, and so on go the police uniforms and the robes and wigs of court judges. The rituals and customs of religious ceremonies or the State Opening of Parliament also involve a considerable amount of dress-up and acting out of roles. In fact, it’s quite hard to think of a job that does not entail slipping on some kind of uniform and adopting a persona suited to a role that’s different from one’s private self.

Indeed, this kind of play-acting is such an important part of professional life, it explains how come con artists can get away with pretending to be doctors or commercial jet pilots when they have none of the practical skills such jobs require. So long as they wear the uniform and exude the air of calm, assured professionalism expected of a real pilot, doctor or whatever, people will tend to believe what is right before their eyes.

Given that there are many forms of action that blur the line between ‘work’ and ‘play’ and the myriad other roles and performances people might engage in, we unsurprisingly find great variation regarding how to draw the borders around such activities across different cultures. But what about the attitude that dominates in our culture? How did such attitudes come about?

Anyone interested in seeking out the roots of our modern attitudes would do well to consider certain traditions that formed in the Eastern Mediterranean. The traditions I am talking about are the ones we find in the Book of Genesis (most especially chapter two) and the works of Hesiod (b circa 700 bce), a Greek who wrote epic poetry.

Consider the myths of the Garden of Eden and Prometheus. What both of these tales do, is explain why we should have to go out into the world and seek work. Of course we would rather not do this, because we can all imagine more pleasant ways of living, such as lazily plucking fruit in God’s own garden, or feasting on ambrosia and nectar up on Mount Olympus. But, alas, such a life is no longer available to us. Long ago, these myths tell us, something was done to anger the gods, and the cost of defiance was a life of toil.

So, according to these myths, we are forced to work because this is a punishment visited on us by God/the gods for some past sin. But, we also find something else in these myths, which is the idea that there is more to work than just punishment. These myths, you see, also insist that humans are blessed with the ability to crudely re-enact the divine power of creation. Work is the way we go about achieving this, reforming the world around us to suit our needs through an application of brain and brawn.

In other words, mythical tales such as these are based on our common definitions of work, because they explore the idea that nobody wants to work (because, after all, who would volunteer to be subjected to punishment?) but, at the same time, there is a creative element to such toil, the hope that we might accomplish something beyond the work itself.

Now would be a good time to stop and ponder the following question. Why should this ‘something beyond’ be equated with ‘creation’? In asking such a question, we re-examine the claim that proper, valuable work is ‘productive’. If you think about it, not many jobs really involve the production of something. If you work in a managerial role, for example, you are not employed to produce anything, but rather to coax the required performance out of other employees. Even if your job entails actually making something, it’s arguably more accurate to think of such work as performing some kind of transformation or rearrangement of materials, rather than pure ‘creation’.

In other words, if our work is to be compared to that of the gods, it would be a bit more accurate to liken what we do to the origin myths found in cultures like ancient Egypt or

Sumer. Why? Because, in these origin myths, the universe is not created out of nothing, but instead through acts that reshape and reform some pre-existing material.

Actually, a case can be made that there is a kind of sleight of hand involved in the creation act carried out by the Biblical God, because while it is commonly read as a tale of Yahweh creating the world out of nothing, it's quite possible to read it as creating the world out of a pre-existing substance, just like prior creation myths.

There is also a sleight of hand involved in human work, only in this case the cheat is not to make some primordial substance disappear, but rather to make a great deal of work that people actually do disappear, all so that we can think of work entirely in terms of 'productivity'. In the case of human work, the sleight of hand involves gender related attitudes.

This sleight of hand is easier to identify in sources from Greek and Roman antiquity, where the focus was very much on the 'punishment' aspects of work. In our day and age, pretty much any job is seen as noble, the surest way to develop oneself into a better, more rounded character. But that's not how the male aristocrats of Ancient Rome or Greece thought about much of the physical labour and services that had to be performed in order to maintain society. Such work, they felt, was best left to slaves and women. Male aristocrats sought to avoid work of this kind, because far from forming character they saw it as diverting time and energy away from the sort of social and political obligations men should rightly be engaged in.

As we all know, Ancient Greece did nurture some of the giants in philosophical thought, such as Socrates (c. 470-398 bce) Plato and Aristotle (384-322 bce). If figures like these were able to devote so much time to philosophical or political thought, it was mostly because they never had to get their hands dirty, being in a position to tell others (slaves and women) to get on with work of that kind.

Returning to the story of the Garden of Eden, we find a distinction around gender here too, one which tells us something interesting about the supposed link between 'work' and 'productivity'. In this myth, God hands out two punishments. One for Adam and all sons to follow him, another for Eve and all her daughters.

For 'Men', the punishment is a life of toil. As Yahweh tells Adam, just before ejecting him from Eden, "by the sweat of your brow will you eat your food". God ensures this work will be tough and painful labour, by having the earth spring weeds, nettles, thorny vines and other hazards and obstacles man must continually overcome in order to crudely reenact the creative process.

Eve and all her daughters, meanwhile, are punished with their own kind of painful labour. In this case, though, the unhappy circumstances women must henceforth endure is particularly gruelling and painful childbirth. "I will make your pains in child-bearing very severe: with painful labour you will give birth to children".

As in the case of the toil imposed on sons of Adam, the labour women are inflicted with is not just a punishment but also a form of creation. Indeed, quite possibly the act that comes

closest to pure creation any human can perform: that of producing a whole new human being, fully formed, from one's own body.

Normally, the process of fertilisation and birthing is called 'reproduction' rather than 'production'. Both words share the same root, and this tells us something important about our attitudes to 'work'. We got the word 'produce' from the Latin word 'producere', which means "to bring forth". 'Work' and childbirth are both called 'labour' not just because both involve punishing exertion, but also because the same core metaphor is at the centre of our beliefs concerning 'production' and 'reproduction'.

Take the latter first. Of all the things humans can do, giving birth is the one most likely to be thought of as miraculous. Because it is a miracle, isn't it? What father has not been overwhelmed with emotion upon seeing his son or daughter brought forth, fully formed, from the mother's body?

Of course, it's not really a miracle, more like the end result of an enormous amount of molecular and cellular processes that somehow divide one cell into two, then four, then eight, along the way differentiating those cells into specialised types until you end up with an organism comprised of trillions of cells working in such harmony we don't see a society of cells coordinating their activities, but rather a single person. But all such processes are hidden away from us. From our perspective babies pop, fully formed, out of women's bodies. The products we use in our everyday lives seem to appear in much the same way, only with the difference that, instead of emerging fully formed from women's bodies, they are 'brought forth' from factories and other places that manufacture the things we need.

Another similarity with this sort of 'production' and human 'reproduction' is that this sort of labour also hides much of the actual work going on. What this 'hiding away' does is to enable a kind of fantasy land not altogether different from the one male aristocrats in Ancient Greece lived in.

For, as David Graeber explained, "in so many patriarchal social orders, men like to conceive of themselves as doing socially, or culturally, what they like to think of as women doing naturally".

The way to do this is to believe that, just as the Biblical God created the world out of 'nothing', heroic entrepreneurial types build businesses "from scratch" and then products are brought forth from those factories etc, products that change the world. As Graeber said, "men see themselves as creating the world from their minds and brawn".

Really, then, this way of thinking about work almost entirely in terms of 'productivity' is very much a theological concept. 'Production' is what connects this way of thinking to theology because, as Graeber explained, ''production is thus simultaneously a variation on a male fantasy of childbirth, and of the action of a male creator God who similarly created the entire universe through the sheer power of His mind".

James Brown (1933-2006) famously sung "this is a man's world", and the lyrics of that song portray a world created by male brains and brawn. The song also adds the caveat that all such heroic effort would be for naught if men did not have the love of a good woman to

support them. But this comes nowhere close to acknowledging the role women play. If Men are able to live a fantasy of creating the modern world, it's because what is seen as the essence of work (productivity) offloads onto women the majority of labour, involving nurturing, tidying and maintainance that needs to be done in order to preserve the illusion that "this is a man's world". In other words, it's pretty much the same trick that male aristocrats of Ancient Greece pulled, delegating to women or slaves most of the dull and dirty jobs. Frankly, it was ever thus in patriarchal societies, where we often find males taking over the sort of work people will later tell inspiring tales about, while delegating to women the sort of labour one tells stories during the process of doing such work.

CHAPTER ELEVEN

In the previous chapter, we saw how equating 'work' with 'productivity' entails a sleight of hand effected through gender. But this brings us only partway towards understanding modern attitudes to work. In particular, we have not yet seen much explanation for how we went from the attitude "most work should be avoided, because it interferes with the development of the best qualities in men" which prevailed in such cultures as Ancient Greece, to "all work is sacred and necessary for the development of well-rounded adults", which is the predominant attitude today.

The origins of this way of thinking is found, not in Ancient Greece, but rather in a much later period, namely the European Middle Ages. This is a period we'll be returning to later when our focus will be on the origins of economic thought in theology. Few who lived during this period would have missed such a connection, because back then economic matters fell under the jurisdiction of the Church, and concepts to do with money were used in Biblical rhetoric, for example "the wages of sin" or 'Christ the redeemer'.

But there's an additional element to this period that is of more relevance to the current topic, one which is very much a Northern European idea. What idea am I referring to? The notion of 'service'.

Today, we are most familiar with medieval royalty and nobles having servants in the form of lords- and ladies-in-waiting. All period dramas show kings, queens and other high-borns surrounded by liveried servants attending to their every need.

What are so-called 'ladies-in-waiting' waiting for? They were waiting to become entitled themselves. But that didn't mean they were just hanging around waiting to gain an inheritance. Really, the ultimate aim of the service they rendered was to enable these men and women to learn the skills and manners expected of a lord or lady. It was transformative labour, only what it produced was not so much stuff, but rather properly-developed adults.

And this was the case through all layers of feudal society. Really, though, the kind of 'service' that had the greatest influence on people's lives back then, and also on attitudes today, was not feudal service but what historical sociologists call "life cycle service".

The essence of life-cycle service was the expectation that anyone of working age should spend the first seven to fifteen years of this period working as a servant, typically for a household of higher rank. The craft guilds are probably the most familiar example of 'life

cycle service'. Master craftsmen took on teenagers and trained them as apprentices. By embarking on this 'journey', guided by responsible adults, apprentices became journeymen and, in the fullness of time, full-fledged master craftsmen in their own right, adults equipped with all the means to set up their own smithies etc and support their own married life.

It would be a mistake, though, to suppose that this path to adulthood was one trod only by artisans. This was not the case at all, for the expectation was that peasants would spend teenage years as 'servants of husbandry', working in households that were slightly better off. So, for example, you had 'milkmaids', a term referring to daughters of peasants doing a particular kind of service.

Where commoners were concerned, the services they rendered in the first years of their working lives were not undertaken on a purely voluntary basis. Servants were paid for such work, meaning something rather like wage labour existed long before anyone had heard of 'Capitalism'.

However, there were some crucial differences between wage labour under 'life cycle' service, and how we think of jobs today. For one thing, people in Medieval Europe not only expected to be paid but also expected their superiors to take more interest in how those wages were spent. It was expected that a good share of one's wages would be saved. There was a good reason why such an expectation should have been prevalent in this society, one centred around the purpose of waged labour.

That purpose, fundamentally, was not one geared towards the production of stuff, but rather the development of responsible adults. In other words, people who had the skills, finances and experiences needed to manage households, farms or shops, training the next generation as they themselves had been taught.

This meant that the period of wage labour lasted for a much shorter time compared to expectations today. Today, most people remain in wage labour for the majority of their adult life, with retirement pushed ever further into one's future. Sixty-five years, seventy years, eighty…perhaps never to quit wage labour until death comes for you.

In the medieval period, though, wage labour was something only adolescents did. Admittedly, adolescence lasted a bit longer compared to 20th century expectations. Medieval people didn't typically get married until they were in their thirties. That meant that what we would now think of as one's teenage years, with all the rebelliousness and experimentation in alternative lifestyles associated with this stage in a person's life, lasted for as much as twenty years.

And there was indeed rebellion and experimentation. The 'adolescents' of the medieval period were encouraged to create alternative cultures, with names like 'Abbots of Unreason' and 'Lords of Misrule' that speak of the anarchic nature of such cultures. During certain popular festivals these anarchists were even allowed to seize the reins of power, at least temporarily.

All of this happened because medieval society blurred the boundaries between 'work', 'play' and 'education'. All this was done, ultimately, for the purpose of creating well-rounded adults

who, having been trained in the necessary skills, manners etc, no longer needed wage labour, for they had the ways and means to pursue self-employment.
In short, wage labour in feudal times was not so much ‘productive’ work but more like ‘transformative’ work. In other words, what was much later to become the work ethic of Protestantism had been formed many hundreds of years before the 19th century, or at least some of the key aspects of the Protestant work ethic originated in the medieval period.

CHAPTER TWELVE

In the last chapter there was talk of boundaries drawn around variations of human activity. As the feudal era gradually gave way to Capitalism, this habit would give rise to what Mariana Mazzucato (b 1968) has called the ‘production boundary’; a way of dividing human activity into useful/useless, valuable/ valueless, productive/ unproductive forms.

It would be a while before human activity was thought of in such precise, binary terms. Indeed, if anything, definitions of what should and should not be considered valuable work became more blurred by events brought about by the collapse of feudalism.

Feudalism was not immediately replaced by Capitalism, a system that would not be firmly established until the 18th century or thereabouts. Back in the 16th century, a series of economic principles that were not Capitalism were adopted by most European nations. During this period, governments were struggling to secure the funds required to maintain armies and bureaucracies. Both were expensive to maintain but also considered vital assets. This was because an era of overseas trading had begun, and such practices blurred the line between honest business practice and outright robbery. Embarking on colonial conquests and then protecting trade routes with the newly annexed lands was proving to be a very costly business, one which raised an all-too familiar question: Where will we find the money to pay for all of this?

Now, in modern times (as in any period where money is based on credit) that is a silly question that ignores the truth that money is imaginary. Therefore, you don’t really need to ‘find’ it, because it has no physical existence. Instead, you need to get most people to believe it exists, and to adapt their behaviours and attitudes accordingly. However, there are periods of history in which money does take on more physical forms, and one such period came about during the era we are now discussing.

The basic thinking at this time was very much zero-sum. The idea was that the world contained a finite amount of wealth and so, if one was to amass more wealth, that must inevitably result in rivals having less wealth. Rival countries were therefore racing to claim or conquer as much of the globe as they could, and during this time of exploration/conquest, European countries made an astonishing discovery: a hitherto unknown continent which turned out to be a source of great riches in the form of gold and silver.

So, for once, the question “where will we find the money?”, had an obvious answer. It was over there in the Americas, either in the form of treasure amassed by such civilisations as the Mayans, Aztecs and Incas, or running through seams underground, waiting to be mined.

The way these lands and their inhabitants were exploited in a debt-fuelled rush to turn gold/silver bullion into coinage makes for fascinating and disturbing reading. But that's a subject we'll cover in later volumes. What I want to focus on here is how the discovery of so much gold and silver changed attitudes concerning what represented wealth and prosperity. As this vast treasure from the Americas poured into Europe (though, actually, most would go to China) the elites of these countries (but not so much everyday folk) came to view gold or silver as the best way to represent wealth and prosperity. In fact, more than that, gold/silver did not merely represent money; once stamped into coins it was money. Once that attitude was fully in place, it seemed natural that 'productive activity' should be any activity connected to the acquisition of precious metals and their minting into coins.

Scholars and politicians of this period did indeed argue that the way to achieve and maintain national power and prosperity was through the accumulation of precious metals. But, they did not just seek to lay their hands on as much bullion as possible; they also sought to establish protectionist trade policies that would work to ensure the inflow of precious metals would be stimulated while simultaneously preventing the outflow of gold and silver. Because a good deal of these practices involved the use of merchant-adventurers, those who practiced such activities became collectively known as 'Mercantilists' from the Latin 'Mercator' or 'Merchant'.

So, in between 'feudalism' and 'Capitalism' there was 'mercantilism'. In England, the best-known advocate of mercantilism was Sir Thomas Mun (1571-1641) who was himself a merchant as well as the director of the East India Company. He wrote an influential book called 'England's Treasure by Forraign Trade', in which he pretty much summed up mercantilist thinking in one sentence, advising that the nation should "sell more to strangers yearly than wee consume of theirs in value".

The mercantilists believed more needed to be done than just ensuring selling stuff to 'strangers' (he meant foreign countries) maintained a positive balance of trade. They also defended the growth of national government, because they considered that to be essential to the aims of funding wars and expeditions, and also for keeping trade routes open and for controlling colonial markets.

Given that the thinking during this period was "the more for us, the less for our rivals", it should come as no surprise to learn that governments in the mercantilist era did what they could to preserve a positive balance of trade. After all, they wanted to limit the money available to foreign powers. To that end, ministers set about establishing monopolies and franchises which were then granted or sold to companies seeking to profit from these exclusive rights. The most famous of such arrangements was the monopoly on trade in the East Indies, owned by the East India Company mentioned earlier, but all kinds of monopolies and regulations were enforced at this time. In France, for example, there was a vast bureaucracy milking every conceivable trade through regulatory measures.

Mercantilism did more than just bring about a growth in monopolies and protectionist trade policies, though. It also encouraged budding economists to think of wealth production in national terms and to show much more interest in statistical analysis. The English government, for example, had started to collect data on the number and causes of deaths around London by 1600, because the government was keen to quantify how the outbreak of

plague was affecting the populace. Figures like these were published annually, and in 1662 one John Grant relied on such figures to produce ‘National and Political Observations Made Upon the Bills of Mortality’, which was the first work of statistical analysis.

As well as seeing the development of statistics, this was also the time when Britain was pioneering attempts to quantify national income. One person who attempted such a thing was Sir William Petty (1623-87) who was a member of parliament when John Grant published his ‘Bills of Mortality’, working as a tax administrator in Ireland under Oliver Cromwell’s commonwealth government (he had also worked as personal secretary for Thomas Hobbes, who pretty much invented political philosophy).

Petty wrote several treatise that today would no doubt be regarded as ‘economics’ but which he himself referred to as ‘Political Arithmetic’, a discipline he defined as arguments based on “number, weight and measure”. As he set about pioneering this sort of work, Petty not only started accounting for the national income, but also established a primitive version of what became known as the ‘quantity theory of money’, which is a theory that tries to explain the relationship between changes in the money supply, and prices.

One of Petty’s aims was to figure out how much economic potential was contained in a limited amount of cash, and from such studies he concluded that money’s effectiveness really depended not so much on how much money there was altogether, but rather on how quickly money was changing hands. But, more importantly for how ‘Economics’ came to see itself, Petty also came to believe that such a mathematical approach could enable those who mastered ‘Political Arithmetic’ to calculate the path to national prosperity with as much reliability as astronomers were able to track the orbits of planets.

Sir William Petty was not the only person doing pioneering work in economics at this time. Somebody else involved in such work was Gregory King (1648-1712) who, as well as being an engraver and a geneologist, also worked as a statistician.
Working under the latter capacity, King produced a detailed compilation of the nation’s wealth according to class and religion. Given the messy and incomplete data both he and Petty had to make do with back then, this work was surprisingly accurate. In 1699 parts of King’s work made it into print, included in ‘Essay Upon the Balance of Trade’ by Charles Davenant (1656-1714) regarded as the first serious attempt to account for the wealth of a nation.

What made the data that these pioneers in economics worked with so messy, was the rudimentary government tax figures and the patchy statistics on the consumption of basic commodities. It is a testament to the ingeniousness of both men that they were able to produce such detailed estimates. In doing so, they laid the foundation for modern national accounts.

It should also be pointed out that, at this stage, Petty and King’s chief concern centred on calculating the nation’s input. Questions concerning how that input came about were not issues concerning these men. As a consequence, their estimates lacked a clear value theory.

From the 1660s to the late 1690s, though, both Petty and King engaged in work that, while not explicitly intended to draw production boundaries around human activity, nevertheless drew implicit boundaries, as budding economists attempted to distinguish between genuine value creators, and wealth takers.

All this was largely kicked off by Petty, as a result of a decisive breakthrough he made around this time. He came to see that when one treated a country as a closed system, then every coin spent by one person would be an equivalent income for another person. This insight provided Petty with a way of making up for a lack of available statistics, because it enabled him to assume that a nation's income was equal to its expenditure. Of course, this was not entirely accurate, but instead relied on certain simplifying assumptions, such as ignoring the fact that people can save, rather than spend or invest, their money. But, ignoring such complicating details, Petty arrived at a figure for the nation's income, something he arrived at by calculating expenditure per person, multiplied by the population.

Ignoring savers was not the only omission carried out by Petty. He also chose to calculate some forms of spending and to omit others. The way he made that choice is important for the current topic, because it created an implicit boundary between 'productive' and 'unproductive' work.

In Petty's case, though, the boundary was drawn between money spent on "food, Housing, Cloaths, and all other necessities" and, outside of that boundary, all other "unnecessary expenses".

As he worked on this, Petty came to see any branch of the economy not concerned with producing what he considered to be 'necessities' as not adding anything to the national income. That is to say, he was beginning to draw a boundary between valuable and non-valuable work.

For Petty, the production boundary looked something like this. Placed within the boundary, and therefore considered to be value creators, were "husbandmen, seamen, soldiers, artisans and merchants….the very pillars of any common-wealth". As for those situated outside of the boundary, and therefore not really doing anything to increase the nation's wealth, that for Petty was where one should place "all other great professions" which "do rise out of the infirmities and miscarriages" of proper, value-creating work.

But what 'great professions' did he mean, exactly? Well, Petty was thinking of Lords, civil-servants, clergymen, lawyers, and people like that. As far as he was concerned, those working in such professions could not be said to be essential to production or exchange. At best, they were necessary evils, good only for facilitating production and maintaining the status quo.

During the late 1690s, Gregory King had become concerned with England's ability to wage war, and this concern led him to run a comparison between that country's income with that of Holland and France. Relying on a wide range of sources, King drew up detailed calculations of the income and expenditure of roughly twenty different occupation groups, from paupers up to the aristocracy.

In carrying out such work, King was drawing an implicit production boundary, just as Petty had done. In King's case, 'productivity' was defined as income that was greater than expenditure. Working with that assumption, King deemed the most productive group to be merchant traders, calculating their income to be a quarter more than their expenditure. The next most productive group, according to King, were "temporal and spiritual lords", and after them he placed a variety of prestigious professions. All such groups belonged within the production boundary, classified as "wealth creators" by King's reckoning.

Farmers, however, were put right on the boundary. King placed this group there, because he believed farmers to be a group who earned almost no more than they spent. As for those placed outside the boundary (meaning they were definitely 'unproductive') that, for King, was where society should place seamen, labourers, servants, cottagers, 'common soldiers' and paupers. These 'unproductive masses' represented just over half of the total population. King calculated that these groups consumed more than they produced, and in his opinion that made them leeches on the public wealth.

It's important to note that both Petty and King let certain prejudices shape their 'production boundaries'. They would hardly be alone on this regard. In the following centuries, other economists and policymakers would come along with ideas concerning how to divide human activity according to whether it did, or did not, produce value. In just about every case, such 'production boundaries' were not drawn in an entirely impartial way, but instead were inspired at least in part by predominant social attitudes and personal preferences.

Returning to Petty's and King's analyses of who did or did not produce value, one thing worth noting (because it highlights what was just said) are the discrepancies between these men's work. By no means do they concur on who should be placed within the production boundary. Notice, for instance, how several of the group that were 'wealth makers' by Petty's analysis included seamen, soldiers and unskilled labourers, while for King these belonged outside the production boundary. For King, pretty much all the professions he deemed 'productive' were viewed as 'unproductive' by Petty. What's going on here? How can cold, logical economic calculations lead to such divergent outcomes?

The answer, as readers have no doubt guessed, is that both men allowed personal prejudices to influence their work. Petty, as you may recall, had worked for Oliver Cromwell (1599-1658). It's safe to assume, then, that this was a man with republican instincts. Historical records also show his origins to have been humble. It should not be much of a surprise, then, to find this working-class republican favouring common folk as his work drew an implicit boundary around those who did (and did not) create the nation's wealth.

King, on the other hand, had long moved in aristocratic and court circles, and -surprise surprise- those "great professionals" who had been deemed unproductive by Petty belonged firmly within the production boundary, according to King.

It should be pointed out, as well, that at this early stage in the development of economics, the different production boundaries drawn by King and Petty were not just a result of personal prejudice. Just as important at this stage was the primitive nature of 'political arithmetic'. In neither case were these men linking their work to a value theory that would have enabled them to quantify such concerns as how an economic system would reproduce

itself and ensure conditions for future production were maintained, and nor was there any attempt in either case to quantify or model relations between different groups and individuals in the economy.

Since such details were missing, there was not much to constrain Petty and King, and so these men were free to label human activity as ‘productive’ or ‘unproductive’ however they chose to. As Mariana Mazzucato pointed out, “any policy for economic growth was…idiosyncratic because it was unclear what generated it”.

By the 18th century, though, it became starkly clear that an underlying value theory was something the developing ‘science’ of economics desperately needed, or else things could go haywire. This realisation came about as the mercantilist system was rocked by some of history’s worst cases of financial turmoil.

Now, earlier it was said that this was a period in which ‘money’ was considered to be coinage. But, while people at this stage in history were encouraged to think of coinage was ‘real money’, one should not suppose that all purchases and sales were mediated exclusively by cash. Poorer folk relied mostly on various forms of community credit, while those at the top of society were using their own forms of ‘credit’ to massively increase the money supply with ‘paper’ money.

As well as expanding the money supply in this way, many of these financial elites believed in ‘inflationary theory’, which basically held that the more money there was circulating the economy, the better off everyone would be.

One such inflationist was John Law (1671-1729). In 1716 he had been appointed head of France’s central bank, a position that placed him in charge of paying off France’s national debt. As well as being chief of France’s central bank, Law was also the head of the Mississippi Company, newly formed in America. Thanks to that latter position, Law was able to issue banknotes that were guaranteed by all the land that was waiting to be claimed (or stolen if indigenous people got there first). The plan was that Law’s scheme would flood the economy with cash, and that would help the French government repay the national debt.

Instead what happened was that overconfidence and infinite naivety, combined with paper money that could be expanded indefinitely so long as people believed in it, came together and caused wealth to seemingly take off like a rocket. Indeed, the sums investors were holding became so large that a new word was coined in order to describe them. They became known as ‘Millionaires’.

Ultimately, though, this vast bubble was based on assets that could not be realised, and the madness of crowds can only inflate such bubbles for so long before loss of faith causes all such imaginary money to disappear, transforming valuable notes into worthless paper.

Law’s system crashed in 1720. This was also the year when the South Sea Company, an English company that had tried a similar share-based scheme, also collapsed.

Great wealth, it seemed, could suddenly vanish as confidence underlying assets evaporated. Little wonder, then, that following such financial calamities there was more focus on building

solid foundations in value theories. Something else that encouraged such work was an increasing concern to explain why it should be that some countries should fall into decline, while others experienced growth and prosperity.

Concerns such as these led to the first proper treatise on economics. Its author was an Irishman by the name of Richard Cantillon (1680-1734) He had taken part in John Law's scheme by buying and selling ridiculously overvalued Mississippi Company shares. However, he was not completely blind to where all this inflation was heading, and in fact he took the precaution of secretly exchanging his own banknotes before the company collapsed. Thanks to this shrewd move, Cantillon was one of the few millionaires who did not lose his money.

He would later move to London where he would meet an untimely end at the hands of a murderer. Before that, he wrote that treatise on economics, the title of which was 'An Essay on the Nature of Commerce in General'.

In this work, Cantillon relied on a method of abstraction that was first adopted by Boisguilbert (1646-1714) and which would be adopted by subsequent economists. Basically, the idea is that you establish a series of criteria for experimentation, and then you maintain "all other things being equal". This is another way of saying that you are not attempting to factor in every conceivable variable (which would be impossibly complex) but are instead testing a single factor in a theoretical laboratory, if you will.

One thing Cantillon was keen to do was to develop a theory capable of explaining how the price of a commodity is determined. This work led him to a key realisation that would one day become mainstream economic thought, but not before other economic systems rose up and had their period of popularity.

Cantillon's key insight was as follows: what determines the price of an item was not how much it cost to produce, but rather how much demand for it there was. This makes him the forerunner of modern 'laws of supply and demand' schools of economic thought. By the time he had further developed the quantity theory of money that Petty had advanced, Cantillon's work effectively ended Mercantilism's time as the predominant economic school of thought.

At this point, I feel it is important to point out that Mercantilism no longer dominating should in no way be confused with mercantilism disappearing altogether. When we talk about one economic system replacing another, this gives the impression that the old ways disappear, so whereas once upon a time, everyone adopted Feudalist practices (for example), now everybody is a Capitalist. Reality is more complex than that. The old ways never really disappear entirely. Countries continue to practice mercantilism, such as when they put up protectionist barriers. Companies still adopt practices that are really more like feudal arrangements than purely 'capitalistic' modes of practice. In reality, human life involves moving back and forth between different, and sometimes contradictory, modes of interaction, and this happens on the personal, familial, societal, national and global level. It's really just a convenient fiction for economists, this supposition that, since Capitalism now dominates, we all act in an exclusively 'Capitalistic' way, all the time, and that all human interaction is built around exchange and that's that.

Anyway, ‘An Essay on the Nature of Commerce in General’ was first published in France, where it had quite an impact on a new generation of French thinkers. From this there arose the first ‘school’ of economic theoreticians who would begin the serious search for the ultimate source of value.

As mentioned before, this did not kick off with economists leaping from mercantilism to theories of value based on supply and demand. Instead, value theories would first see ‘land’ as the source of all value, and then, following the industrialisation of economies, they would think in terms of a labour theory of value.

CHAPTER THIRTEEN

Before there were Neo-liberal or Classical economists there were physiocrats. The pioneer of this form of economics was one Francois Quesnay (1694-1734) He lived in an age when societies were predominantly agrarian, with most people earning a living through working the land, or seeming to derive their wealth ultimately from those who did.

Given the sort of society he knew, it’s understandable that Quesnay originated the source of value in the way he did. He believed all value ultimately came from the land.

As to who created value, Quesnay thought that was pretty clear. Nobody did. His reasoning was that if you trace any production back far enough, you always find people making use of resources that nobody created but were just lying around waiting to be discovered. So, strictly-speaking, only God really had the ability to make anything literally from scratch.

Accordingly, Quesnay did not think of human work as ‘productive’ but rather as ‘transformative’. His ‘production boundary’ was drawn to reflect his assumptions. Pride of place was given to those whose work entailed producing commodities from the rawest possible materials. Those who worked the land and waters; farming, fishing and mining; digging up minerals and ores, bringing meats to markets, growing crops from seeds, got as close as anyone could to producing value in Quesnay’s eyes.

As for artisans, manufacturers and others whose jobs entailed transforming raw materials into products, Quesnay didn’t consider such work to be value creating, but rather a recirculation of value that already existed. But, as he saw this redistribution of value as benefitting society overall, he considered such work useful, if not quite as essential as that of those who supply the raw materials everything else ultimately depends on.

And then, most definitely outside of the production boundary, there was the ‘sterile classes’, comprised of landlords, the nobility and the clergy. Quesnay saw the activities of this group as being particularly unproductive, because he believed them to represent a class that only redistributed wealth to itself thanks to its owning the land and therefore being in a position to practice rent-extraction.

Anyone who contemplates the nature of competition with an eye to self-advantage inevitably acknowledges the need for a referee to ensure cheating doesn’t predominate, and the rule of law to ensure people interested in getting their hands on as much of other people’s stuff as possible don’t do the obvious thing and just steal it. So, like anyone who contemplates such

things, Quesnay acknowledged that a nation's wealth could only be upheld through "proper management by the general administration". In other words, he saw a need for government regulation sufficient to break monopolies and to establish the conditions under which healthy competition and trade could thrive. He therefore didn't exclude Government, but neither did he include government activities within his production boundary. The State, in his opinion, facilitated the true wealth-creators but was not actively creating that value.

Contemporaries Of Quesnay came along and refined things somewhat. One such contemporary was Anne Robert Jacques Turgot (1727-1781). Just as Quesnay had, Turgot assumed that land was the source of value, but he revised the production boundary in a way that emphasised the character of the work being done, not the category of work itself.

Turgot's main revision of the physiocrat production boundary involved a reclassification of the 'sterile' class. What Turgot did was to argue that some members of this class played essential supporting roles such as administering justice or overseeing work. He thought that only when they gave up farming altogether and lived on rent alone did they become the 'disposable class'. In other words, whereas before it had been assumed that one either worked the land for wages, or owned the land and received rent, Turgot's refinement of the production boundary led to the three income categories of not only wages and rent but also profit.

The method of categorising incomes in this way would remain through subsequent redrawings of the production boundary, and redrawn it was as changes in society prompted reexamination of the question 'where does value come from?'.

Over time the artisan-craft production of the guilds gave way to large-scale industry, a revolution in society that prompted a redrawing of the production boundary. The names that stand out during this period are John locke (1632-1704) Adam Smith, David Ricardo (1772-1823) and Karl Marx (1818-1883) Their theories differed in many respects, but each of those thinkers shared two basic ideas: firstly, that value was not derived from land but rather from the cost of production, principally labour. Secondly, that any activity subsequent to value created by labour could not itself create value.

John Locke got this transition under way when he tried to resolve two contradictory ideas. Firstly, he took it for granted that in its earliest incarnations Mankind had common ownership of all natural resources. We now know that's not quite right, because humans are social beings that naturally organise themselves into bands and tribes, and while within a tribe resources were indeed communally owned, they certainly didn't act with brotherly love toward rival bands and tribes.

Still, the earliest human societies were far more communistic than what Locke considered to be the ideal, which was individual private property. But that ideal conflicted with his first assumption, because how could resources belonging to everyone become private property exclusively owned by one person?.

Locke got around this problem by noting first of all that everybody has a right to life. But the only way to remain alive was to eat, and in consuming food what had been a common

resource became literally a part of the individual. Locke decided this had to be morally justifiable because a person necessarily worked to obtain food. They grew and harvested it, or they hunted it, or they went to the effort of gathering it. So Locke took that fact and expanded it to a general principle, claiming that by “mixing one’s labour” with any physical resource, a person may rightly claim it as his own. So, somebody might go to the effort of chopping down a tree and sawing the lumber into planks, an effort of labour that made those planks the individual’s private property. Or, another person might work the land, running a plough through it and seeding the land with crops. Again, since the farmer had laboured she could claim that crop as her private property, as well as the land she had rendered farmable. Also, Locke added the caveat that one should not hoard supplies to the extent where they spoil before one could make practical use of them.

Having lived in commercial markets for centuries now, all this no doubt seems so obvious it’s a wonder Locke earned a significant place in history by stating the bleeding obvious. But he also developed an additional argument that has become rather controversial, with some claiming it nullifies all his prior arguments in defence of private property. He claimed that “men have agreed to a disproportionate and unequal possession of the Earth...by....voluntary consent [they have] found a way how a man may fairly possess more land than he can fairly use the product of”. And what great discovery permitted this? Money. Money in Locke’s day was gold coins. Since gold cannot spoil in any way, Locke argued that money could be stored indefinitely and swapped for consumables at any time. As a side effect, this act of swapping consumables for money created ‘labour markets’, because it meant you could get people to work for you, people who would give (or alienate) the fruits of their labour for your money.

So, in a nutshell Locke treated money as an abstract commodity in and of itself (one assumed to embody labour) and furthermore went on to assume that, since money was gold and gold could not spoil, you could buy as much as you could afford without limit other than the size of your bank balance, because there would always be plenty left for those who subsequently got their hands on money to later purchase.

In other words, his defence of private property assumes infinite resources. Given how limited our capacity to exploit environments was at the time he was writing, it’s perhaps forgivable that he would have thought the whole wide world was an inexhaustible treasure-trove of goodies. But now, with globalism, industrialisation and consumerism expanded to a point where entire ecosystems are at the point of collapse, it’s far less certain that we can exploit on an ever-increasing scale.

The political economist, Mark Blyth (b 1967) advised us to “remember that these arguments (were) being developed in 17th century England, where public debt was the debt of kings, kings who invoke rights given by God to appropriate the property of others willy-nilly. That Locke deploys equally specious rationales for why he and his brethren should have as much of the world as they want is beside the point. Rather, his point is to defend those gains from the state at all costs and to minimise the state’s ability to extract further resources”.

Why should merchants be so privileged? Locke’s answer was because they have money, the embodiment of labour. But, when somebody hands over money to buy something, why should we assume it was her labour that is embodied in that money? She might be an

heiress who didn't lift a finger to earn her inheritance. So why should the home she paid for be hers, and not the common property of all the labourers who actually constructed it?

The question I posed, concerning some hypothetical heiress and the property she claims belongs to her, is of a kind that gets asked quite frequently. In many societies there is a general concern that others are seeking to get their hands on unearned wealth, and quite often emotions not unlike hatred, aimed at those who are perceived to have actually succeeded in getting 'something for nothing'.

In modern times this pervasive concern/fear can be roughly said to be of two types, one born from the right wing of politics, and the other more leftist. Let's take the latter first, which focuses on the idea of privilege. Suppose our hypothetical heiress spoke up in defence of her owning that property. She is not, she insists, some layabout for whom life is devoid of all struggle and want; she has faced and overcome challenges and in so doing earned what comforts she has today. The leftist response to that would be that she should "check her privilege". What this refrain basically means is that there exists in the world others who have a much more legitimate claim to have shouldered the burden of life's challenges, and who therefore would, in any genuinely meritocratic society, be the ones who lived the life of luxury.

The roots of this attitude are found in the theories of Karl Marx, whose ideas we'll be going into more detail later. For now, all that needs to be known is that Marx considered the march of history to consist of an ongoing war. While a cursory glance at this long struggle makes it seem as though the fight has been between different opposing groups (such as slaves versus owners in one historical period, and the aristocracy versus the peasantry in another) Marxist analysis showed that it was really the same war, the technical name of which is a 'Class War', and though they may go by different names throughout history, really it's always fought between the same opposing classes. History, according to Marxist theory, is an ongoing struggle between 'the oppressor' and 'the oppressed'.

But who were the oppressors and who were the oppressed? In Marx's magnum opus, 'Das Kapital', this seemed quite clear. The oppressors were the 'bourgeoisie' (aka the capitalists) who owned the means of production in an industrialised society, and the oppressed were the 'proletariat' (aka the working classes) who they employed to maintain, manage and run the means of production.

According to Marxist theory, throughout long periods of history it appears to be the case that the oppressors are securely in power. This is partly because material wealth tends to flow to this group, and there are ways to convert material wealth into political power, which can then be used to gain access to more material wealth (and it's not difficult to see a positive feedback loop developing out of a situation like that). But, the oppressors don't just pursue ever-greater levels of material wealth and political influence. This is also the class that mostly gets to write the history books, commissions the art, organises the educational systems and in short gets to shape culture and cultural attitudes in its image.

All of which has an interesting effect on that other class, the 'oppressed'. Does this group tend to go around bewailing despondently "woe is us, for we are oppressed!"? The answer is no, because it is normally the case that this class a) does not even know it is oppressed and

b) is hardly aware that it is a class. True, people may well be very aware that life for them is a struggle and that to achieve even a fraction of the material wealth and cultural acclaim amassed by an elite minority is a near-impossible task. But they normally consider all this to be perfectly natural, the way things have always been and always will be. The oppressed is a class conditioned to think this way by the elite minority 'oppressors' who control the cognitive map.

As John McMurty said of the Feudalist era, "the last dark age is easily recognisable to us now. Not once in a millennium of philosophy does rational challenge of a significant form of its ruling social order occur: not of slavery nor serf bondage…not, in short, of any form that might seem worthy of critical recognition….the entire institutional fabric of society is apotheosised as the will of God, with any criticism of it a blasphemy".

Notice, though, that this quote opens with the recognition that feudalist systems of oppression are now "easily recognisable". In Marxist theory, this has come about because history alternates between two phases. There is 'normality', in which the oppressed class is not even aware that it is the oppressed class (or, perhaps it would be more accurate to say, not aware that things could be different) but then there are those revolutionary moments in history, in which the oppressed class becomes conscious of two facts that the elite minority have tried to hide from them: that they are the oppressed class and that, in terms of collective strength, it is they who are the mighty.

Marx believed that revolutionary moments in history, where an elite minority gets overthrown, had happened before and would inevitably happen again with the current 'Capitalist' era. Why should this inevitably happen? Because the endless pursuit of more material wealth could not help but place increasing strains on society and the environment. These social and environmental problems would have to be solved in a way that did not upset the current 'natural' order of things, or else civilisation would collapse.

It would mostly fall on the working classes to actually do the work of solving all the problems in keeping the 'engine' of capitalist production running, and this would be impossible unless this class became more educated and more organised. But, Marx insisted, you could not have an oppressed class becoming increasingly well-trained, technically efficient and organised, without this class also becoming smart enough to become conscious of the fact that human societies don't just happen because it is "the will of the gods" or "the will of the market". No, systems like 'feudalism' and 'capitalism' only exist if people wake up every day and recreate them.

Obviously, no individual can accomplish this, for it is necessarily an intersubjective phenomenon. We collectively recreate systems like feudalism or capitalism, and could just as easily wake up tomorrow and collectively create a different system. Preferably, a system in which the oppressed are no longer largely alienated from the material wealth they were almost entirely responsible for creating, but finally receiving what was always their due.

In Marx's day, those who should receive their due were the working class. But, in the post-Marxist era an idea developed, which was that some 'oppressed' were more oppressed than others and therefore had greater claim to compensation when the wrongs of history were corrected. Marx's heroes had been the working-class men who operated the machinery

of the industrial revolution (probably because such a group was the most trainable and organisable, since their jobs already entailed a high degree of discipline, punctuality etc).

Then, feminists like the aforementioned Sylvia Federici came along, insisting that the oppression experienced by working-class men paled before that experienced by women. Marxist-feminists such as she insisted it was actually women who did the bulk of the uncompensated work needed to keep Capitalist society functioning, and therefore they should be first in the queue once the socialist revolution ended the current regime. Later, critical race theorists like bell hooks (1952-2021) came along, insisting that coloured minorities (particularly female coloured minorities) had suffered the most oppression.

On and on went this Leftist search for the most oppressed minority, to the point where, unless you happen to be the fat, black, homosexual, transgender offspring of a third-world lesbian single-mother Muslim…you have no right to speak of hardship and are clueless with regards to just how sheltered and comfortable your fake existence is. Check your privilege!

Of course, it's easy to mock this pursuit of ever-more finely defined notions of the oppressed minority (it's like that old Python sketch based on stereotypical Yorkshiremen, outdoing one another with tales of personal hardship, only put forward by painfully sincere academics rather than comedians making a joke) but mockery should not blind us to the fact that there is some truth to this idea that the material wealth amassed by modern society did rely on far more robbery and exploitation of minority people than most of us really care to acknowledge.

In fact, as individuals we should, perhaps, all 'check our privilege' and recognise just how much of what we each call 'mine' was in fact created by others, most of them long dead, never having received any historical recognition for their contribution to our lives.

But, the downside of this striving to identify the 'most oppressed of the oppressed' is that it works against the one trump card the working class holds, which is collective strength. Think of that scene from 'Monty Python's Life of Brian', where we learn that the only thing more despicable than the Romans are the splinter groups that have split off from the 'People's Front of Judea'. In the midst of a clash between two such groups, Brian desperately tries to remind the squabbling crowd that "surely, we should be united against the common enemy!".

Similarly, today all these culture warriors championing ever-more exacting definitions of "who is really oppressed" in their books, lectures, documentaries and speaking engagements are arguably doing harm to the Marxist cause by sowing division and mistrust among the working class while also, by feeding the activist-industrial complex and becoming 'successful' (rich and famous, due to their much sought-after opinions) actually becoming agents of the capitalist system that should be identified as the true common enemy of the People.

While the admonition coming from the Left is "check your privilege", those on the Right shout "get a job!". The thinking behind such a call appears to be as follows. "I don't owe anything to anybody. All that I have was built from scratch (or, "I climbed the corporate ladder from the bottom rung upwards") and, thanks entirely to my working hard and smart, I earned a comfortable existence. It would be even more comfortable were it not for the fact that hard-working folk like me are besieged on all sides by lazy rascals who want all the

hard-won luxuries I have, but without striving to deserve it. This is intolerable. People like that should be rounded up and made to do a job- any job, I don't care what. We certainly cannot afford anything more than bare-bones social security, because mollycoddling people only encourages them to become lazy and entitled, and before you know it society has broken and we've all been dragged down into the gutter".

How much truth is there in such a statement? Not very much, frankly. Probably the nearest thing to a true statement is the bit about starting at the bottom rung of a career ladder and working your way to the top. This does happen. For example, a person may begin working life washing dishes in a professional kitchen, and eventually make it to head chef or even, perhaps, the owner of a chain of restaurants, thanks in large part to their taking opportunities as and when they arose, and putting in the effort needed to train oneself to work as a highly coveted professional chef.

Really, though, such a statement is more of a collection of fantasies and misunderstandings than an expression of the plain truth. Take the idea that, by taking on a job, one can clear debts. Believing this requires a fundamental misunderstanding of the relationship between money and debt. The way our banking and financial systems work, all money is created out of debt. Therefore, every paycheque one person receives creates a debt that others are obliged to pay off. Also, inevitably, all the money those people have represents debt others are obliged to repay. But, how are they going to repay that debt, other than by 'borrowing' or 'making' money, both of which necessitate- you guessed it- creating more debt? Should those people find employment and receive some kind of monetary compensation, all the money they receive will, as ever, represent a debt others have to 'repay'. In short, then, being employed never really pays off debt, it just displaces that debt, making it somebody else's problem.

In other words, the world of employment is akin to a game of musical chairs, with everyone competing not to be the one who, through mathematical inevitability, will be left without a chair once the music stops (or, in the case of this game of 'displace the debt', left with no choice but to default). When viewed in this way, the banking and financial system is not just there to manage money, but to ensure the 'money' part of 'debt/money' will tend to float upwards, collecting in the hands of the asset-owning rich, while the 'debt' tends to sink down so that, even if they were to work every hour a human being can possibly work, there is no escaping the debt necessarily accumulating from employment and other 'moneymaking' activities, at least, not for everybody. For some, the outcome is that the asset-owning rich (who, after all, own the banking/ financial system) get to take hard assets off of those who 'default' on their debt. Since 'hard assets' can include property, some people can end up homeless.

The popular opinion from the Right, though, is that homelessness and other hardships born of poverty are the just deserts of lazy rascals; a painful but necessary lesson that you don't get anywhere in this world without working to earn what you covet. Those who think this way tend to view debt accumulation as being driven primarily by people paying for luxuries they cannot afford. It's not too hard to find cautionary tales of the jobless bum who refused to cut his cloth accordingly, racking up credit-card debt buying fancy shoes and high-tech gadgets, until reality bit and now here he is with his hand out, expecting us hard-working folk to pull him out of the financial hole he dug for himself.

Given the popularity of such tales in the right wing of the press, one would be forgiven for thinking that the number one reason why people fall hopelessly in debt is because they want a life of material luxury, only without putting in the hard graft required to earn it. But this isn't the main reason why people end up crippled by debt at all. No, the main reason is…being crippled. Or, more precisely, having an illness or injury that lowers one's quality of life, and insufficient social healthcare. Think of this as a Hobson's Choice between staying crippled physically, or being crippled financially.

Becoming indebted through acquiring material luxuries one cannot afford is not even the second main reason for becoming crippled by debt. Throughout history, people have tended to end up indebted not because they chased unaffordable luxury, but because of some social event they felt compelled to stage appropriately. When we talk about 'needs', we should take into account the extent to which 'needs' are, to a social animal like a human being, simply other people's expectations.

Imagine that it would be an absolute family disgrace not to put on a 'proper' funeral, or that your daughter is about to reach a milestone birthday (she'll only be sixteen once). To what extent is the huge personal and social pressure a person feels to properly mark such occasions a real need, rather than a flippant expenditure of money they could and should not pay? I think it was the philosopher David Hume (1711-1776) who pointed out that, in purely functional terms, wearing a sack would protect one from the elements as well as a silk shirt would. But if a person should feel immense social shame about being seen in public wearing a sack instead of a silk, shirt, then isn't it fair to say that wearing a silk shirt is a genuine need?

But, while it's important to point out things like this, because they seriously question the right-wing fear of being besieged on all sides by lazy rascals who want material luxuries they didn't earn, these are not the main mistaken assumption.

No, the greatest mistaken assumption of all is the idea that an individual ever could build up even a modest (let alone luxurious) lifestyle from scratch. Consider the stereotypical right-winger, purveying all that he has bought and considering it to be 'his' property. Money does not turn natural resources into materials, nor materials into products. A simple thought-experiment shows this to be the case. Imagine that you had a big sack, full of money. And, not just paper money, but gold coins of the finest purity. You throw your sack of gold coins at a tree and shout the command, "become a set of table and chairs!". Would your money really cause that tree to transform into a table and chairs? No, of course not. Money, in and of itself, has no such power.

Ultimately, there is only one power on this planet that is capable of turning natural resources into materials, and materials into products that satisfy human needs, and that is human labour power. We may augment our physical and mental capabilities by exploiting animals or developing technological aids. Maybe one day we'll have figured out how to make robots and artificial intelligences that manage, maintain and manufacture everything we need. But here and now it is human labour power that really provides all we need to lead a decent life.

That being the case, instead of looking around one's home and thinking "all this is mine because I paid for it", we should, instead, look at all that is around us and ask ourselves, "how much actual work did I myself contribute to bringing this into existence?".

Try it yourself. Look around the environment you are currently in and ask yourself how much of your own personal labour was invested in what you see around you. I can safely say that, even if the environment is your own home, at least 99.99% of the stuff you see around you contained no labour from you whatsoever. Far from building material wealth "from scratch", you contributed virtually nothing to the world of human cultures, materials and products.

This is not because you are 'lazy' but because you are a human being. As a human being, you are a social animal who is almost completely dependent on the support of others, most of them long dead. As an individual, you can only ever contribute an infinitesimal amount to the store of human knowledge. Whether you are a billionaire entrepreneur or a homeless bum, your personal contribution, when compared to the totality of human achievement, amounts to next to nothing. So, really, it's not just the 'workshy' who expect social support and access to material luxuries they never really earned. This is how we have always lived, and the more complex civilisation becomes, the more true this is.

In our high-tech, hyper-individualistic cultures, we are not supposed to think this way. We are encouraged to look up to so-called "self-made millionaires", fed propaganda that we too may achieve as much by pulling ourselves up by our bootstraps. Instead of continuing to believe nonsense like this, we should instead accept the truth, as articulated by Thorstein Veblen (1857-1929):

"Natural-rights theory of property makes the creative effort of an isolated, self-sufficing individual the basis of ownership vested in him. In so doing it overlooks the fact that there is no isolated, self-sufficing individual. Production takes place only in society- only through the cooperation of an industrial community. This industrial community may be large or small…but it always comprises a group large enough to contain and transmit the traditions, tools, knowledge and usages without which there can be no industrial organisation and no economic relation or individuals to one another or to their environment…There can be no production without technical knowledge and there is no technical knowledge apart from an industrial community. Since there is no individual production and no individual productivity, the natural-rights pre-conception…reduces itself to absurdity, even under the logic of its own assumptions".

In other words, the tale of the heroic entrepreneur who built a fortune from scratch, although very popular and told like it is a matter of historical fact, is really nothing but a myth. In fact, more than that, given that it runs contrary to all evidence, it is not just a myth but a 'mythstake'. We are encouraged to look down on people who have the cheek to expect social support, an attitude that entails ignoring the fact that we all, each and every one of us, contributed next to nothing to the material comforts we nevertheless have access to.

We are supposed to live by the motto "working (by which we really mean 'Jobbing') is always good". But, really, I don't think this is the attitude right-wing propaganda really instils in us. If asked, "why do people job?", most people would, I suspect, answer, "to earn a living".

Consider that phrase, “earning a living”. If that is what people are doing when they go out to work, one would expect people to return from a day’s employment in a happier, healthier, more invigorated state than they began the day with. They should, in short, look and act as if they had partaken of the elixir of life.

But I don’t know many people who finish the working day or week in such a fit and happy state. In fact, for the most part, people return from their jobs feeling tired and irritable, complaining about the boss, the customers, this or that infuriating bureaucratic procedure. The best days are weekends, vacations and public holidays, the worst day of the week is Monday, and is it coincidence that this is, traditionally, the start of the working week? That jobs (mostly) suck is even reflected in our culture, for example in songs like the Bangles’ ‘Manic Monday’, the chorus of which goes, “It’s just another manic Monday/ I wish it was Sunday”.

How many people heard those lyrics and thought, “I don’t get it. Why should anyone wish it were Sunday? Monday is the best day of all, because that’s when we get to do the only thing a human being should be doing, which is to job, job, job!”.

Most people don’t really adopt the motto “work is good” or expect to get much in the way of reward from their job. Rather, their attitude is more like “not working is very bad” and believe that anyone refusing to submit to employment should be punished, just as it was mostly fear of punishment that compelled them to take on the job they do. Without that background of coercion, I suspect most people would quit their jobs. I also suspect it would not make much difference if they did (it might even improve things) because most jobs these days don’t really contribute to what humans actually need to live happy, healthy lives, but instead work in various ways to distort our values and conceptions of ‘needs’, all ultimately to feed a system for which ‘enough’ is an alien concept.

Where did this attitude, “not working is very bad” come from? To answer that question, we should return to that time when Capitalism was taking over from Feudalism, and what that meant for conceptions of wage labour.

It’s important to understand what is meant by ‘Capitalism’. Most people, it seems, think the word simply refers to ‘market activity’. We often speak of ‘market Capitalism’ as though the two necessarily belong together. But this is not really the case. Where one finds markets one does not necessarily find ‘Capitalism’. That term does not refer to market activity in general, but rather to a more specific form of trading. What form capitalist trading takes is something we’ll get into later. Here, the thing to focus on is what effect ‘Capitalism’ had on the relations of service that had existed in the Feudalist era.

Remember that, under feudalism, wage labour existed but was understood to be a temporary part of life, something adolescents did as they learned how to become full-fledged adults. What Capitalism did, though, was to bring about conditions where wage labour became a more-or-less permanent way of adult life. You had one class of people who owned the means of production, and another class who were forced to volunteer their services to that class on a permanent basis, mostly because guild structures, the commons, and other things that granted them the ability to work independently were eroded as society was reconfigured to suit Capitalistic ways of life.

So, whereas once wage labour had been a temporary stage in one's adolescent life, now, under the emerging Capitalistic system, wage labour became something that effectively trapped people in a state of permanent adolescence. What with the guild structure breaking down, enclosures acts taking away common land and other changes, folk who once saw wage labour as a short stage in one's life development from apprentice to journeyman to master, now found themselves in a situation where the final stage of that journey would never be reached. As David Graeber explained, "in traditional terms [this] meant that they would not be in a position to marry and start families of their own. They were expected to live their entire lives effectively as unfinished human beings".

As it dawned on people that the way to becoming a mature adult was disappearing in this new Capitalist age, many opted for what would have been a dramatic act of rebellion under the Feudalist system. Rather than wait to become 'masters' (i.e, full-fledged adults) they opted to marry early, leave their masters and set up homes and families of their own.

The effect this had on the employing class was to set off a wave of moral panic, familiar to those of us who have heard contemporary moralising over, say, teen pregnancy. A good example from the sixteenth century would be 'The Anatomie of Abuses' by Philip Stubbes (circa 1555-c. 1610)

"You shall have every saucy boy of ten, fourteen, sixteen or twenty years of age, catch up a woman and marry her, without any fear of God at all…or, which is more, without any respect how they may live together, with sufficient maintainance for their estate…This filleth the land with such store of mendicants….that in short time it is like to grow to great poverty and scarceness".

It reads rather like an opinion piece in a right-wing newspaper, railing against workshy characters living beyond their means and storing up future trouble for decent middle-class folk, doesn't it? It reads, in other words, like a very familiar expression of moral concern.

But, while today we may be used to certain members of the commentariat concerning themselves with how to reform the poor and shape them into people who support, rather than bring about the downfall, of society, prior to Stubbe's manifesto the middle class had not shown much interest in how the poor lived their lives. Given the existence of life-cycle services, that lack of concern is understandable. Under feudalism, adolescence did not last long, because the stage of wage labour transformed adolescents into adults in a relatively short time.

But the purpose of wage labour under Capitalism was not one of transforming adolescents into adults. Rather, its purpose was to create commodities to be sold on markets in pursuit of ever-increasing profit for the bourgeoisie. More to the point, Capitalist relationships trapped the working classes in a state of permanent adolescence, or at least it must have seemed that way to folk who were used to defining 'adulthood' as living free from the need to work under another's orders. Wage labour no longer offered a way to become a well-rounded adult. But reformers like Stubbes had to offer all those 'frustrated adolescents' something. What, though?

What Puritan reformers like him did was to return to the theological roots of economics. “What did the story of Adam and Eve tell us?”, they asked. It taught us that work is both punishment and redemption. God could have created a perfect world, but He left it in an unfinished state so that humans would have jobs to do. It was a mistake to think of labour as being primarily a means of satisfying material needs. Work was (as Graeber explained) “self-mortification, and as such had value in itself, even beyond the wealth it produced, which was merely a sign of God’s favour (and not to be enjoyed too much)”.

Really, though, Philip Stubbes’ manifesto only identified the problem and what would result if it were left unaddressed. In order to find the ‘solution’, we have to turn to one Thomas Carlyle, an essayist who proposed a ‘Gospel of Work’. In this essay, Carlyle insisted that work necessarily had a positive transformative effect on body and soul, because that’s the way God planned it:

“A man perfects himself by working…Consider how, even in the meanest sorts of labour, the whole soul of man is composed into a kind of real harmony, the instant he sets himself to work!…All true work is sacred…Oh brother, if this is not ‘worship’ then I say, the more pity for worship, for this is the noblest thing yet discovered under God’s sky. Who art thou that complaineth of thy life of toil? Complain not!”.

This, I feel, is a very important essay, for it contains much of the attitudes that prevail today. First of all, it reads like a celebration of work for work’s sake. There is intrinsic nobility in working, according to this essay, and this is a belief shared by modern opinion writers. All such professionals, after all, valorise work and praise ‘hardworking folk’ as the most admirable of human beings. We’re all supposed to think this way, even though a case could be made that quite a lot of ‘hardworking folk’ are actually doing more harm than good. They may, for example, be doing work that runs dangerously close to fraudulent practices designed to increase the ill-gotten gains of the obscenely wealthy (as a lot of financial/banking practices turned out to be). They might be generating enormous amounts of waste and pollution that does enormous environmental and social harm (as consumerism and the throwaway culture clearly does). They may be engaged in work that exists mainly to make the less well-off feel bad about themselves (which is what bureaucracies designed to compel people to “get a job” tend to do). Really, I feel the world might well be a better place if people doing work like that would just quit and go relax on a beach, enjoy socialising with family and friends, read a book etc etc. But to say such a thing is tantamount to sacrilege. The appropriate attitude, in our day and age, is that work is always good, those that avoid work are always bad (unless, that is, they have cashed in their chips and retired) and that the only policies worth pursuing are those that create more jobs.

Secondly, Carlye’s essay arguably sows the seed for the inverse correlation between the social value of a job and the paid compensation such workers get. The thinking appears to be as follows. All work is noble, and some forms of work particularly so. What forms of work are these? Why, the sort that are of obvious social benefit; the jobs that absolutely must be undertaken or else human life would be a good deal more miserable, if not flat-out impossible. Tellingly, Carlyle is also quoted as saying, “the wages of every noble work do yet lie in heaven or else nowhere”, which is to say that work of obvious social value has absolute value. As Graeber explained, “if work is noble, then the most noble work should not be compensated, since it is obscene to put a price on something of such absolute value”.

As you might imagine, arguments such as this proved immensely popular among the Capitalist classes, since the message clearly was that the more necessary the labour of the proletariat became, the less compensation they aught to receive. It was, in other words, an ideal attitude if one's aim was to maximise profits, since the implication was that the absolute minimum wage was the only appropriate wage packet for one's employees.

You will be just as unsurprised to learn that the workers' movements that were starting to form roughly when Carlyle produced 'Gospel of Work' were a great deal less impressed by this sort of argument. The working classes crammed into the "dark satanic mills" of the industrial revolution knew all too well that labour under the Capitalist regime had anything but a positive effect on one's health. If it did have a divine quality, they would argue, it was to be found in the fact that it was the true source of wealth

Of all the radicals that would put forward arguments like this, none are more famous and controversial than Karl Marx.

CHAPTER FOURTEEN

The name Karl Marx is one that is almost synonymous with extreme socialism. He did not, however, start the socialist movement, and was actually highly critical of the socialists that came before him.

But who were these earlier socialists? Two particularly influential thinkers in early socialism were Claude-Henri de Saint-Simon (1760-1825) and Mikhail Bakunin (1814-76). Saint-Simon had come from an aristocratic family (as had many other socialist leaders) and was not really a socialist himself. But he did put forward ideas on how to reorganise society in more meritocratic ways, and this interest in a more rational reorganisation of society had a socialist flavour to it, since socialism is basically concerned with greater equality in political power and in the distribution of goods.

In figuring out how society might be more rationally organised, Saint-Simon came up with a vision of an international federation. It would be run by efficient clerks and experts, whose aim would be to maximise the benefits of society, industry and welfare.

In Saint-Simon's day, industries tended to be run by rich people who were by no means necessarily qualified to lead such operations. After his reorganisation of society, it would be qualified experts who would run the industries. The old aristocrats would not be the only ones who found themselves replaced in Saint-Simon's revolution. Gone too would be priests and theologians, replaced by scientists whose task would be to help bring about a society that was devoted to efficiency, expertise and industriousness.

What really secured Saint-Simon's fame was not such much his own ideas, but rather his ability to gather some of the great minds of his day. This gave rise to the school of 'Saint-Simonism', which was turned into France's leading socialist movement by its students.

The Saint-Simonists continued their founder's aim of meritocracy, and also included the abolition of private property. In its place would be social control over the means of production. In aiming for such a thing, the Saint-Simonists were establishing themselves as diametrically opposed to the liberal capitalist view. That, after all, was the belief that private ownership was what resulted in the most rational market. The socialists disagreed, insisting instead on methods that took into account general benefit rather than any single party's personal interest.

Saint-Simon and the students of the Saint-Simonist school did have one or two revolutionary ideas. However, it was really Mikhail Bakunin who pushed for the more revolutionary aspects of early socialism, to the point where he could be considered an anarchist as much as a socialist.

Bakunin's more radical stance was the product of a total mistrust in both States and the concept of 'control'. He believed the State's aim was to exploit the working class. Since that was its true purpose, the workers should not seek to gain political power, because so long as the State existed, governmental power would tend to turn those who wielded it into members of the very ruling class that Bakunin wanted to see the end of.

Instead, he insisted, those in agreement with him should become a revolutionary, rather than a political, force, and the aim of that revolutionary force would be the total overthrow of State power. By the time Bakunin's revolution was complete, the difference between 'work' and 'leisure' would be erased, and the means of production would be like recreational parks, in the sense of being open to all. No longer would private ownership dictate what goods should be manufactured and how they should be distributed. Rather, the People would control the means of production and would make whatever they wished.

So, before Marx was even born, people like Bakunin and Saint-Simon were thinking along socialist lines, in the sense of imagining a more just society and calling upon people to actually establish it.

But, if socialism had already begun before Marx so much as drew breath, why did he not just follow the path laid down by those earlier socialists? The answer is that Marx believed them to be too utopian in their thinking, and indeed he labelled them 'Utopian Socialists', which was by no means a compliment. In fact, 'utopian thinking' was something Marx held in deep contempt.

What was it about the ideas of these earlier socialists that Marx regarded as 'Utopian'? Well, the basic problem, as Marx saw it, was that people like Bakunin and the Saint-Simonists were basing their thoughts on the concept of the 'Social Contract', which had also been central to the ideas of economists like John Locke, Adam Smith and David Ricardo.

What does the term 'social contract' imply? It seems to suggest that the terms and conditions for how society is run are written down somewhere, or at the very least that there is general agreement as to what those rules are. If society is something designed by people, it aught to be possible to tear up the existing 'social contract' and write up a new, improved version. Right?

But Marx did not believe it could be as simple as that. As he saw it, the ‘Utopian socialists’ were vaguely imagining a better society, but they were not really basing such dreams on the actual ‘rules’ that governed society. Indeed, they had no real theory of society at all. The reason why they had no real theory of society, Marx believed, was because they had never really developed an understanding of how Capitalism really worked, how it had actually come about, or what it was really leading to. Since all that understanding was missing from their thoughts, the ‘utopian socialists’ did not really know what forces would bring about their ideal society. They were just dreamers, with no workable plan to realise such dreams.

The word ‘Utopia’ was coined by St. Thomas More (1478-1535), and from the very beginning it was deliberately intended to have a dual meaning. More intended the term to mean both a perfect society and ‘nowhere’. While we can express thoughts like “tomorrow we shall build a perfect society”, it’s not at all clear that we know what we’re talking about when we say such things. Marx believed that people were really talking about ‘nowhere’ whenever they spoke or wrote about some society that only existed in the future. This was something they could not really imagine, because all they had to work on were current or prior concepts, beliefs, paradigms etc, which were wholly inadequate for understanding a radically different ‘tomorrow’.

To see Marx’s point, consider ‘employment’ as it is conceived of today. To people like us, well-used to capitalist concepts of work, the employee-employer relationship seems simple enough. The employee is certainly not enslaved by the business he or she works for. The employer never owns you. Instead, you have a mutual agreement that a portion of your time (9am-5PM say) will be spent working for the business, and that during that time the fruits of your labour will be the owner’s property, his or hers to sell for their own profit. This is a contract that you are free to break at any time (actually, there may be conditions that prevent you from just walking away or being fired on the spot, but the point is that employment contracts can never tie an employee to one employer permanently).

As I said, there’s seemingly nothing particularly complex about such arrangements, and so one might think that, if we could travel into the past and meet our pre-Capitalist ancestors, we could easily explain ‘wage labour’ as it exists under Capitalism. But, would it really be so easy? What would happen if you were to say, “I work from nine to five”? It’s not likely that your audience would have any clue as to what you were talking about. In order to understand what “nine to five” means, you need a ‘Clock Concept’ of time, which is to say a notion of time as divided up into discrete units of hours, minutes and seconds. But, if you have travelled to a past where clocks do not exist, and won’t be invented until hundreds of years later, obviously nobody will have a ‘clock concept’ of time.

Indeed, during the Feudalist era, if people thought of ‘time’ at all, they regarded it is something that belonged to God. The idea that something as metaphysical as ‘time’ could be commodified and sold would have been a completely alien concept to them, while to us it is one of the most basic and familiar facts of everyday life.

And “working from nine to five” is one of the simpler arrangements of the Capitalist era, not at all complex like those financial operations put together by theoretical physicists that even modern economists like Alan Greenspan admitted were too obscure and complex to fully grasp. We may conclude, then, that our ancestors could not have really understood how

Capitalism would function, why employees are not slaves and why employers were not (necessarily) fraudsters, commodifying something that belonged only to God.

We don't have time machines, so we cannot travel into the past and confuse our ancestors with our 'Capitalist' ways of thinking. If our descendants from a post-Capitallist era were to visit us, it's just as doubtful that we would understand how their society worked. How could we, when our thoughts and language lack the concepts needed to understand such things?

But, if the outcome of a genuine revolution in society is unimaginable, what is the point of 'Socialism', 'Communism', or anything that entails dreaming of a better tomorrow? Why should anyone believe things could be different in the future if the future is something we can't really imagine?

Marx's answer to that was that, yes, social paradigms that are yet to be are mostly unimaginable, but what we can do is identify reasons why the current paradigm is not the final one, destined to remain dominant for all time. In developing such ideas, Marx turned not to the Socialists or the political economists, but to the ideas of Georg Willhelm Hegel (1770-1831), as modified by Ludwig Feurbach (1894-72).

CHAPTER FIFTEEN

Sometimes, words are used in an everyday sense that is quite different to their philosophical meaning. A good case in point would be the word 'Idealism'. Used in the everyday sense, the term is a form of criticism. An 'idealist', in this sense, is anybody who holds vague and naive ideas about a better tomorrow or alternative reality. "Oh, listen to John Lennon singing about 'a brotherhood of man'. What wish-washy hippy idealism!".

But the philosophical meaning of an 'idealist' has nothing to do with wishful thinking, but is instead a way of thinking that is diametrically opposed to 'Materialism'. In other words, an Idealist philosopher is someone who maintains that the world and everything in it is constituted by ideas. If there is a 'material' world, it's only because minds form ideas, dreams, or concepts of 'materials', but really such things have no existence beyond thoughts. The 'material world' only exists as an idea or collection of ideas.

So, the basic belief of Idealism is that the world is comprised entirely of ideas. But, what is the true nature of those ideas and, if they manifest in the minds of gods, to what extent can humans grasp such concepts? Such questions caused disagreement among the German Idealist philosophers.

For Hegel, that disagreements, oppositions and contradictions existed in Idealist (and, indeed, any) philosophical school of thought was no bad thing. This was because he held contradictions to be key to enabling consciousness to progress towards better understanding. It achieved this by posing contradictory difference within itself, and then overcoming this self-alienation through further insight.

Ludwig Feurbach took this Hegelian concept of alienation and used it as a criticism of religious thought. We have unrealised perfection, but rather than work towards a practical improvement of our condition, we instead project all of our unrealised perfection onto an

imaginary non-human being, i.e God. Feurbach's stance began as a criticism of religious illusion, but it later developed into radical materialism. He had a saying, which was "you are what you eat". What he meant by that was that ideas do exist but they are secondary. For humans, material wants are the primary driving force behind what we do and what we think. By marrying Hegelianism with materialism, Feurbach pioneered an approach that Marx would follow.

Since Hegelianism is such an important part of Marx's own philosophy, it's worth going into a bit more detail regarding the philosophy of Hegel himself. Georg Wilhelm Friedrich Hegel spent most of his life as a professional academic. He was particularly interested in the Greek polis, but understood that modern political parties were too large to make a direct comparison to ancient Athen's direct democracy a viable proposition.

He did, however, believe that the modern State could be perfected, and that the way to achieve such an aim had something to do with Idealism. Now, the philosophy of idealism had not begun in 19th century Germany, but rather in Ancient Greece. Plato was an idealist philosopher. He believed that ideas had prior existence to human thought and the material world. According to the Platonic concept of Idealism, ideas exist in a perfect and eternal state. Hence, Ideas themselves never changed, but feeble human minds only had a crude concept of such perfect, eternal Ideas, though a few were believed to be capable of applying certain mythical-philosophical practices that would make them "Philosopher Kings' who were more adept at understanding the eternal, perfect world of the Idea.

Hegel's Idealism was different, in that he did not believe in a pre-existing eternal world of ideas. Instead, he believed Ideas to be capable of perfection but not yet in that supreme state. There was a process going on, a process that would culminate in the ultimate and perfect Idea- the 'Absolute'- and that process was what human perceived as 'history'.

It was not only the realisation of the perfect idea that waited at the end of history. Hegel also believed that this same process would culminate with the development of the ideal State; with humans awakening to full consciousness and the realisation of spirit; and with God achieving full consciousness of His divinity. It would be inaccurate to think of these as three independent outcomes, for reasons that should become clear once it is understood how Hegel updated Aristotle.

It had long been held by philosophers that Aristotle had discovered logic. With that discovery having been made, all that was left for humans was to refine their capacity for reason (the defining human characteristic, according to Aristotle) which would enable them to improve Aristotelian logic as far as it was possible to improve it. The idea that there might be a whole other logic, as yet unknown in the philosophical world, never occurred to anyone.

Or rather, that was the case until Hegel pondered the relationship between humans, society, and God. In doing so, he came to see that knowledge should not be thought of as a long (infinite?) list of isolated true or false factual propositions, but rather as an evolutionary history of deeply interrelated concepts.

Not having this understanding, philosophers had concerned themselves with isolated, technical questions about knowledge. Hegel believed that philosophy required a change of

focus, one that entailed examining the historical process of human thought and culture that produce it.

But, what about the material world, how did that fit into the picture? Here, I want to return to the metaphor of the ‘Cave of the Mind’, in particular the concept of ‘stepping outside of it’. In my earlier scenario, it was imagined that there really was a material world, existing independently of the mind. Hegel denied this possibility, dispensing with the material world altogether. Or rather, he did not believe the material world had an existence beyond Mind itself. Instead, all reality, including its material contents, are constituted by the Mind and is its creation.

Furthermore, it is a creation that can change, and in fact will change as an inevitable consequence of the nature of human consciousness. For Hegel, when we refer to ‘Human Consciousness’ we are not talking about something that is fixed, but rather something that is inherently dynamic. Human minds change. We develop new concepts, new categories. Since we use these contents of the mind to determine how we experience the world, it follows that knowledge is always contextually dependent. This insight led Hegel to another flaw in philosophical thought (as he saw it). If one describes philosophy as “the search for whatever is actually the case”, such a definition does rather suggest that there is an objectivity philosophy can search for. The end goal would be the discovery of complete philosophical truth.

Platonic Idealism obviously lent itself to such a belief, since it held that the world of Ideas existed in an eternal, fixed state. But what if knowledge is not some timeless product already existing in some metaphysical plane? What if knowledge is, instead, an inherently dynamic cultural and historical process? If that were the case, then it would be in the very nature of ideas to undergo change, and there really are no stable, objective facts or truths out there, waiting to be discovered.

If that is what Hegel believed, then it would be appropriate to call him one of the first postmodern philosophers. A key aspect of postmodernism, after all, is the denial of any stable, objective facts. Postmodernism tells us that we have no facts, just beliefs that are as slippery, fluid and unstable as language itself (and just as prone to conforming to power structures).

But if that was Hegel’s belief, then his philosophical position would have led him to a flat-out denial of any final stage in the evolutionary struggle of ideas. But actually, Hegel’s philosophy was teleological. Historical development was not a journey without an ultimate goal, but rather an always-changing dynamic process that was heading towards a final state, something Hegel defined as “the actual knowledge of what is”.

Now, you’ll have noticed that Hegelianism was described as “an evolutionary struggle of ideas”. Why describe it in such terms? Because Hegel denied that human consciousness was static. It was, rather, in a constant state of evolution, only it was not an evolutionary process that produced new species, but rather one that produced new conceptual frameworks.

Natural selection has been described as “nature red in tooth and claw”, and it’s not hard to see where that idea came from, what with all those wildlife films showing predators desperately charging down prey, so their young may fill their bellies, and the prey running for its life. In Nature’s cruel, harsh logic, the winners get to eat (and procreate) while the losers get eaten.

Hegel saw something vaguely similar going on in the dynamic process underlying history, in the sense that human understanding evolved through conflict and resolution, with less adequate ideas absorbed by newer, more adequate ones. As this process developed, human consciousness was doing more than merely apprehending the world. It was also manipulating and changing it.

But, what was this ‘process’? In asking such a question, we are really seeking the nature of this logical process that took Hegel beyond Aristotelian logic. Hegel’s approach had a name. It’s called the ‘Dialectic’.

The Dialectical approach is most closely associated with Hegelianism, but one should not take that to mean the Dialectic was Hegel’s invention. In fact, its origins lay in Ancient Greece, and it took the form of a particular argumentative process, whereby two opposing views would seek not to just defeat the opponent but to reconcile what were seemingly opposing views, bringing about a greater truth.

Now, key to this process (and this is what Hegel focused on developing) was an understanding that argumentative positions should not be thought of as ‘Right’ versus ‘Wrong’. Unfortunately, we rarely incorporate such an understanding into our lives, and this flaw is reflected in our conception of history. How so? Well, in the sense that we tend to assume that our current state of knowledge is basically correct and that we roughly know ‘what is actually the case’. We are not like our ancestors, whose ideas regarding politics, economics, the nature of reality and so on were fundamentally wrong and needed to be replaced. We need only to refine the systems of knowledge we currently have.

However, until such time as we reach the ‘Absolute’, we are really deluding ourselves into believing our current concepts are basically correct. They do have flaws, in the sense of at least some parts of our knowledge being false or incomplete. But then, how do we know this, if we assume our current knowledge is correct? The answer, according to Hegel, is that we don’t all assume this. Instead, some of us notice that current knowledge is false or incomplete, and those people adopt a contradictory position. They defend the ‘Antithesis’ that opposes the ‘Thesis’, or the current set of dynamic concepts that are the mainstream assumption of “what is actually the case”. Those who champion the antithesis assume, just as those who defend the Thesis do, that their ideas are correct. But, in actual fact, neither side is completely right or totally wrong. The two opposing sides don’t remain locked in never-ending conflict, because a third idea inevitably arises that manages to dispense with the flaws in both the thesis and the antithesis, while retaining the good parts of both. This third component of the Dialectic is known as the ‘Synthesis’.

So the direction of history goes Thesis-Antithesis-Synthesis? Not quite. The synthesis is not perfect. It also contains flaws and is not complete, although as usual its followers tend to ignore this fact (or, maybe, they just can’t see it). In other words, it effectively becomes the

new thesis, and what does a thesis inevitably bring about? Its antithesis. So, the direction of history really goes “thesis-antithesis-synthesis-thesis-antithesis-synthesis…..”

And on and on, until finally the ‘absolute Idea’ is reached, where absolute consciousness and social harmony are finally achieved. ‘Absolute consciousness’ sounds rather like a description of God, and in fact Hegel believed this forward progression of history was to end with society achieving full understanding of social harmony, humans achieving full awareness of their spiritual social being, all of which were deeply interrelated processes involved in the awakening of the one Spirit, or God.

Being storytelling animals, it always helps if historical events or processes can be presented in narrative form, and so Hegel came up with a mythical version of the past in order to better explain the dialectical process.

Throughout this narrative, it is assumed that humans are social beings, and that what defines us is our relation to others. Hegel’s mythological account of history begins with a primeval self-consciousness. Let’s call it ‘Man A’. Man A does not actually have much in the way of self-consciousness, because he is without social relationships and his mind is totally focused on the practical business of surviving. His instinct is that the world belongs to him and he may (indeed, must) use its resources in order to sustain his life.

Then, Man A meets another human being, ‘Man B’. In ‘Phenomenology of Spirit’, Hegel presented an argument in which there is an awakening between God and humankind that runs in tandem with an awakening recognition by every individual of another. But this recognition does not immediately happen when ‘Man A’ and ‘Man B’ meet. What prevents such recognition at this stage is the fact that Man B has a primeval self-consciousness that is pretty much identical to that of Man A. In other words, Man B’s instinct is that the world, and everything in it, belongs to him.

When Man A and Man B meet, then, their instincts cause each to regard the other not as fellow human beings, but rather as an obstruction to one’s ownership of the world. There then ensues a life-and-death struggle between Man A and Man B, with each fighting to achieve recognition as master of the world.

Eventually, one of them figures surrender is better than death, so he submits to the rule of the other. Now they are no longer Man A and Man B but rather ‘Master’ and ‘Slave’. The former believes he has gained the recognition he instinctively feels should always have had.

Really, though, he is mistaken. The recognition he needs can only come from a fellow self, but the recognition he is actually receiving comes from the Slave, in other words from a being reduced to an object and a means. Although he does not realise it, the master is defined by the slave even more than the slave is defined by the master. Both are trapped in their own form of dependency and alienation.

However, it turns out that the slave is not as trapped as the master. Being ‘the slave’, he is obviously put to work, and he gains something from his labours. Self-respect slowly forms in his mind as he comes to see himself reflected in the work of his hands. While it may seem as though the slave is the property of the master along with the rest of the world, the slave

comes to recognise the world around him as being something he has made with his own hands. The work he is doing is serving as an education; he is teaching himself how to gain skills that will exceed the master's own knowledge and organisation. The master, meanwhile, remains paradoxically trapped in a state of dependence. After all, without 'the slave', who is the 'master' master to? He would be master to nobody if the slave ever gained independence.

But that is what the slave is working towards, and eventually the slave's self-awareness grows to the point where he is in a position to take over the power of his former master. So, now the slave is free? Not quite. Hegel pointed out that there was something else the former slave would need to do in order to realise the final stage of human development, which was to revoke the power of 'master' and learn instead to respect the individual reality of the Other, now fully recognised as a fellow human being.

Throughout this tale, it seemed like 'Man A' and 'Man B' went through many struggles. There was the struggle to sate one's basic desires; the struggle to escape dread and alienation; the struggle to achieve full self-awareness. But all the time there was really only one true struggle, the struggle for recognition as a social being.

As well as presenting us with this myth, Hegel also considered the awakening of the spirit from the perspective of 'Family'. Here, he begins with children, whose consciousness is determined first of all by their families. This makes them instinctively loyal to 'the family'. What enables such basic loyalty is the fact that the child does not yet possess much in the way of a unique self-identity.

For adults, though, things are rather different. They have a greater sense of their own unique identity, because they have gained recognition from a wider social context than just 'the Family'. For them, inner being is determined by the more complex relationships to be found in the larger world of civic authority.

A greater sense of one's own unique identity results in two things. The adult becomes driven by self-interest, and with self-interest comes the desire to accumulate property. So, whereas the child's instinctive loyalty is focused on the immediate family, the adults form relationships with the wider community that are driven primarily by economic considerations.

Therefore, market economics come into being. At this point, Hegel would appear to be in agreement with John Locke. This is because Locke understood that a competition among self-interested individuals could not really function without there being a legal system in place that regulated people's behaviour. Hegel likewise believed that legal systems served this vital purpose.

However, as far as Locke was concerned, the State was merely a regulatory body, a product of contractual negotiations. But for Hegel the State was much more than that. The growth of the State did not simply happen because it was convenient to regulate self-interest, but because human destiny is intimately tied up with the State. The State is an organic and inevitable consequence of human nature.

For social contract theorists like Locke and Adam Smith, the State was best thought of as a referee, there to enforce the minimum possible rules and regulations needed to keep self-interested pursuit of gain from degenerating into theft and fraud. For Hegel, though, the State was more like an extended family. Membership of this 'family' came with certain responsibilities, namely the necessity to develop a measure of altruism toward, and solidarity amongst, the fellow citizens of one's state. Out of those responsibilities comes the need to pay taxes (since such payments are needed to support the weaker members of the 'Family') and the duty to fight wars, should the 'Family' come under attack.

And wars would happen, because the dialectal process driving all this involved incessant conflict between huge, often ruthless historical forces. Also, Hegel thought that it was the 'right' of some more evolved States to dominate others.

"More evolved" implies an evolutionary process that is heading in a certain direction, and for Hegel that direction was toward 'National Freedom', something he believed would result once a synthesis had been achieved between the subjective desire for abstract limitless freedom and the objective demands of social and political life. Out of such a synthesis would come the ideal political society, as Hegel saw it. It would not be comprised of a State, but rather an assembly of States. In this assembly, different elements of society would decide what political decisions should be undertaken, and would have a say in what legislation should be on the books.

But, if there are many interest groups, what is to stop one particular group from dominating the rest? In Hegel's ideal political society, an elite group that is appointed on merit and is extremely powerful would be on hand to ensure that never happened. He called this elite group the 'Universal Class', who were pretty much like professional civil servants.

At the very top of this political structure would be a hereditary monarch. Such a monarch would be a symbolic figure, the very embodiment of the unity of the Sate. That State would be a divine idea as it existed on Earth, and therefore aught to be worshipped as the manifestation of the Divine on Earth.

There was something rather familiar about Hegel's ideal society, because it closely resembled the constitutional monarchy of Hegel's own 19th century Prussia. Indeed, Hegel did not consider the 'highest synthesis' to be some event that had yet to come about. Rather, he believed that the Battle of Jena (1806) marked the end of history and that the Prussian State really was the fully realised State.

That was a controversial belief, to say the least, and it caused a split among the followers of Hegelianism. On the one hand you had the 'Right Hegelians', who agreed with Hegel that the Prussian State had indeed reached the final Hegelian stage of perfect rationality. The 'Left Hegelians', on the other hand, believed that there was still a long way to go, and much still to be understood, before it could be said that history had ended with the highest synthesis. The most famous of the 'Left Hegelians' was Karl Marx.

CHAPTER SIXTEEN

Karl Marx is often thought of as a materialist. As was the case with Idealism, ‘Materialism’ tends to mean something other than its philosophical meaning when used in everyday speech. The everyday meaning was encapsulated in Madonna’s (b. 1958) song, ‘Material Girl’, which is all about a woman whose main (only?) criteria for judging men as suitable partners is that they are rich and therefore able to purchase all that money can buy for her.

But the philosophical meaning of ‘materialism’ has nothing to do with accumulating purchasable items, but instead presents a worldview that opposes ‘Idealism’. Whereas the latter philosophical school of thought insists that the material world exists only in the mind, materialism insists that something as ephemeral and immaterial as thoughts, dreams, and other conscious experiences are somehow created by material objects and forces. We can therefore quite safely say that Marx was thinking along materialist lines when he insisted that the idealists had everything the wrong way around when they claimed consciousness created ‘social being’.

“Morality, religion, metaphysics, all the rest of ideology and their corresponding forms of consciousness, thus no longer retain the semblance of independence. They have no history, no development; but men, developing their material production and their material intercourse, alter, along with their real existence, their thinking and the products of their thinking. Life is not determined by consciousness, but consciousness by life”.

So, according to this worldview, in order for there to be consciousness, all you need is life, or self-replicating material objects. The former is (somehow) an epiphenomenon of the latter.

But, while, epistemologically speaking, Marx thought of the material world and consciousness as closely bound together (with the former more fundamental than the latter) when it came to his plans for a radical transformation of society, a materialist worldview proved to be inadequate.

The dominant materialist worldview of Marx’s time was the one presented by Enlightenment empiricism. Think back to the idea that the Newtonian universe could be likened to a clockwork mechanism. This was adequate if all you wanted was a self-regulating system operating according to invariable laws, but in Marx’s day (as well as in ours in most cases) machines only carry out the tasks they were built for, or they simply malfunction. This is what made the materialist worldview an inadequate philosophy in Marxist thought. That, after all, was based on the revolutionary idea that the world is dynamic; not just self-regulating but capable of change.

Still, Marx believed that an understanding of human history had to be built on material foundations. “[Materialism] shows that history does not end by being resolved into ‘self-consciousness’, as ‘spirit of the spirit’, but that in each stage there is found a material result; a sum of productive forces, an historically created relation of individuals to nature and to one another, which is handed down to each generation from its predecessor; a mass of productive forces, capital funds and conditions which, on the one hand, is indeed modified by the new generation, but also on the other prescribes for it its conditions of life and gives it a definitive development, a special character. It shows that circumstances make men just as much as men make circumstances”.

The closing remarks in that quote show that Marx was developing a different materialist worldview to that of somebody like, say, Thomas Hobbes. For Hobbes, consciousness was the mere reflux of material circumstance, but it would not do for Marx's revolutionary approach to assert that human history is just the determined product of its material conditions and that's that. There would, after all, be no hope of ever really transforming society if that were the case.

Marx had to incorporate materialism into his philosophy, but Hobbesian 'Mechanical' Materialism would not do. Instead, Marx developed 'Historic' Materialism, something he felt would better explain not only the origin, character and function of ideas in terms of the historical conditions to which they belong; but also how revolutionary transformations could occur, such that tomorrow's society could be different from today's.

To help him in developing 'historical materialism' Marx turned, strangely enough, to Hegel the avowed Idealist. Actually, the decision to apply some aspects of Hegel's philosophy was not all that bizarre. After all, the dialectic presented a model of historical development in which contradictions make a transformation from one society into another all but inevitable. That gave revolutionary political thinkers like Marx something to track as they studied contemporary life for signs of transformative effects.

The thing that Marx found most appealing about Hegel's dialectic approach was the way it presented history. What are we talking about when we use that word? Prior to Hegel, for the most part 'History' had been seen as just a sequence of random and contingent events whose only links were crude cause-and-effect (plus a lot of random accident). But for Hegel, 'History' referred to a process of development that could only be understood holistically, since the extent to which we can understand any one event depends (in this way of thinking) on the extent to which we also understand all preceding events.

'Historical development' was a Hegelian concept that appealed to the revolutionary in Marx, because it implied that history was headed somewhere, rather than self-regulating its way to stasis as in mechanical materialism. But Marx did not just follow Hegel; he also cast a critical eye over his dialectic approach. At the heart of this Marxist criticism of Hegelianism was the question: "If there is historical development, what, exactly, is 'developing'"?

Now, in Marx's day, materialism was by no means the fashionable philosophy in Germany. Rather, idealism was. According to that philosophy, consciousness was the very foundation of reality. Marx, however, disagreed that consciousness could just 'dream up' the material world, and pointed out that much must have already taken place before we can even form coherent ideas. At the very least, we could not introspect about the material world without already being bound up with the physical world. And we were bound up (Marx thought) because each and every one of us came into the world ready-inserted into a whole set of material conditions, relations and social institutions.

Marx put it like this:

"The production of ideas, of concepts, of consciousness, is at first directly interwoven with the material activity and the material intercourse of men. The language of real life, conceiving, thinking, the mental intercourse of men, appear at this stage as the direct efflux

of their material behaviour. The same applies to mental production as expressed in the language of politics, laws, morality, religion, metaphysics etc, of a people. Men are the producers of their conceptions, ideals etc. Real, active men, as they are conditioned by a definite development of their productive forces and of the intercourse corresponding to these, up to its furthest forms. Consciousness can never be anything else than conscious existence, and the existence of men in their actual life process".

Basically, Marx was saying that conscious experience does not create material reality; rather, it is economic reality that can determine how we think. "Consciousness does not determine life", Marx wrote, "life determines consciousness".

How bound up by material conditions are we, according to Marxist philosophy? That depends on whether you examine Marx the Philosopher, or Max the Political Thinker. As we have seen, in an epistemological sense Marx saw consciousness as tightly bound to the material world. But, in his political thought we can see a desire to loosen those bonds. This is because 'freedom' for Marx involves our being able to realise our fully human natures. We are least like other animals, Marx thought, when we are free to produce, giving physical expression to our thoughts in a way that is liberated and independent from any immediate material need. Marxist philosopher, Terry Eagleton (b. 1943), put it like this. "Freedom for Marx is a kind of creative, superabundance over what is materially essential, that which overflows the measure and becomes its own yardstick".

We saw earlier how, for Marx, 'History' is pretty much the story of a class struggle between 'the Oppressor' and 'the Oppressed'. But what is to be gained by victory? For Marx, victory is not just the end of oppression, but the end of alienation. As we shall see later, Marxists see 'Alienation' as having been part of the human experience from the dawn of our species, because conditions have brought about a separation between our 'species nature' and the practicalities of living.

In the epoch Marx was most interested in, material development had progressed to a point where a minority were liberated from the demands of productive labour, and could therefore devote their lives to such pursuits as Politics, Academia, the Arts, and cultural development. But this was only a partial accomplishment of liberation from immediate material concerns, because that minority who worked in philosophical halls, political arenas and art galleries were ultimately funded by the labour-power of all those for whom urgent material concerns took priority. Thus, when Idealists like Hegel went around fantasising that thought was somehow independent of material reality, that was in large part due to the fact that a minority were indeed freed from such concerns. As Marx pointed out:

"Division of labour only comes truly such from the moment when a division of mental and manual labour appears. (The first form of ideologists, priests, is concurrent.) From this moment onwards consciousness can flatter itself that it is something other than consciousness of existing practice, that it really represents something without representing something real; from now on consciousness is in a position to emancipate itself from the world and to proceed to the formation of 'pure' theory, philosophy, ethics etc".

Why the scare quotes around the word 'pure'? Because Marx seeks to remind his readers that, when class society dreams up some noble progenitor of 'class' (by saying it sprung

from unfettered individual imagination, say, or from previous cultures) what they are really doing is turning a blind eye to culture's lowly heritage. For, in Marx's worldview, culture really only has one parent, and it is labour. And what is Labor synonymous with in Marxist thought? Exploitation. Or, at least, that remains the case for as long as alienation continues to manifest in the human condition.

Regarding history from a dialectical viewpoint resulted in it seeming less like a collection of past events, and more like a necessary process everything goes through on the way to achieving full maturity. Whenever we think of something as starting off in a primitive state and then developing into something modern, we are basically adopting the Hegelian view of history. Marx (along with his collaborator, Friedrich Engels (1820-95)) adopted this sort of view of history by presenting it as a progression from overt exploitation to freedom from alienation. As this was a Hegelian way of thinking, Marx and Engels were obliged to adopt the 'Laws' by which, according to Hegel, the Dialectic operated. This was something they were happy to do.

But what were those 'laws'? According to Hegel, three laws defined how the Dialectic operated. The first of these was the 'Law of the Transformation of Quantity into Quality', which is neatly demonstrated with a kettle of water. When the kettle is switched on, the liquid it contains will go through a period of quantitative change, in the sense of the water's temperature gradually increasing.

But then, quite suddenly, a qualitative change takes place, with the liquid turning into a gas. According to Hegel, this situation applies in general. For the most part, things change gradually- quantitatively- but sometimes they can suddenly transform into a different state. Even whole societies can, on occasion, undergo transformations. Only, for Marxists, such transformations are more appropriately called 'Revolutions'.

Now, in our comparison with the kettle, it was said that the water suddenly starts turning into a gas. This might make it seem as though 'suddenness' is a defining characteristic of revolutions. Another characteristic one might take to define revolutionary acts is violence, which did indeed feature in such historical events as the French and Russian revolutions.

But while Marx did seem to consider insurrectionary force to be a necessary factor in constituting socialism, what really defined social revolution was not speed, suddenness or violence. No, what was revolutionary about social change was the fact that it involved one possessing class being ousted and replaced by another. There was no reason to expect revolutionary change of this kind to happen quickly. The buildup of contradiction might carry on for a considerable amount of time before revolutionary upheaval was triggered.

Saying "one possessive class is replaced by another" might give the impression that nothing really changes in the Marxist view of 'Class War' with its Oppressors versus Oppressed. But actually, in the Marxist view, the dialectical process did have an end point, because it was expected that the working classes coming to power would entail the communal ownership of the means of production, and under those conditions classes themselves would disappear.

Marx himself put it like this. "All the preceding classes that got the upper hand sought to fortify their already acquired status by subjecting society at large to their conditions of

appropriation. The proletarians cannot become masters of the productive forces of society, except by abolishing their own previous mode of appropriation, and thereby also every other previous mode of appropriation. They have nothing of their own to secure and fortify; their mission is to destroy all previous securities for, and insurances of, individual property".

Let's move on now to the second law, which was the 'Law of the Unity of Opposites'. It is not difficult to think of things that exist in opposition. 'Good' and 'Bad', 'Day' and 'Night', 'Hard' and 'Soft', 'Loud' and 'Quiet'. But ask yourself: Would any of these definitions make sense in the absence of their 'opposites'? Could we really have a concept of 'daytime' if night never fell? If silence was all there was to be heard, how could you possibly know what was meant by 'Loud'? No wonder, then, that Hegel thought in terms of 'unity of opposites'. Things in opposition tend not to really exist separately from each other, but instead form unions outside of which there is no existence for either of them.

On that note, think of the 'positive' things in our current, competitive, individualistic societies. The things we are all supposed to aspire towards. Most people want to be 'winners', to be regarded as 'successful'. And what does it take to deserve such accolades? Above all else, it seems, one needs to become rich and famous. The ideal is to bring about "equality of opportunity", such that there is nothing, other than individual striving, to prevent any individual from achieving 'success' as it is defined today.

But think back to this notion of 'unity of opposites'. If nobody ever lost, what meaning would 'winning' have? If we all gained attention and recognition from the work we did, what reason would we have for singling some individuals out as 'famous'? And, perhaps most importantly of all, if nobody was poor, what meaning would there be in calling anyone 'rich'? Frankly, "rich, famous and successful" have no meaning in the absence of their opposites.

Since this is the case, it must also be true that, the more the 'negatives' in these unities of opposites exist, the more meaning there is in being "rich, famous and successful".

For this reason, I compare an ideal capitalist society to the Lottery. This is not because I think 'success' in Capitalism is simply a matter of luck, as is the case with winning the Lottery, but because the Lottery pretty much provides 'equality of opportunity'. After all, anyone who buys a ticket has more or less the same (tiny) chance of winning the jackpot as any other participant.

However, in order for there to be a 'jackpot' (in other words, a very substantial 'win') it is essential that the vast majority of participants turn out to have bought worthless tickets. Imagine a lottery in which only one number is drawn, the number '6'. A billion people enter, each buying a ticket for £1. The results are announced, and each of the billion participants whoop for joy, having just won the Lottery. But, of course, the prize fund would then be divvied up among all billion 'winners'. So each individual only gets back the £1 they paid in (actually they'd probably get less back, as some money has to go to maintaining the structure of the lottery system).

In order for there to be a huge payout, the Lottery has to be setup in such a way as to make the chances of winning very small indeed. This means there is something rather dishonest about all those promotions that only ever show participants winning jackpots, claiming 'this

could be you'. The implication is that 'equality of opportunity' is primarily concerned with producing 'winners'. But if the promised prize is fame and fortune, equality of opportunity's prime concern has to be ensuring the vast majority fail. Why? Because it is only when you have plenty of poor people that you can have a few who become extremely rich; only when you have most people afforded little to no recognition for their service does it make sense to consider 'fame' as a noteworthy achievement. Both the Lottery and Capitalism, then, are primarily dependent on failure. The vast majority of us must keep on believing we can be 'winners' too, so that we continue to pay into the system, but the vast majority must also lose, regardless of how much work we contribute, because it is the losers holding worthless tickets that actually provide the funds that the 'jackpot winners' appropriate.

Thing is, though, we are really talking about two opposing extremes here. A lottery or economic system set up to ensure everybody ends up equally poor is just not fair or worthwhile. Most people acknowledge that some people bring something to the workplace that should rightly earn them greater rewards. They may have a skill that makes them 'special', for example, or they may have taken on a greater burden of responsibility. Very few people insist on equal pay across the board (although later we'll discuss the logic of one philosopher who did precisely that) but instead see the ideal as recognising outstanding talent, but not paying out so much to the elites that you cannot afford a comfortable life for those on the bottoms rungs of the socioeconomic ladder.

When asked how they think money is actually (rather than ideally) distributed, people tend to assume that there is a bit more concentration of wealth at the top and that, therefore, those on the bottom experience more material hardship than would be the case under an ideal redistribution of collectively-produced wealth.

But what people think is the actual distribution does not come close to the immense concentration of wealth and the burden of material hardship necessarily imposed on the 'losers'. The cost of losing is not trivial, like sacrificing a pound a week so you can count yourself among those who stand an infinitesimally small chance of winning the Lottery, but rather dire consequences like homelessness, malnutrition, and other dreadful outcomes for mental and physical health that are an inevitable consequence of any 'equality of opportunity' system that promises astronomical material rewards and thus must impose worthless lives on the vast majority, just as the vast majority must find their tickets are worthless every time the Lottery announces somebody has just been elevated to the status of a multi-millionaire in one stroke of extraordinary luck.

Hegel's third law was the "law of the negation of the negation", which should be familiar since we already talked about the dialectical process of thesis-antithesis-synthesis. The 'antithesis', recall, exposes the contradictions in the 'thesis' and brings about its negation. But the antithesis also has contradictions that are exposed by the 'synthesis' and so we get the "negation of the negation". But this was not just a destructive process for Hegel or Marx, because it was thought that contradictions would be eliminated but any good achieved in each epoch would be retained.

No wonder, then, that something like the Dialectic was so much more appealing to Marx than traditional formal logic. The problem with formal logic was that it was static and that it presented the underlying nature of reality as something that was unchanging. As a result,

‘change’ had been something previous philosophers had enormous difficulty in accounting for.

But Hegelian logic was dynamic rather than static, and so it was better equipped to deal with transformations, which obviously appealed to revolutionaries who desired a different tomorrow. The Dialectic method encouraged thinkers like Marx to study social phenomenon in terms of motion and change, and to seek out contradictions and oppositions in nature and society, for in such contradictions lay the route to revolutionary progress.

Even though Hegelian philosophy presented us with a view of historical development that is progressive, and heading inexorably toward an ultimate goal, Hegel himself had little to no concern for the future. His message to those philosophers who might want to plan for or recommend a particular future was “the owl of Minerva spreads its wings only with the failing of the light”. What that rather cryptic comment meant was that we only have wisdom in hindsight. This was an attitude that Marx very much disagreed with, leading to one of his most famous quotations:

“Philosophers have only interpreted the world in various ways; the point, however, is to change it”.

So it is by no means the case that Marx simply followed Hegel. Rather, he was quite willing to cast a critical eye over his work. Indeed, when it came to the Dialectic, Marx found aspects of it very useful indeed, but was unable to accept the Dialectic in the form Hegel had developed.

In explaining the drawbacks of Hegel’s dialectic, Marx wrote, “my own dialectic method is not only different from the Hegelian, but is its direct opposite. For Hegel…the thinking process is the demiurge of the real world, and the real world is only the outward realisation of the idea. With me, on the other hand, the idea is nothing else than the material world reflected in the human mind and translated into terms of thought”.

Think back to our cave. From the Hegelian point of view, that cave, its contents, and indeed all of material reality only exists because some mind/s dreamed of/had ideas about/ were conscious of such things. Ideas are what ultimately make the world. What Marx was saying was that Hegel had got things entirely the wrong way around. While it was correct to say that history was heading in a particular direction, driven there by an internal dialectic whose driving force was contradictions, it was quite wrong to suppose that it was Ideas that were the primary and fundamental force of this process. Quite the opposite, in fact. It was objective material forces and economic realities that lay at the foundation of everything, ultimately determining human ideas.

Therefore, in Marx’s ‘Historical Materialism’, the dialectic was seen as the product of the material satisfaction of needs, whereas Hegel had made Reason or Ideology the driving forces. One gets the impression that, for Hegel, what people are divided over are primarily such abstract issues as ‘the general good’ or ‘personal freedom’. For Marx, though, people were first and foremost concerned with maintaining or increasing material standards of living.

So, both Hegel and Marx saw history in dialectical terms, meaning both thought there was an incessant war between ideas going on, and that this determined human consciousness and history. But whereas for Hegel this dialectical struggle was fought between ideological parties divided over abstract Hegelian ideas, Marx saw the dialectic as being driven by decidedly material economic forces, with the main struggles and contradictions occurring between social groups that had a common relation to the means of production. In other words, between classes.

By taking Hegel's dialectic and turning it the "right way up" (as Marx saw it), Marx developed a 'dialectical materialism' that could be used as the foundation of revolutionary theory. The dialectic, when interpreted in primarily materialistic forms, presented a model of history that was dynamic rather than static, which insisted on change, and which was useful for charting a direction from which revolutionary activists could learn. Not only that, but it achieved all this in a 'scientific' way, no appeals to gods or miracles required.

For Hegel, the dialectical process was heading in the direction of the fully realised State. Marx disagreed with him in regards to the ultimate endpoint of the dialectical process. But if that was so, where did he suppose Dialectical Materialism was headed? Victory, for Marx, equated to the human race achieving full self-realisation in which no person's life or creative powers are a means to an end but an end in itself, and all humans live lives that fully realise their species-nature. Before that final victory is established, though, people will be exploiting, and exploited by, various forms of alienation that separate humans from their species-nature.

So, at the heart of Marx's materialist dialectic was a concept of changes in human nature, driven by economic forces. Marx believed that there were three stages or 'moments' to this dialectical process.

At the very beginning, it is our primitive understanding of the natural world that 'alienates' (separates) us from our true species-nature. For Marx, the human story begins with our species living freely and cooperatively, which at first seems like humans began in the communist Eden that was supposed to be established only at the end of his Dialectical struggle.

However, there are some crucial elements missing at this early stage. Most importantly, Marx saw the human race as living just like any other animal. Like them, humans at this stage are entirely consumed by their species-life and, as a result, determinism rules their lives, for we have yet to develop any capacity to reflect on, or act to change, our circumstances.

Something is going to have to change if humans are to realise their full species-nature, and for Marx achieving such a goal requires the use of 'productive forces' and the development of 'productive relations'. At this early stage, human relations exist in only a basic form in which humans are only barely self-aware. What dictates basic human relations is the necessity to produce and exchange goods so as to satisfy our material needs. But nature does not provide much at all in terms of products, only raw materials. In order to transform raw materials into products, humans must make use of 'productive forces' or the human labour, practical skills, tools and machines that extract and transform raw materials.

As well as unleashing ‘productive forces’, humans would also need to work together, organised into what Marx called ‘productive relations’. This, for Marx, was fundamental to realising our full species-nature.

“The human essence of nature exists only for social man; for only here does nature exist for him as a bond with other men, as his existence for others and their existence for him, as the vital element of human reality; only here does it exist as the basis of his own human existence. Only here does his natural existence become his human existence and nature becomes for man for him. Society is therefore the perfected unity in essence of man with nature, the true resurrection of nature, the realised naturalism of man and the realised humanism of nature…It is above all necessary to avoid once more establishing ‘Society’ as an abstraction over or against the individual. The individual is the social being”.

Fully realising such natural harmony and social relationships will define the transition to the third and final stage in Marx’s dialectic. But before we progress to that stage, we must first go through the second stage, which is what Marx mostly focuses on in his opus ‘Das Kapital’.

What sets off the ‘second stage’ is that some people gain control over the forces of production. In various ways, these people come to see themselves as the owners of land, human labour, or the tools and equipment needed to transform raw materials into goods. Therefore, whereas in stage one alienation was attributable to environmental determinism, from now on in stage two alienation will largely be the result of exploitation.

As far as Marx is concerned, while humans clearly have the capacity to behave in selfish, uncaring ways, this is not really the main defining characteristic of ‘human nature’. It might sometimes seem like it is for those of us living through stage two, but that’s only because a change in the forces of production led to a change in how we relate to one another. So long as stage two exists, it’s difficult for us to recognise our fellow humans as ends in themselves rather than as a means to an end. In other words, what we have in stage two of dialectical materialism is exploitation, brought about by the willingness of some people to take advantage of others.

Once ‘exploitation’ enters the picture, primitive communism comes to an end, and the human race finds itself divided into the classes of ‘Oppressor’ and ‘Oppressed’. Now, it is sometimes thought that the notion of social class is central to Marx’s outlook, but actually that’s not quite correct. We discover what is really central to Marx’s outlook in this quote from his ‘Communist Manifesto’.

“The history of all hitherto existing society is the history of class struggle”.

Not ‘social classes’, then, but ‘class struggle’. In other words, central to Marx’s outlook is this notion of a state of mutual antagonism existing between two classes, on account of conflicting material interests.

But, while one can assert that humans are divided by, and in conflict over, class struggle, that just brushes over the reasons why humans should have to live in this state of permanent warfare to begin with. Why can’t we all just live in peace?

In order to understand why not, Marx turned to the history of material production, and a key concept, which was ‘mode of production’. By ‘mode of production’, Marx meant an historically specific combination of certain forces of production with certain relations of production. By ‘forces of production’, he meant not just labour power, but also the various means of production that a society has at its disposal.

Anything that is capable of producing value counts as a productive force. A factory, then, is a productive force, as is a tractor, a smartphone or even a humble pencil. But where do such ‘productive forces’ come from? It would be absurd to say they just pop into existence from nothing, and indeed Marx never supposes such an absurdity. Rather, he sees productive forces as being invented, developed and deployed within the framework of particular social relations of production.

When Marx talks about ‘social relations of production’, he is referring to the antagonistic relations between those who own and control the means of production, and those who don’t and therefore are forced to place their labour power at the disposal of the owner class. Contradictions build up from these antagonistic relationships, but before such buildups can begin, antagonistic relationships have to come about, marking the end of primitive communism and the birth of Class society. For Marx, the first Class society is ‘Tribal’.

“It corresponds to the undeveloped stage of production, at which a people lives by hunting and fishing, by the rearing of beasts or, in the highest stage, agriculture. In the latter case it presupposes a great mass of uncultivated land. The division of labour is at this stage still very elementary and is confined to a further extension of the natural division of labour existing in the family. The social structure is, therefore, limited to an extension of the family; patriarchal family chieftains, below them members of the tribe, finally slaves”.

It is from these conditions, according to Marx, that the next stage in slave society evolves, one he called the ‘Ancient Mode of Production’.

It “proceeds especially from the union of several tribes into a city by agreement or by conquest, and which is still accompanied by slavery. Besides communal ownership we already find moveable, and later also immovable, private property developing, but as an abnormal form subordinate to communal ownership. The citizens held power over their labouring slaves only in their community, and on this account alone, therefore, they are bound into the form of communal ownership, and with it the power of the people, decays in the same measure as, in particular, immovable private property evolves”.

Because the ‘Ancient Mode of Production’ is based, ultimately, on slavery, it is fair to say that, for some unfortunate souls, Class Society begins at a stage that is as far from ideal as it is possible to be. After all, for Marx, full-self-realisation as a social being is how humans would see themselves, and how they would live, in a world devoid of exploitation and alienation. But a slave is in no position to regard their own life as an end in itself. In fact, in many ways a slave cannot be regarded as a human being, due to the fact that such a creature is the actual property of the ruling class.

Of course, in biological terms a slave is as much a human being as any other person. But, in social terms, to be enslaved is to be subjected to the ultimate alienation, because slavery involves separating a human being from the social bonds and obligations that turn one from a human animal into a person. Socially speaking, a slave is not a person. A slave is property.

For Marx, the end of alienation is one of the things to be accomplished in the final stage of his dialectical process. At this stage, though, it could not be more overtly in place. Now, one way of interpreting what is to come would be to say that each subsequent major stage advances towards greater freedom. A feudal peasant was 'bound' to the lord by various forms of hierarchal customs, but they had more personal autonomy than a slave did. A wage labourer has more autonomy still. Indeed, in some sense the wage labourer is (or should be) a completely free human being.

Those of us (the majority, actually) who find they have little choice but to carry on doing wage labour they would rather not do may well question the extent to which an employee is really 'free'. Marx would have agreed with such skepticism for, as we shall see, he saw wage labour as being the product of forms of 'freedom' that, ironically enough, place the employee in a situation of near permanent subordination.

Viewed from such a perspective, rather than becoming increasingly liberated as history marches on, we instead evolve more subtle and less obvious ways of maintaining the exploitation and alienation that class society depends upon. Slavery never really goes extinct in class society. Rather, it just gets pushed out of sight.

In Marx's view, antagonistic relations result in the forces of production and the relations of production entering into contradiction with each other, ultimately leading to crisis.

"At a certain stage in their development, the material productive forces of society enter into contradiction with the existing relations of production, or- what is but a legal expression of the same thing- with the property relations within which they have been at work hitherto. From forms of development of the productive forces, these relations turn into their fetters. Then begins an epoch of social revolution".

Remember that, for Marx, true human nature is to live as a self-actualised social being, but this can only come about once material conditions have been transformed so as to support and sustain such modes of being. Any mode of production that can only carry out that transformation to a limited extent collapses under the weight of its own contradictions. Such was the fate of ancient modes of production, making way for feudalism.

"Like tribal and communal ownership, [feudal property] is based again on community; but the directly producing class standing over against it is not, as in the case of ancient community, the slaves, but enserfed small peasantry".

But such a society did not remain simply one of peasants bonded to the landed estates of the lords, for in the towns there grew up mercantile guilds. "As soon as feudalism develops, there also arises antagonism to the towns. The hierarchal structure of landownership, and the armed bodies of retainers associated with it, gave the nobility power over the serfs. The feudal organisation was, just as much as the ancient communal ownership, an association

against a subjected production group class; but the form of association and the relation to the direct producers were different because of the different conditions of production".

The social relations of feudalism were antagonistic from the perspective of the primitive capitalists working in the towns, because the development of a middle class was held back by the guild system and other realities of feudal society.

As Marx pointed out, "The immediate producer, the labourer, could only dispose of his own person after he had ceased to be a slave, serf, or bondsman to another. To become a free seller of labour power, who carries his commodity wherever he finds a market, he must further have escaped from the regime of the guilds, their rules for apprentices and journeymen, and the impediments of their labour regulations. Hence the historical movement which changes the producers into wage-workers, appears, on the one hand, as their emancipation from serfdom, and from the fetters of the guilds, and this side alone exists for bourgeois historians".

"On the one hand"? That implies another way of looking at this situation, which we'll come to in a moment. For now, though, we'll just say that the antagonism sparked a bourgeois revolution, one in which the merchants and manufacturers in the growing towns seized power and forced the aristocracy into cooperation. The result of this revolution was to break the fetters that held the middle classes back, ultimately bringing about a new mode of production that unleashed the forces of production on a scale to dwarf anything that had come before. The name of this mode of production? Capitalism.

One might well ask why, after four hundred or so years of Capitalism and all the technological development that has gone on in this era, we are still not at the final stage in Marx's dialectical process. Is it simply because, even in the 21st century, material development is still too primitive to enable full communism? Or are there other factors we should consider?

Marx believed that there were other factors that stood opposed to a human nature that took self-development to be an end in itself. But to recognise them we had to stop thinking materially and instead tackle certain metaphysical notions. He pointed out that, in class society, there always exists a form of metaphysical reasoning that just cannot accept human social life as an end in itself, but instead must imagine something 'higher' to which human activity should be brought to account. Hegel's own concept of the 'Absolute Idea' would be one example. Others would include 'Morality', 'Religious sanctions', 'Duty'' and 'Profit'.

Does that mean to say Marx is opposed to morality? Not really. Rather, he denies that 'morality' is to be found in some laws set above the process of unfolding and actualising our creative social potential, or that it exists in some august set of ends pitched beyond such a process. Instead, as far as Marx is concerned, the process of unfolding our creative powers and capacities is what morality consists of. It is a process that is inseparable from our common nature and, as such, needs no more justification than does the desire for friends, or smiling, or laughter.

What this form of metaphysical reasoning does is to imagine some sort of ethical system that is universally applicable. In that sense, it is inclusive. But, Marx insisted, such universality

brings it into conflict with a form of instrumental reasoning that is also a feature of class society.

What feature is that? Well, it's the idea that the individual ought not to be ends in themselves, but rather that they exist only for the sake of some greater goal. As we have seen, for Hegel that greater goal was the political state. In Marx's day it was 'universal happiness' (this did appear to be the dominant Utilitarian thought of his day). In our day and age it could be said to be 'economic growth' or, perhaps, 'environmentalism'.

Whatever form it comes in, it stands opposed to full communism so long as it maintains conditions in which the energies of the majority are made instrumental to the profit of the few. In Class Society, means/ends reasoning is the form of rationality that tends to dominate, and the ultimate outcome is that the self-realising species being becomes converted into a mere tool of material survival- a deeply ironic outcome, given that this is the least functional thing about a human being.

As Marx said, "labour, life activity, productive life appears to man only as a means for the satisfaction of a need, the need to preserve physical existence. But productive life is species-life. It is life-producing life. The whole character of a species, its species-character, resides in the nature of its life activity, and free conscious activity constituting the species-character of men. [But, in Capitalism] life appears only as a means of life".

A pro-Capitalist perspective tends to view Communism as being opposed to Individualism. It likes to portray Communist society as totally conforming, rank upon rank of nameless, faceless comrades dressed in dehumanising grey outfits, united in their poverty and subjugation to the Communist regime. But Marx was certainly not opposed to Individualism, and nor was he opposed in principle to instrumental reasoning. After all, his own revolutionary politics concerned itself with the fitting of means to ends, and rational action in the absence of instrumental reasoning is just impossible. Rather, he had such a deep respect for the individual, he was compelled to oppose a regime like Capitalism. Why? Because, while it may make a big thing of individualism in theory, in practice it tends towards the opposite, because under Capitalism men and women are preferably reduced to anonymously interchangeable units.

Bringing about such a reduction requires a considerable amount of violence and coercion, which brings us back to that 'other hand'. Right after commenting about the only aspect of the 'transition' from feudalism that bourgeois historians want to talk about, Marx comments on those aspects they ignore.

"But, on the other hand, these new freedmen became sellers of themselves only after they had been robbed of all their own means of production, and all of the guarantees of existence afforded by the old feudal arrangements. And the history of this, their appropriation, is written in the annals of mankind in letters of blood and fire".

So, when we talk about the 'free labourer', we should take into account that 'freedom' has more than one meaning in the context of Capitalist relations. On a positive note, the proletariat retains total ownership of their labour power, which can never be commodified

and sold outright. Rather, the labourer must always be free to remove one's labour power and seek to apply it elsewhere.

But, the proletariat were also 'liberated' from any means of providing for themselves. It's hard to see how that could bring about conditions that would feel like a liberation. It would seem more like an alienation, being separated from the community support that humans depend upon. The Class that were really liberated thanks to land privatisation were the Capitalists, because it meant land no longer functioned as a means of subsistence and would instead function as a means of accumulation and exploitation.

It was also a liberation for landlords because, as Sylvia Federici explained, "[they could] unload onto the workers most of the cost of their reproduction, giving them access to means of subsistence only when directly employed. When work would not be available or would not be sufficiently profitable, as in times of commercial or agricultural crisis, workers, instead, could be laid off and left to starve".

That last comment reveals the stark choice faced by wage labourers under a Capitalist system lacking Socialist checks and balances. What such a system does is to force workers to voluntarily alienate their labour power, or else fall foul of dire artificial poverty. Why is it artificial poverty? Because, the processes that Marx referred to in his 'other hand' removed support that would have prevented much of the poverty that people suffered as Capitalism rose to dominance. Nor is this injustice relegated to the past. As Federici has shown, in various ways the Capitalist system continues to impose entirely unnecessary poverty on the human race, such as perpetuating malnutrition even though modern food-production techniques can and do produce more food than is needed to end world hunger. The 'freedom' promised by Capitalist 'free markets' mostly consist of the freedom of those with financial and political power to take away the freedom of everybody else.

Remember that in Class Society there is an antagonistic struggle between groups. In the case of Capitalist society, one of the things this struggle entails is a disagreement over what ideal working conditions should be like. It is from such a struggle that we get seemingly bizarre attitudes to 'work'.

To illustrate what's so bizarre about it, let's imagine that dolphins became very reluctant to be in water. If that were so, it should strike anyone as very odd, because dolphins are obviously meant to be aquatic mammals. They have streamlined bodies. Their limbs have been modified into flippers that make them great swimmers. They are able to hold their breath for a very long time, and their breathing apparatus is arranged in such a way as to ensure they can remain almost totally immersed when they occasionally take a break from the business of the day to take another breath. Yes, dolphins look very much like they should take to a life swimming in the seas as the existence they evolved to fit.

This is just a silly made-up story. Dolphins show no sign of wanting to give up the lifestyle for which they are so superbly adapted. But, there is an animal that does seem reluctant to live the life it evolved to suit, and that animal is the Human Being. Why do I say that? Because humans obviously evolved to work. Everything about our physiology and psychology points to this fact.

Let's start with our hands. Whereas a dolphin's limbs are clearly evolved to enable proficient swimming, our four fingers and opposable thumbs are just as clearly adapted to shape materials into tools and then use those tools in a great many ways in order to further shape the world around us to suit our purposes. Both the creative power needed to imagine that which does not yet exist, and the ability to form and handle tools that will give solid form to such figments of the imagination, requires a big brain. In terms of its ratio to body size, humans have the biggest brain in all of nature.

An individual person is obviously limited in their ability to transform the world. But evolution took care of that too, by giving us powers of communication and a need to socialise, so we could form groups, exchange ideas, and do collectively what could not be done alone. Moreover, we evolved to actively socialise. Our bodies and our minds need work. To be deprived is it is to guarantee all kinds of physical ailments and mental problems.

Yet, despite all that, it does seem to be quite a popular opinion that people just don't want to work and would opt for a life of idleness unless drastic action is taken to compel people to submit to a job. One has to wonder why people don't look like barnacles if that were the case, since barnacles really did evolve to suit a life of minimal effort.

Since people look like human beings rather than barnacles, we should turn our focus away from people and instead consider the world of 'work'. The first thing we should recognise is that not all activity should be considered 'work', and certainly not engaging, meaningful work. Only activity imbued with certain qualities deserves to be thought of as meaningful work.

But what are those qualities? One of the necessary conditions is that the activity should involve 'Imagination'. Your work should ideally provide opportunities to utilise your creative, artistic powers to their fullest possible extent. The work should be 'challenging', presenting problems that require logical reasoning. The work should be 'collaborative' in a way that let's you take what is most unique and individualistic about yourself and to fully integrate that into a group. The work should enable 'mastery', the ability to develop all of your abilities to the highest standards you are capable of reaching.

If activity could involve these qualities, people would likely be very eager to do such work. This is no baseless speculation. The best videogames succeed in incorporating most if not all of the qualities activity requires to be meaningful work. This stands to reason. The business built around videogames wants to sell as many copies as they can, so obviously they are going to want the activity involved in videogaming to be as appealing as possible, because then customers will enjoy the product and recommend their peers buy it too.

One big difference between videogaming and jobs is that, other than a few 'professional' gamers who play to win prize money, or those who have monetised their gaming on platforms like YouTube, nobody gains material reward by playing videogames. Having said that, most videogames do have something like a monetary system built into the game itself. Players typically have to earn points or, in some cases, in-game currency, if they are to progress further. What these currencies tend to do is enable the player to better express their individuality by equipping themselves with customisable outfits, accessories etc, thereby gaining bragging rights among the videogaming community. But, other than virtual

rewards of this kind, the vast majority of people not only work in videogames for free, they actually pay good money to be allowed to do the work videogaming provides.

Now, when it comes to the world of jobs, rather than people paying the business for the opportunity to work (as happens with videogames) the business typically has to pay them wages. Therefore, whereas for videogames sales the worker is purely a source of profit, where jobs are concerned the employee assists in making profit but is also a cost to the business. If Capitalist incentives are what drive decisions, the company is going to want to boost profitability while minimising costs, and such imperatives result in businesses seeking to reduce if not eliminate the qualities activities need to become meaningful work.

After all, what would the ideal worker look like, from the perspective of business? First of all, I suppose, the worker should be competent at the job they are employed to do. In that sense, then, both videogames and jobs seem to agree that ‘mastery’ is an important aspect of work.

But, whereas videogames seek to make full mastery something one achieves after enough effort has been expended to make it feel like an achievement, as far as jobs are concerned, the employee had best gain competency as soon as possible. Minimum in-work training is therefore the condition to aim for. Similarly, videogames deliberately put challenges into the game, and then find ways of signalling to the player what they are doing wrong if the problem continues to frustrate progress. In other words, failure in the best videogames works as a learning process. As far as jobs are concerned, though, challenges are best eliminated, not used to turn activity into meaningful work.

Moreover, businesses are incentivised to try and reduce to an absolute minimum the need for an employee to utilise the powers of creativity and logical thinking. There are a couple of reasons why that is the case. First of all, maximising such qualities tends to enhance our uniqueness and individuality. Imagine that you had an employee who performed a vital role in your business, and was so uniquely talented as to be irreplaceable. You then learn that this special employee was run over and killed on her way to work. Such an outcome would be deeply problematic, to say the least.

Conversely, imagine if there was nothing at all unique and special about any employee. Imagine if you could think of people merely as interchangeable units. Employee number 101 is not available today? No matter. A quick call to the temping agency or the recruitment consultancy will have employee 202 here soon, and s/he will slot into the vacant role in no time.

What sort of wage could such an easily replaceable employee expect? A uniquely skilled, vitally important employee wields enormous bargaining power and can therefore negotiate a high fee for their services. On the other hand, an employee who can be replaced at a moment’s notice has next to no bargaining power and therefore has little or no choice but to accept the minimum possible wages and benefits employment can offer.

Are these conditions good? Well, I suppose they are if you are a capitalist seeking to maximise profit and reduce costs, and you know those not jobbing have little to no social safety net to rely on. A person who has some other means of supporting themselves would

likely consider employment devoid of the qualities needed for work to be meaningful and think “no thanks, such drudgery does not appeal”. A person without such alternatives is forced to volunteer for wage slavery.

So, what we find in the world of videogames and the world of employment are opposing incentives, due to the fact of who pays who in order to work. Whereas videogame creators try (but do not always succeed) in maximising the qualities that turn activities into meaningful work, employers try (but do not always succeed) in turning activity into cheap labour, which is necessarily activity devoid of the qualities that provide meaning.

They do not always succeed, because the nature of some work and current state of technology means some businesses have to rely on at least some workers who are very creative and artistic, who tackle problems that really exercise powers of logic and which take a long time to master. This provides another reason why jobs are comparable to the lottery. It is a rare thing indeed to land a job that is socially valuable, personally rewarding and also pays enough to end the material concerns most of us regularly deal with, so actually having a job like that is truly like winning the jackpot in the jobs lottery. Advertisements for services that help people find jobs tend to portray a world in which anyone seeking employment is likely to land this sort of dream job, just as advertisements for the Lottery tend to show the big winners. But, really, the hope (from the employer’s perspective) is that technological developments and other factors will enable them to reduce the qualities of meaningful work and so lower costs. Just as the Lottery wants the vast majority to buy worthless tickets, the jobs market wants the vast majority to have work of minimum meaning, reward, and maximal cheapness. After all, there is no choice if your aim is to make some enormously rich, other than to make lots of others poor.

Today there is a lot of talk about using artificial intelligence to ‘assist’ workers and so boost productivity. It’s usually put that way- ‘assisting’ employees rather than replacing them altogether with robots. While that may be the case (for now) it’s obvious that the more you can offload the demands of creativity and logic to a machine, and the more technological advances can lower the time it takes to achieve mastery in a task, then the less special, replaceable and the cheaper once highly specialised and expensive employees will become.

In Marx’s day, and indeed up until the late 20th century, the most effective way to devalue worker skills was to maximise division of labour via the production-line system. This was seen as another way in which Capitalism imposed alienation on people, because rather than enabling us to be engaged in the sort of work that nurtured one’s natural desire to develop into an all-rounded individual, it instead put people in employment in which their human powers could only be realised in cripplingly one-sided ways.

Commenting on this situation, Marx wrote, “the division of labour offers us the first example of how, as long as man remains in natural society, that is, as long as a cleavage exists between the particular and the common interest, as long, therefore, as activity is not voluntary, but naturally, divided, man’s own deed becomes an alien power opposed to him, which enslaves him instead of being controlled by him. For as soon as the distribution of labour comes into being, each man has a particular exclusive sphere of activity, which is forced upon him and from which he cannot escape. He is a hunter, a fisherman, a herdsman…and must remain so if he does not want to lose his means of livelihood”.

CHAPTER SEVENTEEN

I think it would be a good idea to go through the first few chapters of ‘Das Kapital’, because that’s the best way to understand Marx’s thinking. Without this understanding, some claims may not make sense. For example, why does a capitalist system have to keep on expanding, always pursuing more growth? Can there not be a stage where we are generating enough profit and need no more? The answer to questions like this lie somewhere within ‘Das Kapital’.

It is not, however, to be found at the start of this book. Nor, for that matter, does Mark begin by talking about any of the issues he is normally associated with. You’ll find no talk of classes, class struggles, capitalists or money in the opening pages of this book.

Another thing Marx does not do is begin by explaining how and why the current class divisions came about. The story of how the world divided into bourgeois and proletarian classes is left until the book’s very last section. Rather than begin there, Marx instead chooses a time when the conditions that allow a capitalist mode of production are in place, and then proceeds to outline the direction history should take as the forces of dialectical materialism play out.

But, there is something else Marx feels needs to be done before his work can begin, which is to dig right down into a capitalist system in order to find the core, the basic building block, from which all else is built. To make an analogy with biology, this is akin to a scientist deciding to ignore human behaviours, emotions, organs and limbs, and to begin instead with an examination of the cell, or whatever the basic building block of biology may be.

Marx begins by telling us what the basic building block is. “The wealth of these societies in which the capitalist mode of production prevails, presents itself as an immense accumulation of commodities, its unit being a single commodity. Our investigation must therefore begin with the analysis of a commodity”.

Now, notice Marx’s language here. He does not say “the capitalist mode of production is an immense accumulation of commodities” but rather that it presents itself in this way. In other words, we’re not dealing with fundamental reality, but rather a world in which things may be other than as they appear. Later, Marx will talk about ‘surface appearances’, or the idea that a deeper look at something will reveal goings-on that a cursory glance missed.

But that’s for later. Here, at the beginning of Das Kapital, Marx wants to perform an analysis of ‘the Commodity’. This naturally leads to the question, “what is a commodity?”.

If you want to know what the essential aspects of a concept are, one way to do that is to imagine removing parts of the world and imagination and then asking if the concept you are investigating retains its essence in the absence of such things.

This is what Marx intends to do with the commodity. But it is an approach with one major drawback. It makes a reading of Das Kapital rather difficult, because Marx will soon start

throwing in terms and concepts that may not make sense, because the necessary context won't be included until later.

Why approach the subject in this way? Is Marx being deliberately obscure? No, not really. One has to remember what Marx is trying to do here, and that is to present his readers with a dialectical process. He begins with an analysis of the fundamental building block of a Capitalist mode of production, and from there goes on to show how things unfold, expand, with contradictions forming, resolving, generating new contradictions, until the end of the bourgeois epoch is reached. By following this unfolding, the reader finds that things which may not have made much sense become clearer as Marx's dialectical method expands the argument.

Anyway, having determined that our investigation must begin with a commodity, Marx's next task is to determine what the essentials of such a concept are. After all, we know that things have been transformed by natural and artificial means for millions of years. Should all such transformed stuff be included in the world of commodities, or is it only some of the stuff around us that qualifies?

Marx asserts that the first defining feature of a commodity is that it satisfies human wants. "A commodity is, in the first place, an object outside us, a thing that by its properties satisfies human wants of some sort or another". So then, a commodity is, first and foremost, something 'external' to us that we make our own (think back to Locke's concept of the labourer working to obtain food). If we need or want something, that something has value. But Marx stresses that there are two kinds of value- value and use-value- and one is not necessarily found with the other. As he explained, "a thing can be a use-value, without having value. This is the case whenever its utility is not due to labour, such as air, virgin soil, natural meadows etc".

So, a commodity is not so much something that is useful, but rather something human labour had made useful. After all, a lot of the stuff in the world around us is useful in principle, and in many cases in more ways than one, but transformative work needs to be done before the usefulness can be turned into use-value. According to Marx, if the use-value of a thing can be accessed without work, it is therefore without value and therefore not a commodity.

It's worth noting that Marx reduces the commodity to an object that satisfies "human wants of some sort or another". We are not concerning ourselves with human needs here, and so even as early as the second paragraph we can see how Marx the dialectical materialist might move away from strictly 'material' concerns. If the inquiry focused only on basic human needs (or, as Marx puts it, wants that "spring from the stomach") we would not be able to move away from material concerns. But we're not only concerning ourselves with basic needs because, as Marx explains, wants spring not only from 'the stomach' but also "from fancy". In other words, we can imagine we need something, and such fantasies need not require anything material for such urges to be met.

How and why we should ever have pursued imaginary wants is not of concern to Marx at this early stage in the analysis. We do not need to know why a commodity satisfies a want, nor should we bother to inquire whether it directly meets our needs (making it a means of

subsistence) or if it satisfies wants in an indirect way (making it a means of production). Here, we are only concerned with the common properties that all commodities share. In other words, we are to disregard the specific properties of things, and to abstract from the commodity such concepts as specific human desires, in order to home in on the essential common features of anything we can call a commodity. According to Marx, what we find when we drill right down into 'the commodity' is use-value or utility.

Having determined that "the utility of a thing makes it a use-value", Marx then appears to link the commodity firmly with the material world. "But this utility is not a thing of air. Being limited by the physical properties of the commodity, it has no existence apart from that commodity. A commodity, such as iron, corn, or a diamond, is therefore, so far as it is a material thing, a use-value, something useful".

Now, earlier we saw how Marx's political project required him to move away from a strictly materialist worldview, in order to avoid the determinist trap that 'mechanical materialists' like Hobbes had fallen into. But how will Marx manage to do this, having just tied use-value so firmly to the material world?

Well, first of all, Marx points out that any useful thing can be considered from two perspectives, those points of view being 'quality' and 'quantity'. Most useful things have more than one practical purpose. Take paper, for example. You can write on it. You can draw on it. You can fold it into all manner of things if you are proficient at origami. You can use it to help light fires. You can make papier mache from it. So, qualitatively speaking, a commodity often has multiple use-values, as many as the imagination can dream up and practical ability can realise. According to Marx, a commodity is "an assemblage of many properties, and may therefore be of use in various ways. To discover the various uses of things is therefore the work of history".

Now, earlier we saw how Marx considered commodities to have a use-value that was intrinsic to the thing itself, but not value unless work had been performed. "This property of a commodity", Marx informs us, "is independent of the amount of human labour required to appropriate its useful qualities". In other words, if there is gold to be found running through subterranean rocks, or if, as astronomers believe, some far-distant asteroids are made of pure diamond, such materials do have the intrinsic use-values such materials possess. However, most people would likely agree that if that use-value remains inaccessible, such as too deep in the earth to be dug up, or too far off in space to reach, you cannot therefore really get the use-value from it, and is therefore without value, just as if the use-value is too easily obtained its value will fall to something approaching zero. As Marx pointed out, "if we could succeed at a small expenditure of labour, in converting carbon into diamonds, their value might fall below that of bricks".

"Discovering the various use of things" is not the only duty of history. So, also, according to Marx, is "the establishment of socially-recognised standards of measure for the quantities of these useful objects. The diversity of these measures has its origin partly in the diverse nature of the objects to be measured, partly in convention".

Although Marx began by asserting that the discussion would begin with the analysis of a single commodity, within four paragraphs we can see him adopting a much wider

perspective. He tells us, “when treating of use-values, we always assume to be dealing with definite quantities, such as dozens of watches, yards of linen, or tons of iron…use-values only become a reality only by use or by consumption. They also constitute the substance of all wealth, whatever may be the social form of that wealth”.

We see, then, that although things have intrinsic use-values, their value is not therefore a determined, fixed thing. The value of a commodity is relative, and apt to change as circumstances alter.

Earlier, it was said that a thing does not qualify as a commodity if its use-value is directly accessible, but is the necessity to input labour the only defining feature of the commodity?

The answer is: No, there is something else that is required for something to become a commodity. As Marx explained, “whoever directly satisfies his wants with the produce of his own labour, creates, indeed, use-values, but not commodities. In order to produce the latter, he must not only produce use-values, but use-values for others, social use-values”.

Now, making ‘social use-values’ a defining characteristic of the commodity serves two useful purposes for Marx. Firstly, saying something has social use-value, ie, use-value for others, is just another way of saying such a thing can be exchanged. Is exchange material? No, it’s relational. As we shall see, any commodity has a value that can never be determined purely by examining its material properties, but which only ever manifests when such a thing goes through the movement of exchange. This aspect of a commodity is of particular importance because, as Marx said, “in the form of society we are about to consider [use-values] are, in addition, the material depositories of exchange value”.

Not only does exchange value help us move slightly away from a rigidly materialistic to a more flexibly relative reality, it also enables us to home in on that most important of things in the dialectical process, which is a contradiction.

How so? Well, think back to a point made earlier, about history being partly concerned with establishing “socially recognised standards of measure”. Put that way, it would appear that a commodity has one uniform value. Indeed, that does appear to be the case. After all, whenever we shop, purchasable items have only one price tag each, making it a simple matter to determine their worth.

But, at this early stage, Marx is not really concerned with the monetary price of commodities, but something more basic. He is contemplating what he took to be the most primitive form of exchange, which is barter or the direct exchange of one commodity for another.

Earlier, we saw that most commodities have multiple uses. It could also be said that any particular commodity has many exchange values. After all, what quantity of ‘commodity A’ would you consider a fair exchange for ‘Commodity B’ or ‘C’ etc? Obviously, it’s going to vary from one commodity to the next, and so it would appear that any particular commodity has no particular exchange value. And yet, a uniform exchange value is what society is at pains to establish.

As Marx said, “exchange value, at first sight, presents itself as a quantitative relation, as the proportion in which values in use of one sort or another are exchanged for those of another sort, a relation constantly changing with time and place. Hence exchange value appears to be something accidental and purely relative, and consequently an intrinsic value, ie, an exchange value that is inseparably connected with, inherent in commodities, seems a contradiction in terms”.

In other words, it would appear that any one commodity has no fixed exchange value, but rather exchange values that are all over the place. But, notice that Marx once again adopted that telling phrase, “presents itself”, thereby signalling to us that there’s something deeper going on under surface appearances.

What Marx then does, is to point out that a commodity can be exchanged for any other commodity, and that in order to know what exchange value a particular commodity has, you need to look at the commodity in this movement. What this movement tells us, is that there is a ratio of something in all commodities that makes them exchangeable. As Marx explained, “the proportions in which [any two commodities] are exchangeable, whatever those proportions may be, can always be represented by an equation in which a given quantity of [A] is equated to some quantity of [B]”.

Now, it’s typically the case that any fair exchange takes place among equivalents, and so if commodity A can be exchanged for commodity B, and we assume no cheating, we must therefore assume there is a sense in which these two commodities are ‘the same’. As Marx said, “the equation tells us that in two different things…there exists in equal quantities something common to both. These two things must therefore be equal to a third, which in itself is neither one nor the other”.

In other words, when considered in terms of exchange value, an act of abstraction can be performed in which commodity A turns out to be equivalent to any other commodity. The question then becomes, “what remains when this abstraction is carried out?”. What is this common property that can equalise commodities that, in qualitative terms, are so very different?

First off, Marx dispenses with the idea that this commonality has anything to do with the material properties of the commodity. The only thing such properties can affect is the use-value of the commodity. That is something you never want equalised, if the aim is to facilitate exchange, because there is no point in exchanging identical use-values. It’s better to just keep the use-value you had to begin with. This brings us back to the contradiction. Commodity A and commodity B must be different- in terms of use-value- if they are to be exchanged. But if they are exchangeable, then Commodity A must be equivalent to Commodity B. They must be different, while also being the same.

If we abstract away all physical properties of the commodity, what are we left with? We are left with the relational aspect of the commodity, and the one relational quality that all commodities share is that they are products of human labour. So, a certain quantity of commodity A is exchangeable for a certain quantity of any other commodity, because the same labour power was used to produce those quantities of those commodities.

In order to arrive at this conclusion, we have to carry out a further abstraction, only this time on the labour process itself. Let's say you go to a store and notice two items that have identical price tags- say, a vase and a pair of shoes, both priced at £99. Now, clearly, very different labour processes went into the creation of these two products. Exactly what sort of labour, under what sort of conditions, is not something you can see in either commodity as it sits there on the shelf. All you can tell, from the equivalent price tags, is that these two items are both representative of a process that is, in an abstract sense, the same. As Marx said, "a use-value, or useful article, therefore, has value only because human labour in the abstract has been embodied or materialised in it".

So, once again, in order to make different labour processes 'the same', we have to switch from thinking qualitatively to thinking quantitatively, and see that an equivalent amount of different labour processes went into these products. "How, then, is the magnitude to be measured? Plainly, by the quantity of the value-creating substance, the labour, contained in the article".

In order to carry out that measurement, you need some kind of standard unit of measurement for labour power, just as one would speak of 'X yards of yarn', "Y tonnes of coal' and 'Z pints of ale'. "The quantity of labour…is measured by the duration, and labour-time, in its turn finds its standards in weeks, days and hours".

This brings us back to the way in which the 'clock concept' of time is so important to the Capitalist mode of production. In order for such a mode of production to work properly, time must be structured to fit that purpose, and the most effective way is to divide time up into discrete units- quantities that can be measured and valued as one might measure and value liquids by pouring them into containers of standardised volume. Above all, an attitude that connects time to value needs to become part of mainstream thinking. Indeed, wherever the Capitalist mode of production prevails, it is commonly thought that "time equals money!".

In order tor all this to become clear, one cannot focus only on one particular commodity. Since we are obviously dealing with the relation a commodity has with all other commodities and also all the labour that went into their production, we're really talking about the whole world of commodities, which is a necessarily global perspective. When considering the standard of measurement for labour power, Marxist scholar David Harvey (b 1935) reminds us that "the perspective is not of particular labour at a specific time, but labour judged against the world of commodities".

So, any one commodity has the same exchange value as any other, if the same amount of labour power went into it. From this perspective, labour processes become objectified in the commodity.

But this does not sound like a particularly original insight. Rather, it sounds like the same old story put forward by the likes of John Locke, Adam Smith and David Ricardo, all of whom proposed a labour theory of value.

However, Marx did not merely incorporate a Ricardian labour theory into his work, but modified it in order to cancel out a trick profiteers might seek to exploit if we stick to the 'labour theory of value'. The thinking behind such a value theory is that the more labour goes

into a commodity, the more valuable that commodity becomes. Marx then points out that "some people might think that if the value of a commodity is determined by the quantity of labour spent on it, the more idle and unskillful the labour, the more valuable would his commodity be".

This is some perverse logic to be sure, but logical nevertheless. Skilful, competent workers tend to complete a job sooner than a lazy, incompetent workforce would, so if your aim is to maximise the exchange value of your product, wouldn't you do as Marx suggested, and ensure your workforce poured more labour into its completion, rather than less?

But, given the perspective we're now adopting (one of labour power in the abstract judged on a global perspective) that trick wouldn't work once the commodity goes to market. "The labour power, however, that forms the substance of value is homogenous labour power, expenditure of one uniform labour power…Each of these units is the same as any other, so far as it has the character of the average labour power of society, and takes effect as such; that is, so far as it requires for producing a commodity, no more time than is needed, on average, no more time than is socially necessary".

So, in the name of fairness, and in the interest of closing a loophole that would seem to allow cheats to prosper, we should update the labour theory of value and equate exchange value with 'socially-necessary labour power', or the amount of labour power required, on average, under normal conditions. Given those circumstances, "the value of a commodity would therefore remain constant, if the labour-time required for its production also remained constant".

Thing is, though, what would it take to ensure things do remain constant? If we are to have a standardised measurement of productivity, we need to know how, what and who determines this. But, as soon as we start to examine the "who, how and what" of productivity, it turns out that value is anything but constant. As Marx reminds us, labour time "changes with every variation in the productiveness of labour. This productiveness is determined by various circumstances".

Like what? Well, environmental factors for one. "The same amount of labour in favourable conditions is embodied in 8 bushels of corn, and in unfavourable only in four". Technological change is also a factor. "The introduction of power looms into England probably reduced by one-half the labour required to weave a given quantity of yarn into cloth. The hand-weavers, as a matter of fact, continued to require the same time as before, but for all that, the product of one hour of their labour represented after the change only half an hour's social labour, and consequently fell to one-half its former value".

The aptitude of the workforce is another factor, in particular how quickly it should take, on average, to gain competency, and the likelihood of the environment imposing conditions that affect productivity. For example, some environments favour viruses that 'want' people to be fit enough to work so they'll go to their jobs and cough all over their fellow workers. But other diseases are carried by insects and are better transmitted when the host is too weak to get out of bed. If your workforce has to operate somewhere that's uncomfortably hot, humid and infested with mosquitos carrying Malaria, that's obviously going to affect their labour power and, hence, the exchange value of commodities made in that region.

Given all these factors, it's fair to say that, while at this point we have begun to talk about constant value, determined by socially-necessary labour time, the truth is that value is not at all constant, but instead subject to change as a powerful array of forces come into effect. That's actually OK from a Marxist perspective, because value that is not constant but subject to dynamic change might be used for revolutionary purposes, if those revolutionary forces are applied properly.

We don't yet have the required understanding, though, not at this stage in Marx's material dialectic. But we can find the 'synthesis' that unifies a commodity that has been conceptually split between the 'thesis' of a use-value that, by definition, must be different to other use-values, and the 'antithesis' of an exchange value that must necessarily be the same. The 'synthesis' is found right at the end of section one. "Nothing can have value, without being an object of utility. If the thing is useless, so is the labour contained in it; the labour does not count as labour, and therefore creates no value".

How do you actually get the exchange value for a commodity? Well, obviously, you have to exchange it- or, to frame it in monetary terms, sell it. But no reasonable person would accept that commodity if it did not meet some human need, want or desire (or, perhaps we should say, if they did not imagine it would). Saying a commodity meets needs/wants/desires is just another way of saying that commodity has value.

We seem to have come full circle. We began by defining the commodity in terms of satisfying human wants/needs/desires, and now here we are tying everything back to value, which turns out to be all we're really talking about when it comes to wants/needs/desires. As David Harvey explained, "exchange value is a representation of value, aka 'socially-necessary labour time'. So, exchange value links back to use-value".

Now, earlier I said that if we examine 'the commodity', we find it is conceptually made up of use-value and exchange value. Put that way, it might seem like its made of two things, but actually the commodity is a singular thing with dual aspects. Since it is a singular thing, there's really no way to divide the commodity in two, making this half its use-value and that half its exchange value. You cannot do this, because the commodity is a unity, within which is a dual aspect.

This dual character- the commodity as both use-value and exchange value- does, on occasion, lead to conflict. Just as everyone knows the saying, "time is money", so too are they likely familiar with "you cannot have your cake and eat it". It's another way of saying you cannot have the use-value of something while, at the same time, getting the exchange value for it. Who would buy a cake that's already been consumed? If the buyer has the right to fully consume any commodity they bought in fair exchange, what does that mean when the commodity is labour power itself? That the worker can be worked until their capacity to work is utterly spent?

Well, we're getting ahead of ourselves here, leaping to concerns not tackled until chapters six and seven. This section is not really concerned with such matters. Rather, its purpose is to set up the commodity as something that represents socially-necessary labour, and that

the way to see this is not to think in terms of causes, but instead to subject the commodity to a relational analysis.

CHAPTER EIGHTEEN

In the previous chapter, we saw how Marx's examination of the commodity revealed it presented itself as a complex of two things, and that labour was connected to both aspects. In the following section, the focus turns to labour or, more precisely, labour-time. From the title of this section ('The Two-fold Character of the Labour Embodied in Commodities') we can see that Marx will argue that, just like the commodity, labour-time also has a twofold character.

Whereas the twofold nature of the commodity consisted of use-value and exchange-value, what we find on examining labour-time is that its two aspects are 'Concrete' Labour and 'Abstract' Labour. We will also see that this dual aspect has much the same contradiction as the commodity, in that it is both essential that labour comes in a variety of qualitatively different forms, but also necessary to be able to treat labour as being of one uniform type.

So, Marx starts off by thinking about labour in its 'concrete' form. When we consider labour from this perspective, it's obvious that there is a great deal of heterogeneity in how we go about producing the commodities we need/want/desire. It takes a world of different commodities to satisfy our varied demands, and producing such variety entails a diversity of production techniques.

Also, that diversity of production is an essential part of giving stuff the different use-values they must have if they are to function as commodities. Consider 'Commodity A' and 'Commodity B' again. As Marx tells us, "were these two objects not qualitatively different, not produced respectively by labour of different quality, they could not stand to each other in the relation of commodities [because] one use-value is not exchanged for another of the same kind".

We can see, then, that the division of labour is a necessary condition for the production of commodities. But does the converse relation also entail a necessary condition? In other words, is producing commodities something necessarily going on wherever we find divisions of labour?

Marx tells us the answer is 'no', and we can look to a very familiar form of division of labour to see why the converse relation is not a necessary condition. The form of division of labour I am referring to is the factory system, whereby the production line consists of many micro tasks that ultimately produce, say, a watch. Each worker performing his or her routine is clearly engaged in a project that has been divided up into specified forms of labour, but there is a crucial element missing, and so we cannot call this division of labour of a kind that produces commodities.

And the missing element is this: none of the operatives working in this factory system are exchanging their own commodities with each other. For example, the person who makes the 'hands' of a watch passes on the finished product to the person who attaches the hands to the watch's face. But since, in a factory system, the labourers making the various

components cannot call those components their own personal property, the division of labour going on here never involves individuals exchanging their commodities. The workers are part of a system that exists to make a commodity (the watch) but that commodity is not their property, because it belongs to the factory owner, as do all the materials and technologies used to make watches. So, the division of labour going on in a factory, being of a kind that does not entail private individuals exchanging their own commodities, therefore does not produce commodities (or rather, the end result is a commodity for the owner, but the process of assembling the watch does not entail an exchange of commodities).

It does, however, necessitate workers expending useful labour, and this is something that is essential for the production of use-values. Now, Marx goes on to define ‘useful labour’, and from this definition we can see that use-values of some sort or other have always been a necessary part of human society.

This is how Marx defines useful labour. “Productive activity of a definite kind and exercised with a definite aim”. One fact of life that’s glaringly obvious is that physical commodities require raw materials for their production. We have also seen how those raw materials rarely come in a form in which they are ready-made to be useful. Instead, some sort of preparation must be undertaken beforehand. Or, as Marx said, “every…element of material wealth that is not the spontaneous produce of nature, must invariably owe their existence to a special productive activity, exercised with a definitive aim, an activity that appropriates particular nature-given materials to particular human wants”.

Even if we restrict use-values only to basic needs, we are still dealing with raw materials that require consciously-directed activities. Most food, for example, cannot be consumed immediately but must go through some sort of preparation before it is safe to eat. The materials we make shelter from will almost certainly need to be cut, shaped, and perhaps put though processes that make it harder, or softer, before it can work as the use-value it’s intended to be.

In terms of use-value, then, the stuff we handle always has what Marx called a ‘Metabolic relation to nature’. By ‘metabolic relation’, he means the many ways in which we have to take natural materials and alter them to suit our purposes, such alterations always undertaken by activities that work within natural law.

Since this has always been an essential part of making use-values, it follows that ‘use-value’ is itself something of essentially two components- matter and labour. As Marx tells us, “if we take away the useful labour expanded upon them, a material substitution is always left, which is furnished by nature without the help of Man”.

So, all use-values, including those crystallised into commodities, contain ‘material wealth’ gifted by nature. Is ‘material wealth’ just another way of saying ‘value’? According to Marx, no it’s not. ‘Material wealth’ and ‘value’ are not one and the same. What ‘material wealth’ refers to is the total quantity of use-values that are available to us. According to Marx, “we see, then, that labour is not the only source of material wealth, or use-values produced by labour…Labour is its father and the earth is its mother”.

The earth us a dynamically changing system. Conditions can and do change, sometimes in ways that cause the value of use-values to vary. Circumstances may come about that make a particular use-value easier to execute, or which pile on considerable layers of complexity. Still, such changes are not much of a problem for use-values conceptually, because this always necessitates labour of specialised and varied forms.

Having examined labour-time in connection to the use-value in commodities, Marx next turns his attention to labour's connection to the value of commodities. In our examination of exchange values, we saw how we could ignore the qualitative differences between commodities and instead treat them as all the same. Here, we find Marx reminding us of this. "So far as they are values [commodity A and commodity B] are things of a like substance, objective expressions of essentially identical labour".

'Essentially identical labour'? Did we not already establish that labour had to be essentially different if it was to serve the purpose of creating commodities? Actually, no. That was only our purpose when looking at the commodity and labour-time from the perspective of creating use-value, but now it's value we are interested in.

Even in the case of use-values, it is often handy not to have qualitatively different forms of labour that are kept rigidly separate. As Marx reminds us, "there are states of society in which the same man does tailoring and weaving alternatively, in which case these two forms of labour are mere modifications of the labour of the same individual, and not the special and fixed functions of different persons". We can also see that, in any complex market, supply and demand may necessitate more labour going into commodity A at a certain time, whereas at others the same labour needs to switch to making commodity B. What makes labour flexible enough to be able to adapt and change in this way, Marx observed, was that the apparent complexity of skilled labour hides a fundamental simplicity. "Productive activity, if we leave out of sight its special form, viz, the useful character of the labour, is nothing but the expenditure of human labour power".

When Marx went from examining use-value to examining the exchange-value of commodities, he abstracted away all the particular ways in which commodities are to be differentiated, in order for those commodities to be treated as all 'the same', a necessary move when it comes to the aspect of exchange value. Now that the discussion has turned to labour's connection to value, a similar trick needs to be pulled off. For convenience's sake, we need to look at labour not as a bewildering variety of different skills, but rather as one simple standard of value. What Marx selects for this standard is 'simple, average labour'.

To see how he justifies this move, think of music. The world of music is one of dazzling variety and, in some cases, astonishing complexity. But underneath this apparent complexity there are building blocks that are simple: a limited number of notes, chords and scales. Just as music can be reduced to simple building blocks, so too can human labour. True, it may require thousands or millions of simple tasks to construct some products, whereas others would only need a handful. We would no doubt call the former 'complex' and the latter 'simple', just as a musical score of a great many chords and key changes is complex, and one of few notes is 'simple'. But in both cases it can be argued that this statement of Marx applies. "Skilled labour counts only as simple labour intensified, or rather, as multiplied

simple labour, a given quantity of skilled labour being considered equal to a greater quantity of simple labour".

The argument, then, is that it's possible to reduce even the most skilled and complex labour to simple, average labour. "For simplicity's sake", wrote Marx, "we shall henceforth account every kind of labour to be unskilled, simple labour; by this we do no more than save ourselves the trouble of making the reduction".

Treating the world of labour to this sort of abstraction has the same effect as it had on abstracting away the differences in the world of commodities. It allows us to switch perspectives, to stop seeing the qualitative differences and focus only on quantitative relationships.

As Marx explains, "as the use-values, coat and linen, are combinations of special productive activities with cloth and yarn, while the values, coat and linen, are, on the other hand, mere homogenous congelations of undifferentiated labour, so the labour embodied in these latter values [counts] only as being expenditure of human labour power".

What this means is that, when it comes to matters concerned with the value of commodities, all we need to care about is how much of that standardised measurement of value- average human labour- went into the production process. This gives us a way to balance out commodities of different values, which is achieved by selecting that range of quantities that contains the same amount of average, simplified labour. By way of example, Marx assumes that a coat is double the value of ten yards of linen, which is to say that it takes twice the average labour it takes to produce ten yards of linen in order to make one coat. Given this doubling of value, it's easy to see that 20 yards of linen is equal in value to one coat. Both contain equal amounts of simplified labour.

Normally, of course, market activity does not produce one item of any commodity but a great many. Viewed from the abstract perspective we're now adopting, we can see that the quantitative relationships inherent in value is dependent on human productivity. In what situation would two coats represent two days' labour, assuming Marx's values? The answer is, a situation in which the productive power of all the labour required to make the coat remains unchanged.

But what if something changes? Let's say circumstances come about that result in twice the amount of time being needed to make a coat. In that case, one coat would have the same value as two coats had before the change in circumstances. On the other hand, assuming the requisite time is halved, two coats would be available for the value of one.

Notice, however, that nothing else with regard to the coats has changed. One coat still only clothes one person, and the labours that went into its creation remains of equal quality in both cases. The only thing that changed is the quantity of labour spent on the coat's production.

In the scenario in which production time is halved, and two coats were therefore valued at the previous value of one coat, we see an increase in the quantity of use-values equating to a corresponding increase in material wealth. After all, two coats can protect double the

number of people one coat can. But, whereas material wealth doubled in quantity, this corresponded with a simultaneous fall in the magnitude of the value of each coat.

In other words, there is an antagonistic movement between material wealth and value. If conditions cause the former to increase, the latter will decrease, and vice versa. As Marx explained, once we have carried out the necessary abstractions and are ignoring use-values/ concrete labour, it turns out that “however then productive power may vary, the same labour, exercised during equal periods of time, yield equal amounts of value. But it will yield, during equal periods of time, different quantities of value in use; more, if the productive power rise, fewer, if it fall”.

Remember Marx’s point about diamonds falling in value if ever the technological means to create them out of abundantly-available carbon became available? Well, every now and then, diamond mining strikes a rich seam of the gems, and is therefore able to extract a greater quantity than is normally the case. That would correspond with a fall in the value of diamonds if this bulk ever made it to market, but those in the business of selling a gem as the ultimate precious commodity ensure its rarity and high value are retained. How? By burning the ‘excess’ diamonds in furnaces. As Marx tells us, “the same change in productive power, which increases the fruitfulness of labour, and, in consequence, the quantity of use-values produced by that labour, will diminish the total value of this increased quantity of use-values, provided such change shorten the total labour-time necessary for their production, and vice versa”.

Overall, then, what we learn from this section is that labour-time also has a two-fold character. Viewed abstractly, as average simple labour, it becomes the source of the varied exchange values of commodities. When viewed in its concrete form, it is use-value that is being produced. A greater increase of use-values will increase material wealth, since more people will be able to access the increased use-value, but the value per item will fall.

CHAPTER NINETEEN

In the next section, which deals with ‘The Form of Value or Exchange Value’, Marx introduces us to the idea that there is a riddle presented by money. But we are still not at a stage in our examination of commodities and values where we can talk about the money form. Marx’s way of getting us to ‘money’ and the riddle presented by it is to begin by specifying the nature of a problem. This problem is not one that is restricted only to money, but instead has something to do with value, which is the foundational concept in the argument Marx is putting forward.

What we find, as we follow this argument, is that value and the processes that create it seem to shift between ‘material’ and ‘immaterial’ forms. First of all, Marx reminds us that, for any object to be called a ‘commodity’, it is necessary for that object to be an object of utility and also a depository of value. How does the commodity require value? By having human labour power put into it, and by being recognised as a source of use-value.

Since it is human labour power that gives objects their value, it is tempting to believe that human labour itself must be value. But Marx tells us this is not correct. “Human labour power in motion, or human labour, creates value, but is not itself value”. The reason why it is not

value in and of itself is because, in order to be value, Marx supposes, there has to be a process of objectification going on in commodity production. Human labour “becomes value only in its congealed state, when embodied in the form of some object”.

Now, one might question the idea that value must always be “embodied in the form of some object”. After all, we now have a very large part of the economy- the financial sector- that trades in ‘commodities’ that are entirely immaterial. But, actually, Marx is not blind to this possibility, and will in fact approach the concept of trading immaterials later. We need to remember that we are not analysing an advanced capitalist economy here, but rather one where conditions are in place to allow Capitalism to get started. Even in our modern-day system, material needs do assert themselves. Trading algorithms run on physical calculating machines that consume power, and human employees need to be fed. In a more primitive mode of Capitalism, people were no doubt reminded of this necessary connection to material reality more often, because such realities presented themselves all the sooner.

Anyway, Marx takes it as given that human labour power must be materialised in some object for there to be value. Now, when we pick up that object, what value can we see, only by examining its physical shape and properties? Can we understand its use-value in this way? Sure. It’s nearly always the case that one can tell what purpose an object serves from an examination of its physical properties. Indeed, there’s an obvious incentive in signalling the utility of commodities, since they are by definition objects to be exchanged, and exchange is greatly facilitated when anyone can tell what use-value an object has.

What about a commodity’s value? Can this also be assessed in this way? Marx tells us no, because the very immateriality of value makes this an impossible task. “The value of commodities is the very opposite of the course materiality of their substance, not an atom of matter enters into its composition. Turn and examine a single commodity, by itself, as we will, yet in so far as it remains an object of value, it seems impossible to grasp it”.

What is the reason for this impossibility? Why should it be impossible to know the value of a single commodity, when knowing its use-value at a glance is not only possible but necessary?

The answer is that a ‘single commodity’ is a complete contradiction in terms. There can be no such thing because, in order for something to be a commodity it must have exchange value, and any particular commodity can only have exchange value when put in relation to other commodities. As Marx explained, “the value of commodities has a purely social reality…value can only manifest itself in the social relation of commodity to commodity”.

The ‘money form’, which we are working towards, is a more complex example of a value relation. What Marx sets out to do here is to seek the roots of this value relation; to determine its most basic form and unfold and expand the dialectical process from there. But what is this basic form?

Well, if value is necessarily relational, the simplest form would have to be the value relation a commodity has to another commodity. Which particular other commodity does not matter. We can select ‘Commodity B’ at random. Marx calls this the ‘Elementary’ or ‘Accidental’ form of value, which can either be expressed as “x commodity A= y commodity B” or “x

commodity A is worth y commodity B". Since Marx has already talked about yarn and cloth, he continues to use those as his example, giving us the expression, "20 yards of linen are worth one coat".

Now, what's going on here is that the abstract value of 'commodity A' (20 yards of linen) is to be measured against 'commodity B' (one coat) by treating 'commodity B' as the 'relative form'. Upon assigning commodity B to this role, commodity A becomes the 'equivalent' form of value.

Why, though, is this the elementary form of value? Is there not a still-simpler form, namely 'x commodity A = x commodity A'? The answer is no, because such an expression is not one of value but mere tautology. It merely tells us that "twenty yards of linen is twenty yards of linen". We can certainly see what quantity of use-value of linen we have here, but we have no means of ascertaining the value of that twenty yards of linen. As Marx says, "the value of the linen can therefore be expressed only relatively- ie, in some other commodity".

So, when it comes to value, x commodity A= y commodity B is indeed the most elementary form of value we can come up with.

It would appear, though, that we could just as legitimately run the expression the other way, giving us the expression 'y commodity B= x commodity A'. After all, if twenty yards of linen are worth one coat, one coat must be worth twenty yards of linen. Of course that's true, but in expressing this opposite relation, we must reverse the forms of value as well. In other words, whereas twenty yards of linen was the relative form of value, now it acts as the equivalent form, and vice versa for the coat. What you can never have is a single commodity assuming both forms of value, because, as Marx says, "the very polarity of these forms makes them mutually exclusive".

What this also means is that there is nothing intrinsic to 'commodity B' or 'commodity A' that makes it necessarily the 'relative form' or the 'equivalent form'. The role assumed depends only on whether the coat is the commodity whose value is being expressed, or if it is, instead, the commodity in which value is being expressed. That is to say, the form a commodity happens to take, depends only on its accidental position in the expression of value. Hence, the other name for the simplest expression of value, the 'Accidental Form'.

Having established what the elemental form of value is, Marx then subjects this form to further scrutiny, looking at the 'relative form of value' (concentrating first on the nature of the relative form, then looking at its quantitative determination) and then turning the spotlight on the relative form's polar opposite, the 'equivalent form'. Lastly, Marx considers 'the elementary form of value considered as a whole'.

Throughout the following sections, Marx takes us through that familiar story, whereby a particular commodity (gold or silver coinage) becomes the stand-in not just for a particular commodity but for all commodities. It becomes, in Marx's words, the 'Universal Equivalent'. Marx is reminding us that money was never 'invented'- nobody ever had the idea that commerce aught to be mediated by cash, credit cards or mobile payments. Instead, all it took for the 'money form' to emerge was for exchange to become generalised enough to be a normal social act.

This argument should sound familiar, since it is merely the familiar ‘mythstake’ of assuming money’s origins lay in barter. But, even though the past saw all sorts of currency systems other than exchange, and so from an historical perspective the “money evolved from barter” concept is very questionable, when read as a purely logical argument concerning the relation between the ‘money form’ and exchange, Marx has some useful things to say here. Basically, the argument can be read as saying it really doesn’t matter what sort of currency systems there once was. The imperatives of Capitalism will work to discipline currency systems to the relation of the commodity form to the money form.

By the time this disciplining has had its transformative effect on value, a number of contradictions will have arisen. Whether we are in the elementary form of value, or the money form, it remains the case that that which is used to represent the whole world of commodity production is, simultaneously, a particular commodity with peculiar issues surrounding its production. Marx assumed the commodity would be gold, leading to questions such as, “who are the producers of gold?”, “what sort of conditions do those extracting the gold and transforming it into coins work under?”, and “who ultimately controls all this?”. Such peculiarities in the nature of production of a particular commodity (such as gold) cause it to stand in tension with its role as universal equivalent.

Later, Marx points out that people of previous class epochs may have been able to go part way in identifying the equivalence principle in exchange, but the nature of their society prevented them from seeing how it connected to ‘the same’ value. By way of justifying this claim, Marx provides the example of one of the greatest philosophers, Aristotle.

Aristotle was able to see that the ‘money form’ was really only the simple or accidental form of value expanded from a relation of one commodity to one other, randomly-chosen commodity, to a relation of any one commodity to all other commodities. “Five beds equals one house is not to be distinguished from five beds equals so much money”.

Now, five beds and one house are clearly two very different use-values, and so for these two commodities to be ‘the same’, some equalisation has to take place. For, as Aristotle informed us, “exchange cannot take place without equality, and equality not without commensurability”.

But, at this point, Aristotle’s thinking hit an insurmountable obstacle. “It is, however, in reality, impossible that such unlike things can be commensurable”.

Unlike Marx, Aristotle simply could not see what made the five beds and the one house equal was the amount of labour that went into their production. The reason Marx was able to make that connection was because he lived in a class society in which the proletariat were ‘free’, in a manner of speaking. Aristotle, however, lived in a society that was founded on slavery, meaning inequality of people and of their labour-power was the fundamental assumption. And, as Marx tells us, “the secret of the expression of value…cannot be deciphered until the notion of human equality has already acquired the fixity of a popular prejudice”. But the popular prejudice in Aristotle’s lifetime was one of human inequality, and since the “secret of the expression of value” only reveals itself once people relate to each

other as free owners of commodities, he could not work out how two different use-values could be ‘the same’.

So, in conclusion, what we find in the first few sections is a logical argument in which the most elementary form of value (one commodity measured against another, chosen at random) can be easily expanded to an ‘expanded form of value’, in which one commodity is measured against many. True, there will be diversity of values because it necessitates different amounts of work to equal that required to produce ‘commodity A’, but since all those values are equal to the generalised labour put into ‘commodity A’, these values can be regarded as ‘the same’.

By the time one commodity has become the universal equivalent and, consequently, money is the expression of value, the internal oppositions between use-value (must be different) and value (must be the same) which is within every commodity, will have become expressed as an external opposition between two worlds, one of commodities and one of money. When reduced to their common values, all commodities and money are the same- one world. But now they have become separate to each other, and there is the possibility of them becoming antagonistic to each other.

CHAPTER TWENTY

In the next section (‘The Fetishism of Commodities and the Secret Thereof’) Marx expands on an idea that we previously touched upon, namely the idea that, beneath surface appearances there is a deeper reality.

Now, the idea that surface appearances hide a deeper reality implies that the latter is ‘real’, whereas the ‘surface appearance’ is but an illusion. We commonly think of an illusion as something that is not real. But this assumption does not really get to the truth of the matter.

Consider the following scenario. The weather is a combination of sunshine and rain. You have the sun behind you, and as you gaze into the distance you can clearly see a rainbow, its multi-coloured arches apparently touching the hills.

But what is really out there? If we mean what is physically there, that would include the rain, the sun and the hills. But it would not include the rainbow. This is because the rainbow is a visual illusion that, in and of itself, has no existence in the absence of minds like ours that apparently ‘see’ it. As we all know, you can never really walk to the spot where a rainbow seems to touch the ground, because it always appears to be the same distance from wherever you happen to be. It does not have a particular location in space like the hills do.

However, just because the rainbow is an illusion that is not physically out there like the hills are, that does not mean to say the rainbow is not real. What it means is that, in order to understand why that rainbow really is part of reality just as much as the rain or the hills, we need to look deeper than surface appearances. Rainbows are an inevitable result of the way lightwaves are affected by water drops and how our visual systems interpret such information. Given the right environmental conditions and the way our minds work, we have to see a rainbow along with other parts of the natural world such as the sky, the sun and the hills. The rainbow is an illusion, yes, but it is just as real as anything else we see. It’s just that

the true nature of that reality runs deeper than the surface appearance of a rainbow actually touching the hills.

Marx is not really interested in rainbows or other optical illusions. What interests Marx are certain forms of human behaviour that hide a deeper reality. Many a psychoanalyst would agree with the notion that the surface appearance of behaviour is concealing something else, and that while one should not disregard that surface behaviour because these are real actions and not just fantasy, we do need to deal with the underlying structure at the same time as recognising the realities of surface behaviours. In his analysis of the fetishism of commodities, Marx pioneered this psychoanalytic approach.

So, in this section, Marx focuses on how, when it comes to the way humans relate to commodities, surface appearances arise that hide a deeper reality. The result of this concealment is that commodities become ‘fetishised’.

But what is a fetish? To understand what that word means, we should return to Fuerbach’s criticism of religion. His criticism, recall, was that humans have unrealised perfection and that we project our unrealised perfection onto an imaginary supreme being, aka a ‘god’. This has the unfortunate result of distracting us from the practicalities of realising our own perfection.

Now, phrased in this way, it would seem that religious belief entails projecting perfection onto some abstract concept. This, however, is not quite what fetishism entails. Rather than getting the ‘fetish’ concept from Feurbach, Marx arrived at such a concept by adapting the ideas of Immanuel Kant (1724-1884). Kant also cast a critical eye over the way religion was practiced, distinguishing between ‘real’ religious thought, and ‘unreal’ (or ‘distorted’) religious thought. But, what did Kant take ‘real religious thought’ to consist of? Basically, it was a form of introspection whereby a person concerned themselves with the true nature of God, of humankind, and the relationship between them.

‘Distorted’ religious thought, on the other hand, entailed a form of projection. Not onto some abstract concept ala Feurbach, but onto man-made objects. The result of such projections is that quite ordinary objects become perceived as having magical, mystical qualities. Think, for example, of the effigies, idols and other iconography that the world’s religious people pray to, offer sacrifices to, perform rituals for, apparently convinced that the objects themselves contain some mysterious power. Kant saw such beliefs as being based on a spurious mysticism. Such objects became fetishes because people projected themselves onto a world of ordinary, man-made objects.

So, the ‘fetish’ concept is based on the idea that misguided human beliefs can make ordinary objects seem to be imbued with mysterious, magical properties. Marx believed something very similar happened when objects became commodities, because analysing ‘the commodity’ seems to show that ordinary objects are (in Marx’s words) “abounding in metaphysical subtleties and theological niceties”.

If commodities have this enigmatic character, where does it come from? Given what a commodity is, logically there can be two possible sources. It either comes from the use-value attached to the object, or from the exchange-value.

Marx starts off by looking into whether fetishism can be traced back to use-values. Clearly, unlocking the use-values inherent in materials does have a transformative effect. Once upon a time there was a tree growing somewhere, and some graphite buried somewhere. The graphite was mined, the tree was cut down, and various processes turned the tree into wood that was shaped, hollowed, filled with graphite and, Lo and behold, those materials became the pencil I used to write this sentence.

However, right away Marx dismisses the idea that such transformative effects are the source of the fetishism of commodities. “It is clear as noon-day, that man, by his industry, changes the forms of the materials furnished by nature, in such a way as to make them useful to him”. For as long as people have existed, we have been taking things from Nature, turning them into materials and then carrying out various alterations in order to produce the use-values we need. The wood that became my pencil might have become something else. But, however it was used, this point Marx raised would still apply. “The form of wood is altered…yet, for all that [the pencil] continues to be that common thing, wood…The mystical character of commodities does not originate, therefore, in their use-value”.

This is not all that surprising, given Marx’s previous findings with regard to what is- and what is not- a commodity. It was previously determined that the creation of use-values does not necessarily produce commodities, and it is only the enigmatic character of commodities that interests us here. You will recall that a use-value that is immediately consumed by its creators does not count as a commodity. Only use-values others access, via exchange, counts towards the transformation of objects into commodities.

So, having denied that fetishism is traceable to use-values, Marx turns to the social character of commodities to see if this is the source of that enigmatic quality. Whereas Marx immediately refuted the idea that use-values cause commodities to be fetishised, here he does the opposite, saying straight away that “whence, then, arises the enigmatic character of the product of labour, so soon as it assumes the form of commodities? Clearly from this form itself”.

For Marx, the fetishism of commodities arises from the way people relate to each other under Capitalism, which is not to be confused with how human relations aught to work. Recall that Marx asserted, “the human essence of nature exists only for social man…as his existence for others and their existence for him…The individual is the social being”. In other words, human beings really aught to relate to each other directly, but, under Capitalism, direct human-to-human contact is limited to relationships with very few people. As for the rest, what relationships there are come in the more indirect form of being mediated by the mechanisms of exchange. “The relation of the producers of the sum total of their own labour is presented to them as a social relation, existing not between themselves, but between the products of their labour”.

The Labour theory of value tells us that we are expressing a social relation whenever we ask why something should cost more, or cost less, than something else. After all, ‘Value’ is synonymous with ‘socially-necessary labour time’. Getting to the heart of why something costs what it does entails a detailed understanding not only of the factors that went into its own production, but also that of all other commodities. But when you try and retrace every

relationship involved in the production of any commodity, it always turns out to involve such a complex web of relationships that knowing the conditions of the labour of all the people who collectively produced that commodity becomes an impossible task. As David Harvey pointed out, “our real social connectivity to the world of social labour lies in millions of connections to faceless, nameless people who made the commodities we use”.

There is, remember, no such thing as a single commodity. There is only the world of commodities. Every commodity a person owns, therefore, represents a relationship between oneself and every other person who lives or has ever lived. However, in nearly all cases you’ll have had no direct contact with the people who contributed to the collective knowledge that went into producing the world of commodities. They are, as David Harvey put it, ‘faceless’ and ‘nameless’. We don’t feel like we have a real relationship with these people, because our interactions with them are far too indirect. What happens instead is that we adopt the simpler tactic of seeing ourselves as having a relationship with the commodity itself. Once we do that, something almost identical to Kant’s fetishism results, because we imagine commodities to have descended somewhere other than relations of production. “This”, wrote Marx, “is the reason why the products of labour becomes commodities, social things whose qualities are at the same time perceptible and imperceptible by the senses”.

Marx then makes a crude comparison to the way we cannot help by misinterpret visual information. Earlier, I said that we seem to see a rainbow out there, along with other parts of the environment, whenever conditions cause us to see rainbows. But the rainbow is not really ‘out there’. The hills, however, are. But, are they really ‘out there’ in the objective form of something existing outside of the mind? Certainly if you’re a materialist you would have to say they do exist independently of human minds in a sense. While rainbows can’t exist unless there are beings susceptible to the optical illusion that cases rainbows, hills obviously exist whether anyone sees them or not.

But, then again, what does it really mean to say “I see something”? Marx tells us what is actually going on with the act of seeing. It is “the subjective excitation of our optic nerve”. Lightwaves reflect off objects, and upon hitting our retina information from such electromagnetic waves is interpreted into a model in our heads of an environment that contains hills. But really it’s all inter subjective phenomenon existing only in our minds.

Marx then acknowledges that this comparison of seeming to see objects out in space with the fetishism of commodities is only a crude one, because of an obvious fact (to a materialist, that is). And the fact is this: There are physical objects out there that lightwaves are reflecting off. As Marx explained, “in the act of seeing there is, at all events, an actual passage of light from one thing to another, from the external object to the eye”. But, whereas when it comes to seeing there has to be a physical relation between physical things, the situation with commodities is quite different. Why? Because, certainly with respect to their exchange value, we do not have a physical connection to commodities, but rather a relational connection. “The existence of things qua commodities, and the value relation between the products of labour which stamps them as commodities, have absolutely no connection with their physical properties and with the material relations arising therefrom. There is a definite social relation between men, that assumes, in their eyes, the fantastic form of a relation between things”.

What can this ‘fantastic form’ possibly compare to? Well, we know the answer to that question already. It’s most comparable to Kant’s notion of the fetish. As Marx tells us, “In [the religious] world, the production of the human brain appear as independent beings endowed with life, and entering into relation both with one another and the human race. So it is with the world of commodities, with the products of men’s hands”.

In the case of commodities, fetishism happens because market systems hide so much of what goes on, and particularly so once the universal equivalent- money- is in ubiquitous use. The creation and exchange of commodities is a necessarily social act. That’s why it’s more appropriate to call it a ‘relational’ rather than a ‘material’ connection. But, even so, the direct connection, in most cases of the commodities we buy, are not between people, but between people and things. As a result, “the relations connecting the labour of one individual to the rest appear, not as the direct social relations between individuals at work, but as what they really are; material relations between persons and social relations between things”.

So, the fetishistic quality of the commodity is a result of the way capitalist markets socialise objects and objectify social beings. This latter point, in particular, links to another of Kant’s concepts, namely that of the ‘Categorical Imperative’. For Kant, an essential moral principle was that no rational being could be used as a means to an end, but had instead to be treated as ends in themselves. Kant applied this essential moral principle not only to one’s relation to others, but also one’s relation to oneself. From this perspective, suicide cannot be justified, because such an act entails using oneself as a means of achieving an end, and that is a direct violation of the categorical imperative.

It should be obvious, though, that, under Capitalism, people use each other as a means to an end all the time. The result, as mentioned earlier, is that people become objectified. This is noticeable in how people typically talk about their jobs. If you look at gravestones, you’ll typically find the deceased are remembered primarily in terms of what age they lived to and what familial connections they had. “Here lies Dorris Smith, died aged 86, much loved wife, grandmother, mother, aunty and sister”. What you typically don’t find is what jobs the deceased held when they were alive. Had they served in the armed forces, the memorial would probably tell you what rank they had risen to, but other than that no information about what jobs they did is given. In death, all that becomes irrelevant to a person’s significance as a social being.

This, of course, is in stark contrast to attitudes that would have prevailed when the deceased were alive. In that case, other than asking what their name is, just about everybody would consider “what do you do?”, to be the most important question to ask somebody. Furthermore, everybody knows this question is not an inquiry into what hobbies, interests or any activity outside of paid labour a human being can engage in. They just want to know what job you do.

Even more telling is the way people typically answer this question, which is to talk about their profession not in terms of an aspect of what they do in life, but rather as the totality of what they are. “I am an accountant”, as if this person were a machine built specifically to perform this one use-value, and has no purpose other than to perform this job. So, it’s not just that we objectify other people. In life, under Capitalism, we objectify ourselves and don’t find anything weird about it. It’s normal. After all, everyone does it.

This tendency towards self-objectification is all the more surprising when one recalls how the topic under discussion (what job a person does) is actually a deeply social role. Although we tend to talk about inventions as having been created by individuals, the truth, when you take into consideration the ready-made commodities that went into any invention, and all the pre-existing knowledge that was relied on in the R+D stage, that invention is not an individual but a necessarily social activity. This is even more the case when the invention becomes a mass-produced commodity. Thorstein Veblen's point about industry being a necessarily social process makes this clear.

Even more to the point, recall the modification that Marx felt the labour theory of value required, which was to calculate not just labour-time by socially-necessary labour time. Somehow, a role that under the Marxist lens looks deeply social has the paradoxical effect of turning social beings into objects of utility.

But, then again, we already covered how, under Capitalism, workplace rules and operations tend to be arranged such that individuals are reduced to interchangeable units. Such topsy-turvy results are ubiquitous in this bourgeois epoch we are living in. Consider this passage, from 'The Cancer Stage of Capitalism':

"Non-living corporations are conceived as human individuals. Desire to turn money into more money for unknown stockholders in nameless places is represented as personal production and service to fellow citizens. Consumers who are mass-conditioned under their conscious awareness are portrayed as freely choosing individuals. Continent-wide machine extractions of the world's natural resources, polluting mass-manufacturing and throwaway packages are imaged as home-spun products for the local community. Junk and unneeded commodities are made to appear as necessary for vital life as food to eat. Faceless corporate bureaucracies structured to avoid the liabilities of their stockholders are represented as intimate and caring family friends bearing the responsibility of the larger society".

Given all that, it's fair to say that we who are living through the bourgeois epoch find ourselves in schizophrenic times, where surface appearances hide a deeper reality. Because most people would likely reject the society lurking under surface appearances (who really wants to work to produce junk that pollutes environments, just so billionaires become even wealthier?), it's essential that the mechanisms that cause such effects remain hidden from view, and most people are conditioned not to want to look beyond surface appearance.

According to Marx, this need to hide things, to present them in ways contrary to their true purpose, goes right to the very value-structure that lies at the foundation of a Capitalist system. "Value…does not stalk about with a label describing what it is. It is value, rather, that converts every product into a social hieroglyphic. Later on, we try to decipher the hieroglyphic, to get behind the secret of our own social products, for to stamp an object of utilities as a value, is just as much a social product as language". This deciphering is by no means an easy task, because the fetishistic effects that create the topsy-turvy results prevalent in the bourgeois epoch have to muddy the waters, so to speak. After all, a system that wants to persist and expand, but would likely be rejected by the social beings it feeds off if its mechanisms were in clear view, obviously has many incentives to hide things, disguise things, and operate behind our backs.

Something else that Marx starts to talk about (and will do more so in the next chapter) is the way in which proportions of products get exchanged and, more importantly, how control over such a system should be prioritised. In other words, is it accurate to say we control this system, or is it rather the case that the system is controlling us? Given that human beings are endowed with conscious awareness and free will, whereas competitive market systems are utterly devoid of such things, it might seem obvious that we are the ones in charge. But, recall a point raised by John McMurty, which was "consumers…mass-conditioned under their conscious awareness are portrayed as freely-choosing individuals". Put that way, it looks very much like it's 'the system' that is in control of us, and not the other way around.

Indeed, the belief that this is so is an attitude that has been in place almost as long as the labour-theory of value. Adam Smith's notion of the 'invisible hand' pushes this perspective pretty strongly. 'The Market' is the controlling mechanism, and indeed works most effectively when we stop trying to assert control and impose plans, and instead surrender control and let it puppeteer us towards prosperity. Marx would have agreed that the Capitalist system seeks to puppeteer us, but disagreed that general prosperity resulted from the full development of such a system.

Such conclusions, however, really wait until much later. At this stage, Marx is mostly interested in the extent to which 'supply and demand' can explain the proportions of products being exchanged. "When these proportions have, by custom, attained a certain stability, they appear to result from the nature of the products, so that, for instance, one ton of iron and two ounces of gold appear as naturally to be of equal value as a pound of gold and a pound of iron, in spite of their different physical and chemical qualities, appear to be of equal weight".

Notice, though, that the phrase "appears to be" comes up more than once in this passage, indicating that Marx is keen to stress that things are really not how they appear to be. Marx's labour theory of value explains why not. Firstly, commodities are not 'naturally' of equal value, if by that we mean it is an intrinsic property of the objects themselves. Rather, they have value due to the fact that socially-necessary labour went into their production.

Secondly, real markets will inevitably encounter disturbances, and when these come along, 'supply and demand' works pretty well in explaining exchange values. A war, a drought, or something else that impacts on our ability to produce and distribute commodities will have an effect on prices. However, when things stabilise, when markets operate under ideal conditions without such disturbances, then in that case we must look for a regulatory principle deeper than 'supply and demand' or the 'invisible hand'. As David Harvey explained, that fundamental regulatory principle is "that of socially-necessary labour time, embodied in commodities, which establishes the average exchange ratio with other commodities".

So, what Marx does in this section is to investigate the ways in which classical political economy interpreted the surface appearance of the Capitalist system, and in so doing ended up bringing about fetishistic outcomes. In order to really understand the world we've built, one has to have a measure of distrust in the first principles of the current class epoch and the idea that reality can be understood if one builds a model from the ground up, based on such principles. A proper understanding requires a more empirical approach, peering

beneath the surface to see what is, and working backwards from there to where it all really came from.

What arises from such a perspective is an understanding that Capitalism, as with any class epoch, is not really ‘natural’, in the sense of some intrinsic part of reality that must necessarily be in all times and places. It is, instead, a social construct and, as such, can be deconstructed. Contradictions can be found that may enable revolutions if exploited properly.

But, it’s normally the case that those living in a particular class epoch, for the most part, don’t see it as a social construct at all, but as something ‘natural’. One sign of such an attitude is expressing the idea that the current way of life is valid in all times and places, even though such a belief is obviously absurd.

To highlight this absurdity, Marx turns to what was, in his day, a modern-day myth, namely Daniel Defoe’s (c. 1660-1731) story of Robinson Crusoe. Political economists saw this myth as an opportunity to speculate on how a rational being would behave, were they to find themselves in a situation bereft of the trappings of society. In other words, how would somebody behave in a ‘state of nature’? This is how Crusoe organises his life, according to Marx.

“Necessity itself compels him to apportion his time accurately between his different kinds of work. Whether one kind occupies a greater space in his general activity than another, depends on the differences, greater or lesser as the case may be, to be overcome in attaining the useful effect aimed at. This our friend Robinson soon learns by experience, and having rescued a watch, ledger and pen and ink from the wreck, commences, like a true-born Briton, to keep a set of books”.

In other words, Robinson feels that the most rational way to act, even when one is in a state of nature, is to regulate one’s life as a businessman would, reckoning time by the ‘clock concept’, and quantifying one’s activities via book-keeping. In some sense this is a rational way to behave, since that very term- ‘rational’- is related to ‘ratio’ or the comparison of different quantities of things.

But none of this is to say that a bourgeois existence really is the appropriate way to live in all times and places. As mentioned before, for most of human history people did not organise their existence via a concept of time as organised into discrete, quantifiable units. Nor did they live by the rules of a competitive, market economy, tracking their gains and losses in account books. Such ways of life are really only appropriate in the bourgeois epoch and Robinson, being as he is ruled by nothing except physical necessities, really has no reason to persist with ways of life befitting a businessman.

Even if he does insist on living his life like he is running a business, one thing Robinson cannot do is bring about the form of fetishism Marx associates with commodities. The reason why not is because he is alone on his island, and can only produce use-values consumed by him alone. The use-values his own hands create have no exchange-value because there’s nobody to exchange with.

In the film ‘Cast Away’, the protagonist, played by Tom Hanks (b. 1956), imagines he has a relationship with a ball that washed up on the beach, going as far as giving it a name and having imaginary conversations with it. This is a case of a social relationship between a person and a thing (or, more precisely, somebody personifying a thing and then forming a one-sided relationship around it) but it is not the fetishism Marx talked about, which has to do with commodities, or use-values that have value derived from socially-necessary labour as it exists under a capitalist mode of production. As Marx informs us, “the whole mystery of commodities, all the magic and necromancy that separates the products of labour as long as they take the form of commodities, vanishes, therefore, as soon as we come to other forms of production”.

Since the fetishism of commodities arises from Capitalist modes of production and no others, this is not something that can be attributed to class relations, but class relations peculiar to a capitalist class of production. Imagine if Robinson had not been a lonely man on some island, but rather somebody living in Feudal society. In that case, he would certainly be in a class society and therefore (by Marxist ways of thinking) in an environment in which people are divided between ‘Oppressor’ and ‘Oppressed’. But is there also the fetishism of commodities?

The answer is no, because, in order to bring about such a fetishism, there needs to be modes of production that entail impersonal dependence. But, what dominated under feudal society was personal dependence. Furthermore, class relations were a good deal less opaque compared to the way things work under Capitalism. The Fetishism we are talking about requires a good deal of opaqueness.

What do I mean when I say relationships were clearer under feudalism? Well, in any class society, whether the lower class are slaves, peasants or proletariat, it has to be the case that, unless your goals or so short-term or access to lower-class people is so readily available that you can just work your current workforce to death, at some point the workers have to work for themselves. After all, at the very least, they need to sustain their health, and so some of the means of production has to go towards putting food in workers’ bellies and roofs over their heads. This fact of life leads to the question: When am I working for myself, and when am I working for my oppressors?.

In Feudal society that was not hard to figure out. If you were working on the Lord’s estate, you were working exclusively for the lord. If you were working on your own land (more likely a strip of land rather than anything like an ‘estate’) or the commons, you were working for yourself and your family. A feudal peasant was well aware of how much time was devoted to working for his oppressor, and not for himself.

However, under Capitalist modes of production, where one is working for wages and profit in places of business, and any activity performed outside of such places (for instance, the home) which receives no paid compensation is not work by the ‘jobs equals work’ assumption, the question “when do I stop working for myself?” becomes far harder to answer.

Why? Because the answer is more theoretical, and no longer based on one’s location. At some point, a labourer in a Capitalist place of business switches from making value (some of

which will go towards providing their own needs) to making ‘surplus value’, or profit, which goes into the owner’s pocket. But, no worker really knows when that switch occurs, because there are so many ways to divide up a working day under a clock-concept of time. Maybe, this portion of the working day you labour for your own benefit, whereas in that portion you are working for the boss. Perhaps these hours go towards your wages, but those hours go towards the creation of surplus value, which won’t go into your pocket. Or, maybe, this minute you are working for yourself, while the next minute you’re working to produce profit appropriated by the owners. When time is portioned into seconds, minutes and hours, there are a staggering number of ways in which the working day might be portioned into “times when I no longer work for my own gain” and no way of knowing when that switch happens.

Under Feudalism, you could say “given where I am, I know who is going to benefit from this work”. Under Capitalist modes of production, that’s much harder to figure out, which is pretty convenient if your aim is to minimise the time workers labour for their own benefit, and to maximise the time in which they work exclusively for the benefit of their Oppressors.

So, the clock concept of time, so important to the capitalist mode of production, obscures the nature of the work being done. No doubt there are other layers of obscurity going on, because how else do you explain that curious attitude whereby it is assumed that a business’s founder (or the successor/s who took over the business) runs the entire operation and therefore deserves pretty much all the credit, whereas the workforce is comprised of nobodies to whom should be given the minimum possible credit, because they don’t really do anything important to its ongoing survival.

When put in such plain terms this summary of how businesses are run sounds absurd. Businesses are run collectively, not single-handily, a point referring us back to the fact that any individual can only contribute a tiny amount towards creating the products they own. If one person is incapable of doing all the work involved in, say, making a cup, then obviously no single person could do all the work required for a multi-national company to function. In fact, a moment’s common sense will tell you that 99.99% of the work necessary for the ongoing operation of Amazon, Tesla or Facebook is not undertaken by Geoff Bezos (b 1964) Elon Musk (b. 1971) or Mark Zuckerberg (b. 1984) but rather by the rest of those companies’ employees. But in the popular imagination capitalist societies promote, Geoff, Elon and Mark run everything, and their employees are just part of the system they command. They deserve no more credit than a propellor should be thanked for moving a ship through water. As for pay rises, well, unless you are at the ‘executive’ level, to seek higher wages is always condemned as greed that needs to be stamped out.

What’s needed to support strange beliefs like this are pretty much what results in commodities becoming fetishes. Productive operations need to be hidden away, blanketed by layers of obscurity, And productive relations need to be impersonal (what is it they say? “It’s not personal, its business”). We go to shops and supermarkets and the products are just there. Indeed, with the rise of Internet shopping, we need not even have that minimum social interaction between a customer and a shop assistant. A few taps on a screen, and the media streams to our smart TV or, some time later, a commodity just appears on our doorsteps. We have more of a relationship with the stuff we consume than with that faceless, nameless mass of humanity that was responsible for bringing it into existence and placing it in our hands. But, under feudal relations, social relations were far more personal. As Marx said,

“the social relations between individuals in the performance of their labour, appear at all events as their own mutual personal relations, and are not disguised under the shape of social relations between the products of labour”.

Now, we saw earlier how the idea of the fetish was adapted from Kant’s criticisms of distorted religious thought. But, is that where the relationship begins and ends? In other words, is the concept of the ‘fetish’ merely borrowed and adapted from religious worship of icons and effigies, or do Capitalist relations somehow transform religions, such that overtly religious symbolisms and beliefs get mixed up into one overarching economic and political structure?

Marx controversially argued that this is indeed what happens. He wrote, “for a society based upon the production of commodities, in which the producers in general enter into social relations with one another by treating their products as commodities and values, whereby they reduce their individual private labour to the standard of homogenous human labour, for such a society, Christianity with its cultus of abstract man, more especially, in its bourgeois developments, Protestantism, Deism &c, is the most fitting form of religion”.

Something that does seem to support this idea is the way Christian religious symbolism has been incorporated into the Capitalist system. We saw how Thomas Carlyle argued that what was needed for attitudes to adjust to conditions brought about by the Industrial Revolution was a ‘gospel of work’, and how Adam Smith’s notion of an ‘invisible hand’ guiding rational market decisions basically argued that a market god ensured anarchic competitive behaviour resulted in social harmony, just as the Christian God brought order to a chaotic universe.

One could go on. The Bank of England was built to look like a temple, fiat currency (the dominant form of money in use today) was named after ‘Fiat lux’ or “let there be light”, God’s first command in the Biblical creation story, and the dollar bill is full of religious symbolism, such as an all-seeing eye floating above a pyramid, and the words “in God we trust”.

Given that one can readily find examples of Christian religious symbolism blended with capitalist concerns, one might wonder why this idea of Marx is at all controversial. Don’t the examples just given prove that market exchange has had an impact on patterns of belief, ensuring religious beliefs move in parallel with the dominant economic and political structure?

One possible point of controversy is the suggestion that the Christian religion is readily suited to fit a Capitalist way of life. As we shall see in later volumes, Christianity was actually more aligned with communism and, far from fitting neatly into Capitalist concerns, actually opposed its most fundamental goal (the pursuit of profit) by condemning it as the sin of usury.

Then again, how far back do you need to go in order to reach a time in history when Christian attitudes were like that? This was the way things were in the Middle Ages, before Capitalism rose to dominance. Marx’s argument was not that the major religion comes ready-made to fit the dominant economic system, but that transformations occur such that the two ultimately move in parallel with each other. Capitalism is a totalising system that

seeks to commodify everything so a price tag can be slapped on it, and it seeks to change other systems, attitudes and beliefs so that they serve it rather than oppose it.

Put that way, it seems as if ‘Capitalism’ itself actively wants things to turn out this way, and is asserting its will on its human subjects in order to make it so. If that is what we believe, then Capitalism is itself a religion, whether or not it incorporates more familiar religions into its framework. A religion, after all, is not restricted to beliefs in a powerful, invisible man in the sky, but is rather based on faith in the concept of something greater, more transcendent, than ordinary human lives. In that case, grand social theories like Socialism and Capitalism are religious, particularly when we think of them in terms of higher powers that control us.

The truth is that grand social theories, like world religions, were created by us. Christianity and Capitalism only exist because, every day, we wake up and recreate them in our collective minds and by our collective actions. They are, in other words, intersubjective phenomena. But when beliefs are shared by billions of people, all of whom organise their lives as if such beliefs have independent existence, then it is almost the case that such beliefs do have independent existence. Certainly, they are independent of any individual or smaller group, who will invariably come under immense pressure to change their behaviours such that they, too, live as if the dominant religion/ economic system exists above and beyond collective imagination.

Also, it’s impossibly difficult to wrap one’s head around that dense web of a billion+ interactions, so for simplicity’s sake we think and speak of ‘Capitalism’ having ‘wants’, ‘drives’ and ‘goals’, thereby reducing all the world of human interactions down to one overarching economic ‘force’.

This sounds familiar. It’s the same reason why commodities become fetishised, why we conceive of having social relationships with objects and not with the millions of faceless, nameless people who worked to research, develop, produce and distribute them.

Indeed, both Marx’s analysis of the Robinson Crusoe myth, and his concept of the fetishism of commodities, are both reductionist arguments. Remember what Marx set out to do at the beginning of this chapter, which was to drill right down into the capitalist mode of production in order to find the fundamental building block of the capitalist mode of production, and expanding and unfolding things from there. From that beginning, he expanded on the labour process, the nature of that process, and how humans organise themselves to better fit this mode of production. But such modes of production can’t remain confined only to explicitly economic ‘concerns’. The unfolding, the expanding, continues, so that political systems, legal systems and belief systems become transformed. “In his reductionist approach”, wrote David Harvey, “he is explicit on how those belief patterns cannot be isolated from the nature of the political economic process which is being engaged”.

From a Marxist perspective, the most important lesson to learn from this analysis of ‘the commodity’, is that we are talking about an historical construct, something we made ourselves. Anything we ourselves made can be deconstructed and remade and reformed, or even replaced with something completely different. But, for most classical political economists of the time, the labour theory of value was no mere historical construct but rather social production in its most natural form. Humans can deconstruct and reform or transform

their own creations, be they products, systems or patterns of belief, but we cannot change the laws of nature. According to the prevailing classical political-economic attitude, man reduced to a state of nature still has to organise his life as would a business man, because there is no time and place where the market god does not impose its laws.

Marx was highly critical of beliefs like this. According to David Harvey, “this criticism of the classical economists was so devastating, in a sense it led to the abandonment of the labour theory. 19th century marginalists, faced with this kind of criticism [their way of dealing with it] was to junk it and develop a marginalist theory of value, which is a completely different value structure. The labour theory was pushed aside because Marx’s critique had made it impossible to retain that position without becoming Marxist”.

CHAPTER TWENTY-ONE

The whole of chapter one consisted of an analysis of the commodity. Starting by drilling right down to the defining features of ‘the commodity’, Marx identified a contradiction, whereby ‘the commodity’ wanted to differentiate itself from all other commodities, but simultaneously wanted to be the same as them. As the dialectic argument unfolded, we saw how social activity evolving around this core contradictory duality leads to commodities becoming fetishised, as if they possess magical qualities that bend people to commodities’ will.

If Fetishising commodities is to speak of them as if they have desires, drives and goals of their own, then in the first chapter of ‘Das Kapital’ Marx seems to be doing a considerable amount of fetishising himself. But, with the first sentence of the second chapter, Marx corrects this way of thinking, telling his readers that “it is plain that commodities cannot go to market and make exchanges on their own account”. In fact, chapter one was really only looking at a part of this ‘world of commodities’, in that it focused much more on commodities themselves. In this chapter, the focus turns to people, particularly the roles they play when it comes to the relationship between commodities and their owners.

People have minds and commodities do not. Given that fact, it should be obvious who has control over what. As Marx tells us, “commodities are things and therefore without power of resistance against man”. Well, actually they do have some sort of ‘power of resistance’. In order to get the use-value from an object, you might have to use considerable force, such as whacking things with hammers or blowing things up with explosives. If the commodity is obtained from an animal (meat springs readily to mind) you may well be confronting a sentient being that would strive mightily not to be turned from a living organism into commodities. In that case, violence must be inflicted on this being if the use-value one can extract from it can indeed be extracted. Under the rules of the capitalist mode of production, it is permissible to use whatever violence is needed to obtain use-value. “If they are wanting in docility, he can use force, in other words, he can take possession of them”.

The legitimacy of force only applies to getting at the use-value of something. We now know, however, that turning objects into use-values is not enough to make them commodities. Their exchange value must be realised, and while individuals can obtain use-values, exchange values are only ever realised by the social act of moving things around networks of people. Whereas the ‘rules’ of Capitalist production permit force and violence in order to obtain use-values, when it comes to exchange, the use of force is not permitted. You cannot

hit somebody over the head and take their stuff. Well, you can by the ‘laws of nature’ but by the rules of commercial markets, people “must behave in such a way that each does not appropriate the commodity of the other, and part with his own, except by means of an act done by mutual consent. They must, therefore, mutually recognise in each other the rights of private proprietors”.

Now, when we looked at use-values, we saw how it was both necessary and possible to reduce the complexity of real markets down to ‘average social labour’. Since people and the relationships they form are just as complex, if not more so, we must perform a simplification here as well.

The simplification Marx opts for, here and throughout the rest of ‘Das Kapital’, is to not really talk about people but rather characters who are personifications of social relations intrinsic to the Capitalist mode of production. “In the course of our investigations we shall find, in general, that the characters who appear on the economic stage are but the personifications of the economic relations that exist between them”.

In real life people adopt many different roles, some of which may well conflict with what would be preferential from a Capitalist point of view. But Marx is advising us to forget about all the ways in which people relate to each other, and focus only on the roles they can adopt when “on the economic stage”. What are those roles? ‘Buyers and Sellers’; ‘Capitalists’ and ‘Labourers’; the ‘Bourgeoisie’ and the ‘Proletariat’, things like that.

Whatever roles we choose to analyse, they have to fit into the following definition: we are always talking about individuals who own a commodity. It is their private property, and others can only obtain it through non-coercive trade. In other words, the act of exchange must always operate according to the legal and political framework required for commercial markets to function properly.

That does not mean to say, however, that such roles have to be written into law before such markets come into being. While real commercial markets have tended to be the creation of states, rather than emerging spontaneously from the actions of free individuals, Marx is not really analysing real markets here, but rather the sort of markets classical political economists thought would arise in the absence of state oversight. Marx goes along with this assumption. “This juridical relation, which thus expresses itself in a contract, whether such contract be part of a developed legal system or not, is a relation between two wills, and is but the reflux of the real economic relation between the two”. In other words, the characters in this grand drama of ‘Capitalism’ are only ever properly playing their roles when they act as if it is the law that individuals have private property relations over their commodities.

So then, no individual can be forced to part with a commodity, but must offer it for exchange via a decision they come to of their own free will. In what situation would somebody wish to part with a commodity? The most obvious requirement is that commodity x no longer has any immediate use-value for that person. If it did, they would not want to part with it. As for whoever takes on the role of ‘Buyer’, they would only buy ‘commodity x’ if it had a use-value they needed but did not have. So it is the lack of use-value (or, depending on what role you are adopting, a use-value that fills a lack) that determines whether or not exchange takes

place. As Marx puts it, “all commodities are non-use-values for their owners, and use-values for their non-owners: consequently, they must all change hands”.

Commodities, by definition, must be exchanged. And what does exchange do? It creates a movement that realises the value relation commodities have with each other, and hence realises their value. Since this is the act of exchange, “commodities must be realised as values before they can be realised as use-values”.

Then again, nobody would be willing to buy commodity x unless they could see it had a use-value. Commodities must therefore “show that they are use-values before they can be realised as values”. Hence, the necessity to incorporate ‘socially-necessary labour’. By Marx’s definition, ‘value’ and ‘socially-necessary labour’ are one and the same.

We have established, then, that every owner of a commodity wishes to part with it only when it no longer has immediate use-value, and to become the owner of a commodity only when its use-value is of immediate (or immanent) necessity. The act of exchange only ever happens when all characters on the market stage adopt such attitudes.

Marx then claims that, were we to look at the surface appearance of exchange, a contradiction would seem to present itself. Any one owner wishes to exchange their commodity with another that can satisfy a use-value they lack. “Exchange value is, for him, simply a private transaction”. But, then again, he is not interested in simply giving his own commodity away, but rather to exchange it in such a way that it realises its own value.

How is that value realised? Well, eventually, by a money relation whereby somebody else pays you what it’s worth. Or, in a barter scenario, where you exchange it for another commodity of equal value (because it contains the same amount of average labour). As ‘Buyer’, our character cares very much that the object obtained in this private transaction will have a use-value. But when he sells his commodity, exchange is for him “a social transaction of a general character”, and whether or not the other owner exchanging their commodity for his will actually get any use-value out of it, is a matter of complete indifference. As ‘Seller’, he is happy to be part of a social transaction that transfers no use-value to the other, but as ‘Buyer’ it is of utmost importance that this private transaction result in an exchange that gives him a definite use-value.

These, according to Marx, are the attitudes all characters adopt on the stage of market relations where exchange takes place. “But one and the same set of transactions cannot simultaneously be for all owners of commodities both exclusively private and exclusively social and general”.

We know by now that, whenever surface appearances seem to lead to contradiction, a deeper look shows how such contradictions might be overcome. In this case, we need to shift our focus from one that narrows in on the ‘individual’, to a much wider (indeed, global) outlook.

When we do that, we can see how, for every individual owner, the commodities others own all represent ‘particular equivalence’, in that they are all qualitatively different in terms of use-value, but quantitatively ‘the same’ in terms of exchange value. If all other commodities

are ‘particular equivalences’, then what relationship does the owner’s own commodity have? It is the ‘universal equivalent’ for all the other commodities.

But this is not just the belief of one person, but of everybody. Since this is so, we see that, while for every individual there is always a ‘universal equivalent’ (the commodity they wish to sell), when looked at on a global perspective there is in fact no single commodity acting as the universal equivalent. What is preventing the evolution of a ‘universal equivalent’ is that fact that, at this stage, we’re not really talking about commodities, because something crucial is missing, that something being “a general form under which [objects] can be equated as values and have the magnitude of their values compared”. So, what we’re really talking about are products or use-values. Only when that ‘general form’ becomes widely adopted will products have exchange value, and hence become genuine commodities.

How can that come about? Well, certainly no individual can achieve it, for it is necessarily a collective act. Owners, Marx tells us, “cannot bring their commodities into relation as values, and therefore, as commodities, except by comparing them with some other commodity as the universal equivalent…But a particular commodity cannot become the universal equivalent except by a social act: the social action therefore of all other commodities, sets apart the particular commodity in which they all represent their values”.

The way Marx sees this unfolding is a story that is familiar by now. It is the ‘mythstake’ of barter. In Marx’s version, certain conditions have to be met before the process by which a commodity crystallises into the money form can get going. Individuals need to think of objects as alienable things. That is to say they are things that can be freely disposed of, as they are not a part of one’s being.

Now, it’s fair to say that, in all human societies, people have worked to access and utilise use-values. But, the process that leads to the money-form crystallising out can only begin once exchange becomes reciprocal. “In order that this alienation may be reciprocal, it is only necessary for men, by a tacit understanding, to treat each other as private owners of those alienable objects, and by implication of these independent objects”.

This means the process could not have begun so long as people lived under those conditions Marx called ‘primitive communism’, because under such arrangements there was no private property, but rather property held in common. Still, it was not the case that all people were united into one communist club, but rather that there were many different bands and tribes.

For Marx, the process really begins when necessity imposes nomadic lifestyles on tribes and, during their wandering, they encounter other tribes. “The exchange of commodities, therefore, first begins on the boundaries of such communities, at their points of contact with other, similar communities”.

This makes sense. We saw, when deconstructing the barter myth, how any community based on long-standing relationships, where everybody knows everybody else, would have no occasion to rely on barter. Credit systems will work just fine. But, when such tribes encounter other people who are strangers, and ongoing relationships are not given time to develop, something like barter becomes the more viable option. “Nomad races are the first to

develop the money form, because all their worldly goods consist of moveable objects and are therefore directly alienable, and because their mode of life, by continually bringing them into contact with foreign communities, solicits the exchange of products".

Now, the key phrase there is "continually bringing them into contact". The exchange of commodities needs to happen often enough to become a normal social act. Before that was the case, nomad tribes would have focused on producing use-values that happened to be alienable, because they were portable. But they would not have thought to make commodities expressly for purposes of exchange. But, as exchange among strangers happens more regularly, "some portion at least of the products of labour must be produced with a special view to exchange".

This is where money begins to crystallise out, as a process of separation gets underway. "The distinction becomes firmly established, between the utility of an object for the purposes of consumption, and its utility for the purpose of exchange". We have already seen how exchange only occurs between things that are 'the same' in some sense. Which, in the case of commodities, means they have equivalent amounts of average-socially-necessary labour. "The quantitative proportions in which the articles are exchangeable becomes dependent on their production itself. Custom stamps them as values with definite magnitudes".

The more concerned people become to find a commodity that best serves the purpose of representing the average socially-necessary labour that gives commodities their equivalent exchange values, the more the money form crystallises out. Exchange value "in turns and transiently attaches itself first to this and then that commodity. But with the development of exchange it fixes itself firmly and exclusively to particular sorts of commodities, and becomes crystallised by assuming the money form".

In other words, we progress from value in its 'accidental form', in which any one commodity is randomly compared to another (for example, '20 yards of linen are worth 1 coat'), to the 'total' or 'extended' form of value, whereby a commodity is expressed not in one particular but many particulars ('20 yards of linen equals 1 coat, or 10lb tea, or 2 ounces of gold, and on and on and on) and, eventually, value in its 'general form', whereby the exchange value of all commodities becomes expressed, by social convention, in the same commodity (1 coat/10lbs tea/ 2 ounces of gold= 20 yards of linen).

Once the 'general form' of value is in place, the search for that one commodity that best represents exchange value begins in earnest. Out of all the commodities mentioned above, the intrinsic properties of one in particular singles it out as especially appropriate. "In proportion as exchange bursts its local bonds, and the value of commodities more and more expands into an embodiment of human labour in the abstract, in the same proportion the character of money attaches itself to commodities that are by nature fitted to perform the social function of a universal equivalent. Those commodities are the precious metals".

Gold (or silver) is precious, gold is universally coveted, gold is divisible, gold can be turned into coins that are 'fungible', which is to say everybody agrees that this coin stamped with the value of £1 is 'the same' as any other coin so stamped. We have arrived, finally, at the 'money form' (20 yards of linen/ 10lbs tea/1 coat= 2 ounces of gold).

Now, if you follow this development the way Marx presents it, you see why gold becomes money. It is because all other commodities express their value in it. But, while this is what actually happens, it is not what appears to happen. What appears to happen is pretty much the mirror image of the actual process, i.e, “all other commodities universally express their values in gold, because it is money”. Once that belief becomes commonplace, the commodity that becomes money by universal agreement can be imagined to be money ‘by nature’, and not because social convention separated it out from other commodities to serve this purpose. This sets us on the road to the fetishism of commodities. “The intermediate steps of the process vanish in the result and leave no trace behind. Commodities find their own value already completely represented, without its initiative on their part, in another commodity existing in company with them. These objects, gold and silver, just as they come out of the bowels of the earth, are forthwith the direct incarnation of all human labour. Hence the magic of money”.

Now, throughout this analysis of how the money form separates from the world of commodities, we have focused on physical objects that are literally passed from one person to another. However, if you think about all the private property for sale under a Capitalist economy, it’s pretty obvious that the world of commodity exchange need not be restricted to physical, portable stuff.

Take ‘Land’ for example. Obviously, nobody can possibly carry around 100 acres of land and physically hand it over to somebody else. But what they can do is transfer ‘property rights’ by writing up some kind of contract that, once exchanged, means person B is now the owner of that land once owned by person A. So long as most people agree to act as if person A is indeed the rightful owner of that land, and can pass such rights to a third party, intersubjectivity makes it so. Possibly, legal arrangements that legitimate the use of force upon minorities that don’t recognise such rights (“to hell with your fences, I roam wherever I please”) may be put in place, and indeed today there is a vast bureaucracy in place that will surely leap into action to punish those who violate private property laws, but it’s always really that tacit agreement to act as though property rights exist, that make it so.

In some sense, they do exist- in the collective mind. Minds cannot transfer physical objects between themselves, but they can transfer intangibles like concepts and symbols. This opens up the possibility of exchanging, or buying and selling, ‘commodities’ that are entirely non-physical. One can sell ‘hope’, ‘experiences’, ‘sexual magnetism’, ‘respect’. So long as a price-tag can be put on something, whether that something is a tangible object or not, it becomes a commodity, as sellable as houses or flapjacks. Indeed, whole sectors of a capitalist economy can arise that don’t really sell anything physical. The ‘financial sector’ springs readily to mind.

According to Marx, the possibility for economies to develop into ways of exchanging intangibles is there from the moment we conceive of such a thing as ‘the commodity’. This is because commodities are, by definition, symbolic of labour content. So, strictly speaking, we are not talking about economies that become symbolic as value takes on more abstract forms. We were dealing with symbolic economies all along.

However, Marx also warns that we have to be careful not to let value detach itself from the real world and float off into total abstraction. “The fact that money can, in certain functions,

be reduced by mere symbols of itself, gives rise to the other mistaken assumption, that it is itself a mere symbolism".

Marx was writing during a period in which convention held that 'real money' was gold or silver coins. However, in following the evolution of debt, we shall see that 'money' cycles between an intangible 'credit' form, and a tangible 'bullion' form. So, in some sense, Marx is wrong. 'Money' is not gold or silver coins but a mere abstraction, a way of measuring and comparing relative values. However, Marx is right to say it is unwise to let money float off into total abstraction, separate from any real, tangible human need. Such total abstraction leads to speculative bubbles and spectacular crashes. Money needs to be rooted in a genuine value theory, which, for Marx, is the labour theory of value.

In these sections, focusing on 'the commodity', Marx is showing how such a concept comes about and how human relationships are affected. But, he is also doing something else, and that is building up a case for how the dialectical process will, and will not, play out.

Where the 'case against' is concerned, Marx is going after two kinds of Utopianists who existed during his time. One such group were the anarchists/ socialists. Thinkers like Proudhon put forward visions in which bourgeois notions of justice and labour and labour input would be the basis for societies that were a radical departure from Capitalism. According to David Harvey, "Marx thought this was ridiculous, because all you were doing was taking the pure form of bourgeois consciousness and saying, 'this is the way to escape from bourgeois consciousness'". For Marx, the only viable vision was one that showed how the bourgeois epoch would collapse under the weight of contradictions, but the grand synthesis of this material dialectic would enable radically new value theories that complemented humankind's species-being rather than alienated us from it.

But, was the collapse of the bourgeois epoch really necessary? Did it stand in the way of us being able to realise our self-actualisation, or was it, in fact, the right route to take if you wanted to achieve the best possible outcome? The classical political economists assumed the latter possibility was the correct one. Utopia would be achieved by Capitalism.

Take Adam Smith's vision, for example. Smith admitted that people pursuing material advantage via whatever method they could get away with would not consist only of people doing positive, altruistic things. Some would be bad, selfish, greedy, running scams and frauds and all manner of activities that exploit human weaknesses rather than appeal to our best qualities. But, this mixture of good and bad actors would not matter, for the outcome of this struggle for profit via any way that works would turn out to be beneficial for all. Or rather, it would if only 'the market' could function in as 'free' a state as possible, which basically meant minimising 'the state' and monopoly control. If only autonomous individuals could collaborate and compete under such conditions, then the 'invisible hand' would guide us to paradise.

How might one criticise this idea of an anarchic bourgeois system resulting in a social order that is both incredibly dynamic and socially just? One way might be to just deny that such a 'free market' is even possible to begin with, because monopolies will always exist in competitive markets, and there will always be state interference.

Alternatively (and this is the tactic Marx adopted for ‘Das Kapital’) you can say, “I will accept that your initial conditions can exist. I will accept that there could be a ‘free market’ in which autonomous individuals operate without state interference or monopoly control. However, the end result would not be as you imagine. Far from everything turning out great, thanks to the ‘invisible hand’, the ‘coercive laws of competition’ would lead to ever-greater levels of social inequality, greater degrees of social injustice, and greater destruction of environmental qualities and labour qualities. In short, far from benefitting us all, it will greatly concentrate wealth into the hands of the bourgeoisie, and screw the workers”.

Speculations and what-ifs are all very well, but it would be much more useful to have a real-world case where a ‘free market’ experiment was actually run. It so happens that we do have such an example. It’s Russia.

Now, in the popular imagination, ‘Russia’ (or, even more so, the Soviet Union) represents a stark warning for those attracted by the lure of Communism. This, after all, is a place where a revolution toppled the old ruling classes and replaced the old order with a proletariat dictatorship whose ultimate aim was to bring about the full flourishing of Communism. But, that’s not how things turned out. Instead, the communist experiment led to tyranny under Josef Stalin (1879-1953). It led, not to greater freedom, but to the Gulag, and famines that led to tens of millions of human deaths.

However, the period we’re going to focus on is the early 90s, after the Soviet Union was dissolved and Boris Yeltsin (1931-2007) became the Russian president. In 1992 the ‘Freedom Support Act’ was passed by the American government, the aim of which was to help Russia reconstruct itself. The Americans sent two things: Millions of dollars of aid and a group of advisers, economists and political theorists, all led by a Harvard economist called Henry Sachs. When they arrived in Russia, this group allied itself with a group around Yeltsin who were radical free-marketeers, and together they implemented a plan.

Fundamental to this plan was an idea, one known as ‘Negative Liberty’. It held that people were rational, calculating individuals. Once freed from coercion by elites or tyrants, such individuals, seeking only their own desires and advantages, would bring about a new kind of democracy and order. In this brave new world, nobody would want or need to look to politics, because the market would provide everything people needed to live happy, prosperous lives.

‘Negative Liberty’ may have been the underlying theory, but the plan that was implemented was called ‘Shock Therapy’, which basically involved freeing the Russian economy of state control. State industries were privatised, and vouchers were printed and given to the people. With these vouchers, they could buy shares in those newly privatised businesses, giving them a slice of the capitalist cake. Also, ‘shock therapy’ removed all price subsidies. It was, in short, the realisation of Adam Smith’s free market.

So, how did things turn out? With all price controls removed, the cost of all goods skyrocketed. This led to a situation in which millions found themselves unable to afford even basic goods. Since there was no state support they could turn to, the only option remaining for these people was to go out onto the streets and sell their belongings for whatever they could get.

But, why could they not go and get jobs? Well, they did, but the sudden removal of all price controls soon spread, lowering the value of the currency to zero. That meant that businesses no longer had any money with which to pay wages. Instead what they did was to ‘pay’ workers in the products they made, which the people then had to exchange for necessities (those believing in a certain Mythstake would no doubt say the free market had resulted in people ‘reverting to barter’).

But what about those vouchers? Being in possession of such things made people targets for ruthless businessmen. They knew the people were desperate for cash, and so it was pretty easy for these unscrupulous types to get the people to sell those vouchers for a fraction of their worth. Having got their hands on all those vouchers, this group had the means to become the owners of vast sections of Russian industry. Whereas the free market had plunged most Russians into poverty and the need to barter their possessions for a bite to eat, the wealth of this small group of gangster-businessmen soared. They became known as the ‘Oligarchs’.

When the reality of what the free market led to reached the attention of the Russian government, deputies in the Russian parliament came up with a very telling phrase. They called the situation ‘economic genocide’. Not that this led to the end of ‘shock therapy’. Instead what happened was a group of reformers around Yeltsin persuaded him that the only option was to suspend parliament. The ‘Shock Therapy’ experiment continued, but in the future, the Russian people would not be made free through the rational decisions of individuals, but rather through force and dictatorship.

As for Yeltsin himself, by now he was really president in name only. The real power had transferred to the oligarchs, who had no trouble in turning Yeltsin into their puppet. They agreed to provide the Russian government with loans, but in return they persuaded Yeltsin to sell them the rest of Russian industry, sometimes at less than 2 percent of its real value.

‘Shock Therapy’ continued until 1998, whereupon the experiment came to a dramatic end. Freeing the market from government control and oversight had led to economic catastrophe (from the perspective of the majority of Russians) and concentrations of wealth/power for a tiny minority (the Oligarchs). It was, in other words, pretty much the results predicted by Marx. Shock Therapy did result in a new order emerging, but it was not the rosy picture of individual freedom painted by Adam Smith and imagined by Free Marketeers ever since.

Instead, the people were shown just how limiting an idea ‘negative liberty’ really was. It had only led to enormous concentrations of wealth, making a few staggeringly rich and the many plunged into a destitution they found almost impossible to climb out of, regardless of how hard they worked.

Then, another president came along, and rather than offer the people the ‘freedom of the market’, he instead offered them security, dignity, and most of all meaning that transcended people’s ordinary lives. Having had their fill of what a free market really leads to, and now craving order rather than ‘freedom’, the Russian people went along with their new president as he again reconstructed Russian society. The spontaneous order that free market utopians dreamed of was thrown out, and in its place was put the opposite- a harsh, tough nationalism. The name of this President? One many people in other countries of the former

Soviet Union, not least Ukraine, no doubt wish they had never heard of- Vladimir Putin (b. 1952)

Meanwhile, quite a few oligarchs and billionaires in other countries have started to build luxury survival shelters for themselves, where, they presumably hope, they can retreat to when the cancerous economic/political system they championed causes such environmental collapse and social unrest that retreat to private islands and penthouse apartments in luxury skyscrapers will not offer sufficient refuge from the negative externalities caused by a system always called an ‘economy’ but which is, in actual fact, anti-economic on the systems level.

CHAPTER TWENTY-TWO

By the end of chapter two, Marx had shown us how human activity involved in barter exchanges should logically lead to the money form crystallising out.

However, that does not mean to say that the second chapter culminates with the development of anything we would easily recognise as ‘money’. Instead of imagining paper currency or metallic coins, the most appropriate image would be a set of scales upon which sits a certain weight of precious metal. In chapter three, Marx outlines the ways in which this sort of ‘money-commodity’ (i.e, money as a weight of precious metal) could transform into ‘universal money’, or money in the familiar form of hard cash.

Whether it is a pile of gold dust, a silver coin or a dollar bill, money is defined less by its physical attributes and more by what it does. This is why this chapter has the heading, ‘Money, or the Circulation of Commodities’. We are again reminded that, however convenient it may be to represent ‘money’ in physical form, ultimately it is an abstraction facilitating the exchange of commodities. Money arises out of this ‘circulation of commodities’, hence it is sometimes thought of as the lifeblood of the market.

So far, the defining purpose of this money-commodity seems fairly straightforward. It is a means of circulation. However, upon subjecting the money-commodity to further analysis, Marx shows how a familiar problem raises its head. Just as ‘the commodity’ seemed simple at first glance but was then shown to have a duality of seemingly incompatible functions (that incompatibility later to be reconciled via ‘exchange value’ aka the measure of socially-necessary labour) Marx now intends to show that the money-commodity, that physical representation of exchange-value, likewise contains a duality.

Anyone inquiring into the work that commodity-money is supposed to do will invariably discover that it has many functions to perform. As well as being ‘the means of circulation’, money also serves as a ‘measure of values’ and thirdly, as a ‘store of value’. The thing is, though, are these various functions completely harmonious, happily working together? It turns out that the answer is “no”. Instead, these functions are somewhat incompatible with one another. So, just as was the case with ‘the commodity’, a deep dive into ‘commodity-money’ reveals contradictions.

Now, in the first section of chapter three, Marx does not talk much about money’s function as a store of value. Instead, he focuses on the duality caused by money having to serve both as a means of circulation and as a measure of value. In section one, his attention is mainly

focused on commodity-money's function as 'the measure of values', and the complications associated with that. In the second section, the focus turns to 'means of circulation' and its associated complications. As well as analysing these functions and their complications, Marx attempts to retread the historical developments that arose as people tried to reconcile these somewhat incompatible functions, and in so doing caused commodity-money to evolve into 'universal money' which, like exchange-value, internalises a contradiction.

As ever, Marx not only narrows his focus so as to concentrate on one or two aspects of a multi-functionary concept, he also looks for a way in which the aspect currently under focus can be reasonably simplified. Thus, chapter three begins with the following qualification. "I assume, for the sake of simplicity, gold as the money-commodity". Reality, as ever, is a great deal more messy and complex, with many kinds of commodity-money in use. However, Marx asserts that, of all the functions money-commodity has to perform, one is of particular importance and should be thought of as its chief function. "The first chief function of money is to supply commodities with the material for the expression of their values, or to represent their values as magnitudes of the same denomination, qualitatively equal and quantitatively compared". All of which is really just a cumbersome way of saying that money's chief function is to serve as the universal measure of value, to be as ideal a physical representation of 'exchange value' as possible. We have already seen how gold, by virtue of its properties and cultural history, should become the equivalent commodity universally agreed as acceptable in exchange. And so, "by virtue of this function does gold, the equivalent commodity par excellence, become money".

It would be wrong, however, to suppose that gold is best-placed to serve as money, mostly because of its physical properties. Rather, as Marx immediately goes on to say, it is primarily relational, not material, concerns that single out gold as the ideal commodity-money. This is because what we are talking about here is a form of appearance that is socially necessary. After all, what money is doing, as the 'measure of value', is quantifying and comparing that universal value that all commodities, by definition, have. Namely, 'socially-necessary labour time'. "Money as a measure of value, is the phenomenal form that must of necessity be assumed by that measure of value which is imminent in commodities, labour time".

In fact, we could go further, and say that this is not just a relation, but rather an interrelation between the world of commodities and the socially-necessary labour time they must embody, and the socially-necessary labour time, which is embodied in the gold.

OK. So we have our hypothetical scales, on one side of which sits 20 yards of linen. It has to be a hypothetical set of scales, because we're not interested in comparing weights. Not all commodities are worth their weight in gold! Instead, these scales measure 'exchange value', meaning they balance once the other side contains gold that embodies an equal amount of 'socially-necessary labour'. Once the scales balance, we have a price agreeable to both buyer and seller. "The expression of the value of a commodity in gold- x commodity A= y commodity B - is the money form or price. A single equation, such as 1 ton of iron= 2 ounces of gold, is now sufficient to express the value of the iron in a socially-valid manner". Not only that iron, but any commodity embodying the same amount of socially-necessary labour time, as embodied in two ounces of gold, balances the scales.

This, however, would appear to cause difficulties when it is gold that is placed on both ends of the scale. On one hand, that's fair enough. After all, gold is as much a particular commodity as linen, tea, a coat, or any other material for sale. But, when placed in our hypothetical scales, what we end up with is less a measure of value and more of a mere tautology. "Two ounces of gold is two ounces of gold". People would very likely exchange commodities of 'the same' exchange value if they differ in terms of use-value. But, since two ounces of gold is indistinguishable, in utility terms, from gold of an equivalent weight, there is no point in exchanging two ounces of gold for two ounces of gold.

So what we have here is the first real hint as to why endless growth is a fundamental feature of Capitalism. In a market economy you can find two kinds of buyers and sellers. There are those who exchange commodities via money, and there are those who circulate commodities in order to get money. For reasons outlined above, this latter group have no interest in throwing a specific amount of money into circulation, only to get that same amount back (and they obviously have no interest in ending up with less money than was put into circulation!) It only makes sense for this group to seek profit, to draw more money out than was put in. In other words, this group do not want the scales to balance, but to tip in their favour.

Something else Marx brings to our attention is that gold, in so far as it is thought of as a commodity, has a price. But, curiously, as the 'money-commodity', it cannot have a price, because it IS price. "Money itself has no price. In order to put it on an equal footing with all other commodities, in this respect, we would be obliged to equate it to itself as its own equivalent". Again, we are reminded that "two ounces of gold= two ounces of gold" is not an expression of value, but a mere tautology.

Another thing that 'money form' aka 'price' does not have is physicality. In other words, just like 'exchange value', you can't really see it in the commodity itself. "The price or money-form of commodities is, like their form of value generally, a form quite distinct from their palpable bodily form. It is, therefore, a purely ideal or mental form".

One cannot see the money-form of a commodity because it is invisible. It is invisible because it is immaterial. But, that does not mean to say it is not something objective and real. "Although invisible, the value of iron, linen and corn has actual existence in these very articles. It is ideally made perceptible by their equality with gold, a relation, that is to say, exists only in their heads". Again, price, just like exchange-value, is a relational, rather than a material, thing.

This, then, leads to the next obvious difficulty. We can imagine a character in this economic game who has no definite idea as to what the value of a commodity is. The reason why not, is because this is a new commodity that has yet to come to market, and so market activity has yet to establish its exchange value or its money-form.

Nevertheless, our would-be seller would have to give some indication of what this commodity might be worth, sort of like how bartering begins with a suggested price. "Their owner must, therefore, lend then his tongue, or hang a price on them, before their prices can be communicated to the outside world". So, what we're talking about here is not so much the actual price of this commodity, but rather its nominal value. In other words, what you guess

its worth to be. “When, therefore, money serves as the measure of value, it is employed only as imaginary or ideal money”.

At first glance, one might suppose that the value of a commodity and its price amounts to one and the same thing. While it is true to say that market activity should cause a convergence of the two, in actual fact ‘standard of price’ and ‘measure of value’ are not at all the same. “Although money that performs the functions of a measure of value is only ideal money, price depends entirely upon the actual substance that is money”.

This brings us back to that equation, ‘1 ton of iron= 2 ounces of gold’, or ‘20 yards of linen is worth 2 ounces of gold’. One ton of iron is worth the same as twenty yards of linen, because they both contain an equivalent amount of socially-necessary labour as does the amount of gold. Similarly, the real price of this new commodity would be whatever quantity represents equivalent labour-time. “The value, or in other words, the quantity of human labour contained (in commodity X) is expressed in imagination by such a quantity of the money-commodity as contains the same amount of labour”.

So, as ‘standard of price’, a commodity-money should ideally be much like a standard unit of measurement. We may select an object for purposes of representing a particular weight, say, 1kg. It does not matter what this object is physically made of, because it is only its weight that concerns us. But, since that is what concerns us, we would want to ensure the object aways weighs exactly 1kg. No wonder, then, that objects selected to represent ‘1KG’ tend to be made of solid metal like iron, rather than, say, a jug holding a kg’s weight worth of water.

As far as the ‘standard of price’ is concerned, that which is selected to represent this standard has to do more than just retain its weight. As well as this, we would want to ensure it could be assayed and that it was in limited supply or, at least, not something you could easily obtain and, therefore, not a reliable store of value. All of which encourages a convergence on the precious metals as the best representation of ‘standard of price’.

But, having sung the advantages of gold, so far as ‘standard of price’ is concerned, Marx then reminds us that things change when concerns switch to ‘measure of values’. “The less the unit is subject to variation, so much the better does the standard of price fulfil its office. But only in so far as it is itself a product of labour, and therefore, potentially variable in value, can gold serve as a measure of value”.

Let’s suppose you are in possession of a certain weight of gold, say, 12 ounces. As well as having that weight, your twelve ounces of gold also has a certain amount of value. However, whereas the weight of that gold is not likely to change, at least not for a very long time if handled carefully, its value will be subject to more variation. Why? Because gold remains a commodity whose value, derived as it is from socially-necessary labour, is subject to inflationary and deflationary forces. Depending on circumstances, then, the value of your two ounces of gold may be worth more today, or perhaps less, than its value yesterday.

Still, even though we must expect that the value of that gold will likely yo-yo to at least some extent, it turns out that this actually does not affect its ability to represent ‘standard of price’. The reason why not is because proportions between the value of different quantities of gold cannot change, relatively speaking. Twelve ounces of gold can go up or down in value, but

whatever happens twelve ounces of gold has twelve times as much value as one ounce. “Thus gold”, Marx tells us, “always renders the same service as an invariable standard of price, however much its value may vary”.

In taking this relative point of view, we can also see how a change in the value of gold should have no effect on its ability to serve as the measure of value. Of course, if inflationary or deflationary forces are in play, prices of commodities will rise or fall. But, if everything rises or falls proportionately, then, relatively speaking, things stay the same. In other words, if shoes cost twice as much as shirts, and a change in the value of the money-commodity forces prices up, that two-to-one ratio will still hold.

Marx reminds us to bear in mind, however, that this “things stay relatively the same” situation is the case only when there is a general change in the price of commodities. In this case, the value of everything rises or falls proportionately. But, in reality, that may not always be the case. “It therefore by no means follows, that a rise in the value of money necessarily implies a proportional fall in the prices of commodities” or that prices must uniformly rise should the value of money fall.

Let’s suppose circumstances cause the value of some commodities to rise (or fall) simultaneously with, and proportionately to, a change in the value of the money-commodity. In such a situation, absolutely nothing changes. Such commodities have the same price as before. Or, it may be the case that the value of some commodities rises either faster, or slower, than that of money. That being the case, what change in price there is will depend upon the difference between the change in their value, and that of money.

So, actual circumstances might cause prices to alter in such a way that a situation in which ‘things remain as they are, relatively speaking’, does not hold true. Something else various circumstances are likely to bring about, according to Marx, is a discrepancy between the actual weight of commodity-money, and the money-name of that commodity-money.

There are several reasons why this should happen. One is that not everyone immediately adopts gold as the commodity-money. In England, for example, silver was the commodity-money. When a price of £1 was quoted, this meant the exchange value was indeed equivalent to a pound’s weight of silver. However, Marx also points out that, as wealth increases, it is a near certainty that less precious metal will be pushed out by more precious metal so that, in time, gold will be used as the money-commodity. But, by the time this change is fully implemented, the people will have become used to thinking of prices in terms of £1, £2 etc. And so, for convention’s sake, such terminology remains in place. Only now, it cannot be the case that £1 of commodity-money has a weight of one pound. Rather £1 will refer to a certain ratio between the values of the less precious metal previously in use, and the more precious metal currently in use. So, whereas a pound of silver was once worth £1, now its worth, say 1/15th of a pound of gold. “The word ‘pound’, as a money-name, thus becomes differentiated from the same word as a weight-name”.

As I said, there are other historical reasons why we should see a discrepancy between the weight-name and the money-name. There’s no need to go into detail regarding the other reasons (things such as debasement of currency or the importation of foreign money into imperfectly developed communities) because such details are less important than the overall

change brought about. “These historical causes convert the separation of the money-name from the weight-name into an established habit within the community”. The effect this has, is to ultimately bring about a transition. We go from the value-form being in the money-commodity, to conventions whereby we are naming and counting elements of money, elements that are then traded by commodity traders in the market place.

This, according to Marx, is where the Law really steps in to assert what money is. This happens because, on the one hand, the ‘standard of money’ is purely conventional. But, on the other hand, it would not do for some to decide to apply other conventions. No, the only acceptable practice is for the convention to be generally accepted. So, ultimately, “1/15th the weight of gold in silver is worth £1” becomes the measure regulated by law.

Not only that, but the law also enforces general agreement concerning the many sub-divisions commodity-money can be subjected to, and as these naming conventions are likewise generally adopted, we have a marketplace where people no longer say “twenty yards of linen will cost you two ounces of gold”. Instead, they’ll tell you it’s worth £3.10s.10/12d (at least, they would have in Marx’s day). “In this way”, Marx tells us, “commodities express by their prices how much they are worth, and money serves as money of account whenever it is a question of fixing the value of an article in its money form”.

What this transition does is to complete the fetishism that Marx previously talked about. But the very dangers of fetishism mean that, while we may find it convenient to adopt terms like ‘dollars’, ‘euros’ and things like that, and to value our commodities in quantities of those terms, we have to ensure that there is a relationship between a commodity base, and the way these nominal money forms are articulated.

Marx certainly believed this was essential. But, since the 1970s it can hardly be said that the global economy has effectively enforced this necessity. In fact, quite the opposite has happened: the de-materialisation of money, showing that a relation to a commodity base or a monetary base is something we feel we can dispense with. To ask if this assumption is really valid, is to question Marx’s insistence on an essential relationship between a commodity base and the money-form.

Were Marx alive today, he would no doubt criticise this idea of dispensing with the commodity-base as extremely foolish. But he was also aware that circumstances may well necessitate value that is flexible.

Imagine if that were not the case, and that everything in the market was presented at its value and sold at its value. While that might sound fine in theory, in actual fact it would leave money incapable of adjusting to supply/demand fluctuations.

Such fluctuations are likely to happen sooner or later. For example, circumstances may arise whereby too many traders come to market, and the relative dearth of ‘demanders’ forces prices down. At other times the converse may be the case- fewer traders and more buyers, resulting in a rise in prices. Once you go to a price name and hang prices on commodities, you bring about a situation in which different prices can be realised at different times in different places. Far from being an error that should be eradicated, these incongruities are

what the anarchy of the market system is all about. Absent of this variability in value, money would not be able to deal with supply/demand fluctuations.

As Marx tells us, “the possibility, therefore, of quantitative incongruity between price and magnitude of value, of the deviation of the former from the latter, is inherent in the price-form itself. This is no defect, but, on the contrary, admirably adapts the price-form to a mode of production whose inherent laws impose themselves only as the means of an apparently lawless irregularities that compensate one another”.

So long as fluctuations in supply/demand are in play, this says a lot about why things cost what they do. But the classical political economists did not go so far as to say supply/demand explains everything. This they could not do, because they believed there was such a thing as commodity’s ‘natural price’. It also had the name ‘equilibrium price’, because it was thought of as the price achieved when demand/supply are in equilibrium. That being the case, ‘supply and demand’ can’t tell you why things cost what they do, why, for example, commodity A is exchangeable with a certain ratio of commodity B, on average. If commodity A is no more, and no less, in demand than commodity B, then, according to Marx and the other classical economists, we must look to ‘socially-necessary labour time’ to account for why one costs less than the other.

So, ‘socially-necessary labour’ explains the average price of commodities. But when, on any given day, the price of a commodity fluctuates above or below its average exchange value, that’s because of supply/demand fluctuations. Therefore, if there does arise a quantitative incongruity between money as a measure of value and the way prices get hung on commodities and prices are realised, this is something allowed for, thanks to this transition that saw ‘money’ go from a clean measure of value to something whose operating function is a standard of price that can allow for supply/demand fluctuations.

For Marx, the price-form is not only compatible with any possible incongruities between magnitude of value and price. There can also arise situations in which prices completely cease to express value, despite the fact that money is nothing but the value form of commodities. We saw earlier how a would-be seller may apply a nominal value to a commodity whose real exchange value is, as yet, undetermined. A similar trick can be applied to uncultivated land. Such land is of no value, because the human labour incorporated in it is, at present, zero. But, it could be said to have a ‘shadow price’ of human labour incorporated in it. In other words, land which has real value (because it has been cultivated) can tell you what this uncultivated land would be worth, were it also cultivated land. “The imaginary price form may sometimes conceal either a direct or indirect real value relation, for instance, the price of uncultivated land, which is without value, because no human labour is incorporated in it”.

It’s easy to see how land that must be worked on before it’s suitable for farming or erecting towns or factories on, can have a shadow price. But, Marx also sees imaginary prices achieving even greater abstraction. “Objects that in themselves are not commodities, such as conscience, honour &c, are capable of being offered for sale by their holders, and of thus acquiring, through their price, the form of commodities”.

Such a statement raises the question of why, in some cases, it is not proper to speak of commodities, but rather ‘the form of commodities’. Suppose, for instance, that a buyer is choosing amongst a range of chocolates, and recalls that a particular brand has pledged to use some of its income to help people afflicted with poverty. Our buyer purchases that brand, and now not only has a product that appeals to his sweet tooth, but also has a weight lifted from his conscience. “I have done my bit”, he thinks, as another chunk of delicious confectionary melts on his tongue. Why would it be wrong to say ‘conscience’ was commodified and sold, along with the chocolate itself?

when Marx uses phrases like “acquires the form of” or ‘presents itself as”, such terminology is another way of saying “things are not as they appear”. What the ‘form of commodities’ really entails, is a re-distribution of value, which should not be confused with actual value creation. Imagine if no food was sold with the pledge to do something philanthropic along with sating hunger. In that case, you would still have a real commodity, because you are selling food, something people definitely need to live. Now imagine that you had an economy that only traded in ‘conscience’, ‘trust’ and other such abstractions, and nothing physical like food, water or housing was being produced. In that case, it would be impossible to believe we could survive for long under such economic conditions. Therefore, in any real economy you can be sure that real value is still being created in traditional ways whose roots lie in the very dawn of humanity, even if some of us have found ways of greatly profiting off of a redistribution of value.

CHAPTER TWENTY-THREE

Early on in the next section, Marx again turns to metaphors in order to get a point across. This particular metaphor could well be singled out as particularly noteworthy, because it manages to encapsulate what the Marxian dialectic method is really all about.

This particular metaphor is used to show how contradictions are really dealt with. One might suppose this is achieved by doing away with inconsistencies. Not so, insists Marx. Instead, one must find a way in which incompatible ideas may coexist. “For instance”, he tells us, “it is a contradiction to depict one body as constantly falling towards another, and as, at the same time, constantly flying away from it. The ellipse is a form of motion which, while allowing this contradiction to go on, at the same time reconciles it”.

Similarly, in differentiating commodities into commodities and money, the contradictory and mutually exclusive conditions found within ‘the commodity’ is not really swept away, but instead finds a form in which such contradictions may exist side by side.

But there is something more important to notice about this particular metaphor, because when he describes an object as “constantly flying towards” and “constantly flying away from”, he emphasises the fact that an ellipse is to be associated with motion. In fact, more than that, the ellipse is perpetual motion, perpetual movement.

Thus, we are reminded of what this chapter is all about, namely the “circulation of commodities”. In this section, Marx will detail how commodities go through a metamorphosis, and that this is carried out through a process of circulation. So, just as objects in the ellipse

metaphor go around and around forever, so too does this process of circulation entail a form of perpetual motion.

In fact, Marx's dialectical method, although clearly concerned with material things, is really about the study of motion, which is rather more 'immaterial' than material. How so? Well, because you can hold material objects in your hand, since they have physical form. But can you hold 'motion' in your hand? No, because motion itself is not physical; it is relational. Imagine a universe consisting of only one particle. Does this particle ever move? Such a question is meaningless, because there is no frame of reference, nothing we can use to say "this particle has changed position relative to X". Since Marx's dialectic is really about motion, it too is mostly a relational, rather than a material, concept. Or, we might say, it is more social than material. After all, what we are currently investigating, he tells us, is "the change or form of metamorphosis of commodities which effectuates the social circulation of matter".

Now, earlier I said that this is a form of metamorphosis that entails a form of perpetual motion. But, is a commodity always in motion? Actually, no. Any one commodity is likely to come to rest, in a manner of speaking. This happens whenever somebody decides to consume that commodity's use-value. Gold, for example, has many uses beyond being 'money'. Someone might purchase gold and have it turned into a ring which, once slipped onto a beloved's finger, will not come off again. In such cases, an object leaves the 'sphere of exchange' and enters the 'sphere of consumption'.

Individually, this is what commodities tend to do. But, so far as the 'world of commodities' is concerned, exchange does not, and indeed cannot, stop. So what Marx does here is to ignore those situations in which use-value is just used up, so as to concentrate only on the 'sphere of exchange'. What we see, when we choose this perspective, is a process in which commodities are continually changing hands and, therefore, undergoing a process of change. 'Use-value- exchange value- use-value- exchange value….'

Now, when we analysed 'the commodity' we saw how 'use value' and 'exchange value' are not separate things, but rather a duality that defines 'the commodity'. This remains the case so long as commodities are exchanged directly, as in a barter exchange (Marx calls this a C-C relationship) but with the maturation of the money-form we can think and act as though the process of change mentioned above is the result of a relationship between two worlds- the world of commodities, and the world of money.

According to Marx, an unfortunate consequence of this perspective is that it makes it so much harder to see what is really going on with the metamorphosis of commodities. He attributes this flawed understanding in part to imperfect notions of value, but also to a point of view that only sees the material aspects and not those crucial social relationships. "If we keep in view the material fact alone that a commodity has been exchanged for gold…we overlook the fact that gold, when a mere commodity, is not money, and that when other commodities express their prices in gold, this gold is but the money form of those commodities themselves".

What is it that we are overlooking? The fact that exchange, the very thing the 'money-form' is supposed to enable, is a social process. That being the case, 'exchange value' should be

thought of as the opposite of ‘use-value’. After all, when thought of in terms of ‘use-value’, the commodity becomes something we wish to hold onto, so that the use-value may be consumed. But, when it is ‘exchange value’ we have in mind, we want only to enter into a relationship whereby we swap that commodity for an embodiment of its money-form. Within this antagonism between a desire to retain possession, and a desire for alienation, we find the contradiction of ‘the commodity’.

But we are not talking about opposites but rather polar opposites. That means we should recall Hegel’s ‘second law’, the “law of unity of opposites”. Poles are not only defined in terms of opposition, but just as much by connection. When we look at one side of this equation, what we see is an ordinary commodity, and any use-value exists only in its ideal form, which is “its price, by which it is equated to its opponent, the gold, as to the real embodiment of its value”.

At the opposite end of this equation we have that gold, “the gold, in its metallic reality, ranks as the embodiment of value, as money. Gold, as gold, is exchange value itself”. But when used in this way, an effect is wrought on the gold’s use-value that dematerialises it, even as, at the opposite end of the pole, value is being embodied. “As to (gold’s) use-value, that has only an ideal existence, represented by the series of expressions of relative value in which it stands face to face with all other commodities, the sum of whose uses makes up the sum of the various uses of gold. These antagonistic forms of commodities are the real forms in which the process of their exchange moves and takes place”.

So, in this process of social metabolism we have commodities changing from materials to ideal forms to material form once again. Or, we might say, we find ourselves in a process where we move back and forth between a material relationship and a social relationship. And, as the phenomenon of fetishism has shown, we may well be confused as to which relationship we are currently in.

Now, during this discussion another move has happened, because we have gone from talking about direct exchange (or a C-C relationship) to one in which exchange is mediated by money. In other words, the social metabolism now takes the form of ‘commodity-money-commodity’ or C-M-C.

Look at that equation, ‘C-M-C’. It has a nice, simple symmetry to it, does it not? It seems neat, harmonious and balanced. Since it has this appearance, it is tempting to believe that the relationships involved in this social metabolism must be the very epitome of ‘equality’. Indeed, this is no mere idealistic thinking, but a crucial element of the process under discussion. We are, after all, talking about exchange, and exchange only occurs between actors who are, in some fundamental sense, equals.

However, on closer inspection we find an obvious imbalance. Depending on the role they are to play, one of the characters in this game of exchange has at least one major advantage over the polar opposite character.

As to who those characters are, that’s plain enough. They are ‘Buyer’ and ‘Seller’. One is in possession of an unwanted use-value, which they wish to transform into money, subsequently to be changed into another commodity whose use value they do need. The

other has money, which they are willing to alienate once the conditions of ‘desired use-value equal in exchange-value to my money’ are met.

We can therefore split this equation in two, so as to focus on the ‘Seller’ before then turning our attention to the ‘Buyer’. The seller is positioned at the ‘C-M’ side of the equation. They have a particular commodity, which they desire to exchange for money. From their perspective, this particular commodity no longer has use-value, but it does have an exchange value, which our seller greatly desires to transform into money, that embodiment of socially-necessary labour.

While gold is a particular commodity, ‘Money’ is not. ‘Money’ is the universal representation of exchange value, and the more Capitalism matures the more universal it becomes. At the same time, the division of labour that historically occurred under Capitalism results in commodities becoming ever more particular. “The second division of labour causes his labour to be as one-sided as his wants are many-sided. This is precisely the reason why the product of his labour serves him solely as exchange value. But it cannot acquire the properties of a socially-recognised universal equivalent, except by being converted into money”.

Our seller wishes to exchange his particular commodity for money or, to adopt the language of ‘social metabolism’, to affect a metamorphosis whereby we go from the ‘particular’ to the ‘universal’. “That money, however, is in someone else’s pocket. In order to entice the money out of that pocket, our friend’s commodity must, above all things, be a use-value to the owner of the money”.

The trick that the seller must pull off, then, is to entice that money out of a buyer’s pocket. That, however, is easier said than done. Why? Because there is only one reason why, in this context, someone would give you their money, and that is because the commodity you are trying to sell has a use-value they desire.

On the other hand, there are many more reasons why someone cannot, or would not, buy your commodity. It could be, for example, that the money they have is less than the exchange value of your commodity. Since we assume the seller wants only the full exchange-value, we assume he has to avoid anyone who cannot afford it, and seek only those who can.

But still, potential problems persist. Your commodity has a use-value, but is it a use-value this particular buyer needs? Perhaps not, in which case, no sale. Or, perhaps, our seller’s commodity does have a use-value our buyer needs, but plenty of other sellers are also offering this kind of commodity for sale. As Marx pointed out, “if the community’s want of linen, and such a want has a limit like every want, should already be saturated by the products of rival weavers, our friend’s product is surplus, redundant and consequently useless”. Again, no sale.

Or, maybe your timing is all wrong? As Ray Kurzweil has noted, being a successful inventor is not solely down to turning a concept into a product, but more so about launching that product when ‘the market’ is ready for it. Imagine trying to sell hand-held devices that play movies when screen resolution is not good, or batteries only last a short while, or perhaps

people's attitude is that watching movies on a portable device is just naff. Get your timing wrong and, again, no sale.

No wonder, then, that Marx remarked, "commodities are in love with money, but the course of true love never did run smooth". The union between 'buyer' and 'seller' may not happen for many reasons. While each seller is independent in the market, and so 'free' in that respect, they are dependent on the market in order to sell their commodity, and the market can put all kinds of obstacles in the way of potential sales. All such obstacles must be overcome if the 'seller' is to go from the particular to the universal.

Marx then turns his attention to what he calls the "second and concluding metamorphosis of a commodity". That is to say, our focus is now on the 'M-C' side of the equation, where the intent is not to sell a commodity but rather to purchase one.

Does the 'Buyer' face potential problems? Yes. She might not have sufficient money to afford the commodity she wants. She may have difficulty in finding someone able to sell what it is she desires. Other than these problems, though, one would struggle to think of reasons why the 'buyer' could not purchase any commodity they choose.

Think back to what Marx said about commodities, that they are "in love with money". For something to even be a commodity it has to be alienable. It has to be something you are willing and able to part with in a process that will realise its exchange value. By definition, all commodities can be bought and sold. 'M-C' is the mirror image of 'C-M'. The situation is reversed: we are not going from the particular to the universal, but from the universal to the particular. Given that going from the universal to the particular (m-c) poses much less of a problem than going from the particular to the universal (c-m) we cannot say that there is an equal power relation between 'buyer' and 'seller'. We have to conclude, rather, that they who command money are in a much more powerful position than those who command commodities.

However, so long as all we have is a 'commodity-money-commodity' circuit, that imbalance of power is not much of a problem, simply because those operating within the sphere of exchange cannot have fixed roles of 'Buyer' or 'Seller' but must alternate between these roles. Someone has commodity A, which they wish to sell. They are in that more difficult 'c-m' position. But once they have sold it and possess money with which they intend to purchase another commodity, they become the 'Buyer', positioned at the more advantageous 'm-c' side. As for the person who bought the first commodity, it appears as if they only play the role of 'Buyer'. But that is only because we are looking at a snapshot of a process, one sale/purchase among a world and history of such interactions.

Were we to consider the whole, we would see that the 'c-m-c' relationship is a circuit, and as 'seller' and 'buyer' go round and round this circuit, they must necessarily change roles. Buyer becomes seller becomes buyer and so on. So, whereas a single frame of this process appears to show a stark imbalance of power, the movie appears to be one of equilibrium, where nobody really has advantage over others.

Indeed, the dominant thinking among classical political economists was that Capitalism had to be a system that would remain nicely balanced, never tipping into a general crisis. A

simple fact led to this belief, the fact that every sale is a purchase and every purchase is a sale. So, obviously (so the dominant thinking went) you'll always have equilibrium. Yes, there may be problems with supply and demand. Too much of this product, too little of that. But a generalised crisis? That could never happen.

Marx, however, argued that things were not as balanced as the prevailing view supposed. "Nothing can be more childish than the dogma, that because every sale is a purchase, and every purchase a sale, therefore the circulation of commodities necessarily implies an equilibrium of sales and purchases". In some sense, of course, there has to be just such an equilibrium, or at least this is the case so long as there are no "buy now, pay later" arrangements. Were you to add up the sum total of all sales during a set period (one year, say) and also counted every purchase, you would invariably find the number of sales equalled the number of purchases. This is so obvious as to be less of a fact, and more like a mere tautology.

However, Marx saw that those proponents of this dogma weren't really interested in mere tautology. "It's real purport is to prove that every seller brings his buyer to market with him. Nothing of the kind".

Let's return to our character, the 'seller'. He could not have sold his product unless someone else purchased it. Having sold 'commodity A', we then assumed he went off and straight away purchased 'commodity B'. But, did he have to part with his newly acquired money straight away? No. As Marx said, "no one is forthwith bound to purchase because he has just sold".

Just as there are many reasons why one might find it difficult to sell a commodity, so too are there many reasons why one might wish to hold onto money, rather than spend it. For anyone living in a world of commodities, money is something which confers great power on those who possess it. Indeed, the more money you have the more powerful you become. Given that money can be transformed into social power in a world of commodities, the tendency to fetishise commodities is all the greater when it comes to the money-commodity. People have been known to fall in love with money, desiring to keep it, accumulate it, and glory in the sense of power that comes from being rich.

Money does not only equate to power, it also affords one security. Therefore it may not only be lust for power that compels somebody to keep hold of money rather than spend it. Should circumstances cause a person to feel insecure, they may well be less inclined to spend their money, and will instead wish to hold onto it.

Furthermore, we should consider the greatest difference between a barter exchange (C-C) and an exchange mediated by money (C-M-C). Where the former is concerned, there is an immediacy of time and space. A barter exchange has to occur 'here' and 'now' or it does not happen at all. But money allows us to break the bounds of time and space. I may think, "this is not the time to spend my money. I have a trip to Australia planned in three month's time, and I will save my money so I can spend it there".

Should I decide "this is neither the time nor the place to spend my money", the result is that there is less money circulating in the market with which to facilitate the exchange of

commodities. Since I am only one person, this would be a negligible difference. But, if I can feel like it's better to save rather than spend, others can too. The question is, can that ever amount to enough people to cause a generalised crisis?

Up until the 1930s, the dominant thinking among economists was that this was impossible. But a few believed such crises could occur. Known as the 'General Glut Theorists', they included names like Thomas Malthus (1776-1834). Thinkers such as he identified what John Maynard Keynes (1883-1946) would later call a 'liquidity trap'. It works something like this. Circumstances bring about hard times, and so, feeling insecure, people hold onto money. Holding onto money makes conditions worse, meaning more people feel insecure and decide it's better to save rather than spend. Things become even worse, until you end up with a spiral down into….well, what?

Earlier, it was said that, up until the 1930s, most economists disagreed with the General Glut Theorists. David Ricardo argued that "it is impossible to have a glut of commodities, but only a temporary glut of a particular commodity". The economy might go through a shock that caused people to refrain from buying certain commodities. This would force unemployment on those who produced such commodities, due to lack of demand. But, Ricardo also thought that while crises lowered demand for some commodities, for others the crisis increased demand. Before long, equilibrium was re-established. "The only unemployment of men or machinery that is possible is temporary unemployment".

Such was orthodox economic thought, up until 1930. What Ricardo was expressing was an economic 'law', known as 'Say's Law', after the French economist, J.B Say (1776-1832). Say's Law stated, "supply creates its own demand". What he meant was, the process of putting a commodity on the market creates the income needed to buy that commodity. So, exactly enough income must be generated to ensure the population can purchase everything that is produced. "By definition", Say concluded, "a glut of commodities is impossible".

Well, we now have a devastating response to that, which is to simply say, "October 1929!". No wonder orthodox economic thought had to change by 1930. October 1929 was the month in which Wall Street spectacularly cashed, causing such a collapse in stock prices that, by the middle of 1932, the average industrial share was worth just 15 percent of its price in October 1929. The Wall Street crash ushered in the Great Depression. Not only could a general crisis of Capitalism occur, it actually did occur!

Once an economy really gets into a downward spiral, it can be very hard to get out of it. After all, as things get really, really bad, more people run for cover, refusing to invest in the market by purchasing commodities. Keynes believed the State had to intervene in order to prevent such a catastrophic slowdown as the Great Depression from happening again. This it could do, he thought, through creating 'effective demand'. That could be stimulated through State expenditure and debt financing, government interventions that could help restore consumer confidence.

In the case of Keynes' own England, the British government agreed to a form of debt financing known as 'lend lease', basically a 'buy now, pay later' arrangement. By 1944, the time to pay up had come, and Keynes had to negotiate the repayment schedule with Britain's creditors, the USA. The American state department agreed to forgive Britain's

debts. But they wanted something in return, namely economic conditions that would open the world market up for American capital. The closed system of the British Empire stood in America's way, so the deal was "if you trade the British Empire, we'll cancel your debts".

So that's what Britain did. If you ever wanted to know where British decolonialism really came from, now you do. It was less about an empire developing a conscience and liberating its oppressed subjects, and more to do with the lop-sided power dynamic of the C-M-C circuit leading to a generalised crisis that led to a world war that led to an empire being forced to relinquish its grip on the world and its people.

CHAPTER TWENTY-FOUR

We have seen how there are more problems in turning a commodity into money than there is in turning money into a commodity, and that therefore there is a bias in power favouring the 'buyer'. There is another contrast worth noting, but this one has to do with commodities and money themselves. Where commodities are concerned, there are many reasons why they drop out of circulation. Something can be used until it is completely worn out. Edible commodities can be eaten, or if left untouched succumb to decay. A commodity can fall into obsolescence, having been superseded by something else, or can fall out of fashion. But, there is only one reason why any commodity enters into circulation, and that is because its current user wishes to sell it. We should therefore expect commodities to enter into and drop out of circulation.

But what about money? What reasons could there be for taking money out of the circulation process? There is only one, which is that people decide to save money rather than spend it. In general, though, if money is to act as currency and fulfil its role as unit of account, it has to stay in circulation. Therefore, whereas a commodity may drop out of circulation entirely, the money-commodity must remain in circulation, acting as the lubricant for all the exchange going in in a C-M-C circuit.

In the section 'the Currency of Money', Marx points out that, yes indeed, money needs to stay in circulation. But there is another question worth posing: how much actual money do we have to have in the C-M-C circuit? The answer to that question is…it depends. As Marx tells us, "the total quantity of money functioning during a given period is a circulating medium, which is determined on the one hand by the sum of the prices of the commodities in circulation, and on the other hand by the rapidity or alternation of the antithetical processes of circulation".

Now, what Marx is referring to is a key measurement in economics, known as 'Velocity of Circulation'. It's the reason why "how much actual money do we need?", can only be answered with "it depends", because the answer depends on how rapidly money moves around the C-M-C circuit. As Marx explained, "the quantity of money functioning as the circulating medium, is equal to the sum of the prices of the commodities divided by the number of moves made by coins of the same denomination". That is to say, if a £1 coin can change hands ten times in one day, the C-M-C circuit would require less actual money than would a C-M-C circuit where money changed hands nine, eight, seven….times a day. Conversely, of course, a C-M-C circuit that moves money fast enough to change hands ten

times a day would need more money then would one where money moves fast enough to change hands a hundred times a day.

When you have an economy that is supposed to grow, with ever more stuff moving around the C-M-C circuit at an ever increasing pace, you will also see something interesting happen to the money-commodity. Gold, which once stood out as being a uniquely good embodiment of money, eventually becomes an impediment to velocity of circulation, for the simple reason that coinage can only move from one hand to another so fast.

Sure, you can build better transport networks and increase the efficiency with which cash transactions are carried out (have cash registers that calculate correct change in fractions of a second, rather than rely on humans counting on their fingers) but such methods of speeding up velocity of circulation will soon slam up against unsurpassable limitations.

Imagine, for example, that an exchange involves billions of pounds moved from one side of the world to the other, not in weeks or days, but seconds, or maybe even fractions of a second. Obviously, gold is never going to increase velocity of circulation that much. You cannot transport billions of coins half-way around the world in fractions of a second.

But, what if money was not gold? What if we found a way to encode ‘money’ in something capable of moving so fast it can travel around the world almost instantaneously? Modern fibre optics transmit data at rates of a trillion bits per second, information that moves at the speed of light. Indeed, various technological breakthroughs have resulted in cables that can transmit data at rates of 2 thousand trillion bits per second. Since any information can be encoded in bits, fibre optics allow us to move impossible amounts of money at impossible speeds across impossible distances, or so it would seem to somebody who believes money is a gold coin.

The demands of Capitalism therefore all but guarantee the money-commodity will, in time, be realised by mere symbols. Which brings us to the next section, ‘Coin and Symbols of Value’. Here, Marx not only details reasons why gold becomes replaced by symbols, but also argues that such a transformation requires increasing input from the State.

So far, we have been talking about the money-commodity, best visualised as a weight of gold (or silver) equal in value to the exchange value of another commodity. It takes no great imagination to see how inconvenient it would be to carry around lumps of gold that need to be weighed in order to make a fair exchange. Things would be much easier if you could take a piece of gold out of your pocket and know what exchange-value it represented without ever having to weigh it. Once turned into a coin, gold takes on that kind of convenience. But, its value still lies in its weight of gold, so why should folk about to engage in commercial exchange trust that the value stamped on one side of the coin is truly its value?

Clearly, responsibility for determining the weight/value of coinage can only be taken on by figures who represent an enormous amount of authority. Little wonder, then, that whenever you flip a coin the reverse will show the head of State. No less an authority than the Queen, or the emperor, their very image stamped onto the coin, guarantees its value. Their image conveys a message along the lines of “I, your supreme ruler, give my word that the value of

this coin is truly its value". No wonder, then, that of all the forms of deception, counterfeiting is seen as a particularly heinous crime. To forge a coin is to damage the reputation of kings.

But, no amount of royal authority can prevent wear and tear. As coins circulate they are bound to wear out, and this invariably means that some £1 coins actually weigh less than others. As Marx points out, "the weight of gold fixed upon as the standard of price deviates from the weight that serves as the circulating medium and the latter thereby ceases any longer to be a real equivalent of the commodities whose price it realises". This may not be a problem. People can agree to act as if a coin is worth its face value. But such trust only extends so far, and so the Law decrees that coins too worn out should be demonetised and withdrawn from circulation.

Since gold coins are subject to wear and tear like any other object, and the more an object is in circulation the more wear and tear it is subjected to, it does not make practical sense to only use gold coins as means of payment. And a gold coin has another drawback: not everything for sale is worth one gold coin. Lots of things are worth only fractions of a gold coin.

Since it would be decidedly inconvenient to carry around 1/8th or 1/20th of a gold coin, and not very sensible to wear out something as precious as gold in humble, everyday transactions, while gold coins may replace other coins as the 'measure of values', for practicality's sake, lesser coins remain in circulation. As Marx says, "silver and copper tokens take the place of gold in those regions of the circulation where coins pass from hand to hand most rapidly, and are subject to the maximum amount of wear and tear. This occurs where sales and purchases on a very small scale are continually happening".

As well as sales and purchases on a very small scale, some monetary transactions are extremely large in scale. Carrying a purse of gold coins is one thing, but who wants to lug around a great big sack of gold, so as to purchase that £10 million mansion? That would not only be dreadfully impractical, but also very risky. After all, very wealthy people staggering under the weight of a huge and valuable burden would be likely targets for robbers.

So, for both practicality's and safety's sake, one would be well advised to find ways to lessen the load. One way would be to increase the value of each coin. Let's say the State issues a coin valued at half a million pounds. Now, instead of having to carry 500,000 gold coins, anyone who needs £500,000 need only carry that one coin. Of course, if that one coin weighed the same as 500,000 £1 coins that would hardly solve your problems. It would have to weigh substantially less.

Since we have deviated away from the weight-name of money, why not replace gold coins with something even more portable? After all, if fractions of a pound coin can be represented by tokens that are not gold, such as silver and copper coins, then multiples of a gold coin can also find symbolic representation in something other than gold. As Marx pointed out, "the weight of metal in the silver and copper tokens is arbitrarily fixed by law. Hence their functions are totally independent of their weight, and consequently of all value. The function of gold as coin becomes completely independent of the metallic value of that gold. Therefore, things that are relatively without value, such as paper notes, can serve as coins in its place".

A slip of paper can have the same value as a million gold coins for the same reason why a worn out gold coin can be worth the same as a newly minted coin whose weight it does not match. If we all act as if it has the value it claims, then intersubjectivity makes it so.

Still, while it would be very hard to see that a coin weighs slightly less due to being a bit worn out, anyone can tell at a glance that a paper note is not a gold coin. Hence, a move to paper currency represents a much greater step toward symbolism. “The purely symbolic character is to a certain extent masked in metal tokens. In paper money it stands out plainly”.

Mutual trust can do much to confer value onto materials without much value. But this is not an unlimited power. Just as a coin can only wear away so much before nobody believed it has its alleged value, so Marx believed that paper currency could only represent a certain amount of actual gold, and could never become money, absent of that gold connection.

By the time paper currency is in use, and wealthy people are making payments with notes representing great multitudes of gold coins, the power of the State to keep this fantasy from spiralling out of control becomes critical. If you are of the belief that real money is gold, then what the State is doing when it authorises the issuing of paper notes, is counterfeiting money. But, then, the State has long conferred exceptionality upon itself, believing it has a right to do certain things that would be utterly illegal if done by any other group.

If an individual deliberately kills somebody, that is murder. If a terrorist group goes on a killing spree that claims scores of lives, that’s mass murder. These are heinous crimes deserving of the harshest punishment and can have no excuse or explanation other than the fact that its perpetrators are mad, or bad. Probably both. But, if a State orders its military forces to bomb a city, resulting in the loss of tens, hundreds, or thousands of lives, this is not murder at all, because the State claims the ‘monopoly on violence’. The State can justify killing, maiming, starving a population by claiming this is ‘defence’, even if the people actually being killed have no capacity whatsoever to harm the State at all, and the weapons turned on them are entirely offensive.

As ever, this is not an unlimited power. A State that unleashes too much violence may draw the attention of more powerful States who can compel it to ease off. If a State loses a war, its ability to decide what is/ is not illegal can disappear. Under Nazi law, the Holocaust was not illegal, just as the Israelis do not consider it illegal to inflict what is basically genocide on the Palestinians (you often hear the Palestinians denounced as sub-human animals deserving of slaughter; the same language the Nazis used to justify their own genocidal practices). Once the Nazis were defeated, the conquering nations charged them with the worst crimes anyone can be accused of. Had World War II turned out differently, the Nazis would never have been charged with anything, just as Israel will not be charged with crimes should they succeed in destroying Hamas, even if achieving that aim entailed committing all kinds of crimes against humanity that past losers in war games have been found guilty of.

Getting back to the subject of ‘counterfeiting’, here, too, the State’s powers are not unlimited. According to Marx, “the issue of paper money must not exceed in amount the gold (or silver as the case may be) which would actually circulate if not replaced by symbols”. This is something of an odd statement, because since the 17th century banking had practiced forms

of money lending that greatly multiplied the amount of ‘paper money’ or credit, relative to ‘real money’. It was by no means the case that the amount of money printed on each paper note corresponded exactly to the total amount of gold the banks possessed. Actually, the banks issued far more paper notes than gold to back this credit up. Paper money certainly did not represent the gold “that would actually circulate”, and eventually States would abandon gold as the monetary base altogether.

Still, in Marx’s day it was definitely the case that popular prejudice, particularly among the most powerful members of society, was that money was gold coinage. A state could only issue so much paper tokens before people’s trust in its value became adversely affected. “If the paper money exceed its proper limit, which is the amount of gold coins of the like denomination that can actually be current, it would, apart from the danger of falling into general disrepute, represent only that quantity of gold which, in accordance with the laws of the circulation of commodities, is required, and is alone capable of being represented by paper”.

Once you go beyond that limit, and print money in excess of “that representative of the gold that would circulate”, the value of that paper currency goes down, in a phenomenon we recognise as inflation. “If the quantity of paper money issued be double what it aught to be, then, as a matter of fact, £1 would be the money-name not of 1/4 of an ounce, but of 1/8 of an ounce of gold. The effect would be the same as if an alteration had taken place in the function of gold as a standard of prices. Those values that were previously expressed by the price of £1 would now be expressed by the price of £2”.

Actually, it’s not simply a matter of fact, but much more a matter of faith. If enough people trust in the value of something, and act as if it is indeed worth that much, then to all practical intents and purposes it is worth that much. If you can purchase a million pounds-worth of commodities with paper money or a credit card (and this does not result in you subsequently being charged with theft or fraud) then you are just as much a millionaire as the fellow who exchanged a weight of gold for commodities valued at a million pounds.

But, beware! The value of that money is backed by faith and not much else. Were that trust ever lost, the value of that currency would crash down, transformed in a moment from “more valuable than gold” to mere slips of paper of negligible value.

Now, what Marx presents here is by no means necessarily an historically-accurate account of how money really evolved. As we have seen, the simple narrative whereby barter led to bullion which led to coinage which led to credit (which is pretty much what Marx is repeating here) bears little resemblance to how monetary relationships really evolved out of social obligations. The reality, centred on debt rather than some fantasy land where debt is entirely absent, was way more complex and way more entangled with altruism, communism, competition, hierarchy, fraud, and violence than even Marx’s narrative (at least in this part of ‘Capital’) is willing to admit.

However, as a purely logical argument, much of what Marx says here makes a great deal of sense. Whether money had evolved via the complex ways uncovered by anthropologist, and not the simple route imagined by economists, Capitalism would still have compelled ‘money’ to move toward greater abstraction, because the antagonistic nature of the very functions of

money, coupled with the drives of Capitalism, make that inevitable, regardless of how money really evolved in the economic epochs preceding it.

CHAPTER TWENTY-FIVE

In the previous chapter, we saw how the need to have money moving around the C-M-C circuit at an increasing pace affects a transformation of the money-commodity, such that it becomes coinage and, eventually, paper currency.
But the need to circulate at increasing pace is not the only reason why this transformation of money occurs. Strange though it may seem, it also happens as a result of a need to remove money from circulation. It so happens that this transformation not only affects money, it also brings about a new circuit, and new roles of the players in this game of exchange.

At the start of section three, Marx reminds us that, as currency, money's purpose is to constantly move around a C-M-C circuit, so as to bring about that metamorphosis of commodity into money into (another) commodity. But he also reminds us that not all sales are immediately followed by a purchase. For various reasons, people may be unable or unwilling to spend, and when that happens, "as soon as sales are not supplemented by subsequent purchases, money ceases to be mobilised, it is transformed…from moveable into immovable, from coin into money".

Now, when thought of as a currency, it seems strange indeed to suppose that anyone could wish for money to become 'immovable' because (as we have seen) currency has to stay in motion, circulating around the C-M-C circuit. The mystery as to why anyone would wish to cease that movement is soon cleared up, however, once one remembers that 'money' has many roles to play. It is not just a currency but a store of value. How does one increase a store of value? Well, one obvious way is to have money flow into one's possession but not let it escape.

Since money is, ideally, gold, and gold is this almost magical substance whose alluring qualities are stuff of legend, it takes no great leap of imagination to see why some might not wish to part with the money-commodity, once the first transformation- C-M- has been carried out. Indeed, the very purpose of they who covet gold may only be to sell a commodity in order to get gold, with no intention of then passing that gold on in a subsequent 'M-C' exchange.

As Marx said, "commodities are thus not sold for the purpose of buying others, but in order to replace their commodity form by their money-form. From being the mere means of affecting the circulation of commodities, the change of form becomes the end and aim. The changed form of the commodity is thus prevented from functioning as its unconditionally alienable form, or as its merely transient money form. The money becomes petrified into a hoard, and the seller becomes a hoarder of money".

And so we have a transformation of the roles that exist in a C-M-C circuit. Anyone who has no intention of parting with the money-commodity is not a 'seller' because they have no desire to part with their gold in an M-C exchange. They wish to hold onto gold, to accumulate gold. Given the power one has when one possesses the 'universal equivalent', the desire to become a hoarder is quite understandable.

This explanation alone would be quite sufficient to explain how come coinage should transform from mobile currency into immovable money. But Marx also points out that hoarding is not only a result of a passionate desire to possess money. Paradoxical though it may seem, hoarding also turns out to be vital for exchange.

The reason why has to do with something called the ‘time structure of the production of commodities’. Anyone entering into the market does so at a certain time. The implication here is that such would-be buyers have already saved up sufficient money to be able to purchase whatever commodity they covet. In order to get that money, we assume they previously sold a commodity in a C-M exchange. But, of course, a lot of commodities can only be sold at a certain time. A farmer, for example, can only sell his crops when it is harvest time. Let’s suppose harvest time is in the autumn. Come the following spring our farmer is going to need to buy seeds so he can sow the land with a new batch of crops. Since he has nothing to sell until harvest time comes around again, our farmer would be well advised to save money gained from the last harvest, rather than spend it all at once. In short, necessity dictates that he hoard at least some money.

It’s not only farmers who need to hoard. In fact, most of us will be faced with the requirement to save for a rainy day. As Marx said, “his wants are constantly making themselves felt, and necessitate the continual purchase of other people’s commodities, while the production and sale of his own goods require time and depend upon circumstances. In order then to be able to buy without selling he must have sold previously without buying”.

Marx then points out that, while this all seems reasonable and straightforward when considered on an individual basis, if we extend the idea of ‘buying without selling’ to something undertaken on a universal scale, we appear to have a contradiction, for how, in a C-M-C circuit, can we all ‘buy without selling’?

This contradiction is resolved by observing that not all those involved in the C-M-C circuit need to sell a commodity in order to get gold. Some have to be engaged in the work of getting that gold from its source, prospecting for it in rivers, heading underground to mine it, and so on. Once these gold-hunters have their precious metal, they could exchange it directly for other commodities in a C-C exchange. As Marx noted, “here we have sales (by the owners of commodities) without purchases (by the owners of gold or silver)”. If other commodity producers then sell without first producing, this merely “brings about the distribution of the newly produced precious metals among all the owners of commodities. In this way, all along the line of exchange, hoards of gold and silver of varied extent are accumulated”.

While most use-values have only a limited range of purposes, being as each only has a restricted set of problems it can solve, the more the C-M-C circuit expands the range of materials and products that circulate within it, the more the power of money grows. The more its power grows, the more it becomes (as Marx calls it) “that absolutely social form of wealth ever ready for use”.

Marx introduces an important concept at this point, that being the idea of the ‘radical leveller’. “Just as every qualitative difference between commodities is extinguished in money,

so money, on its side, like the radical leveller that it is, does away with all distinctions". So the 'radical leveller' is that which is capable of reducing everything to the same metric. In the case of money, we can be more specific and say that it prefers a world in which everything has a price.

Bringing about such a world becomes quite possible once a system of exchange centred around universal money is established, because the ability to hang a price tag on both commodities and that which has the appearance of commodities opens up the potential for the commodification of everything. This, in turn, has a very interesting effect on the money-commodity itself. As Marx explains, "money is itself a commodity, an external object, capable of becoming the private property of any individual".

What's interesting about this observation is that, when Marx was investigating the contradictions within relative and equivalent forms of value, he concluded that private activity would become the means for the representation of universal social labour. But now, given what money has become, private individuals find themselves in a position where they may appropriate social power. As he put it, "social power becomes the private power of private persons". So, rather than private activity being the means for the representation of universal social labour, now social labour may become the property of private persons.

Such power was latent in the money-commodity from the start, but it required the habitual act of holding onto the universal equivalent for that power to crystallise out in the open. As we have seen, both the alluring qualities of the precious metals and the 'time structure of the production of commodities' guarantee that this will happen, and what results is of the utmost importance to the Marxian dialectic. For what results is that which becomes the basis for class power in the Capitalist epoch.

Having outlined money's power and the irresistible attractiveness of the money-commodity, Marx's language then turns to condemnation, informing us that "the ancients therefore denounced money as subversive of the economic and moral order of things". Actually, it's not just the 'ancients' who held this view. In the 20th century, figures like Sigmund Freud (1836-1939) were describing money as "the bourgeois sublimation of rituals of the anus", and the conception of money as the root of all evil remains a strong one. So money is somehow simultaneously as attractive as gold and repulsive as shit. We seem to be in a state of confusion over its true qualities.

Interestingly enough, much the same could also be said of debt (which is intimately associated with money). Here, too, general attitudes are best described in terms of moral confusion. Because, on the one hand, paying what one owes, honouring one's debts, are held up by pretty much everyone as a moral thing to do. Other than committing to selfless charity, there is no better way to show you are a decent person than to return what you have borrowed. All credit to those who can be trusted to pay off their debts.

One cannot demonstrate the very root of morality (clearing a debt) without there being creditors willing to make loans. It aught to be the case, then, that moneylenders are held up as particularly admirable people, since they provide the best opportunity to show who among us are decent, trustworthy people.

But that's not how moneylenders are seen at all. Strange though it may seem, while repaying a borrowed sum is one of the most fundamentally moral things anyone can do, those who make a career out of lending have a bad reputation. As David Graeber said, "the very name, Usurer', evokes images of loan sharks, blood money, the selling of souls, and behind them all, the Devil, often represented as…the figure looming just behind the usurer, biding his time until he can repossess the soul of a villain who, by his very occupation, has clearly made a compact with hell".

In the case of money, one reason for our contradictory attitudes toward it may well be that it can be seen as both enabling freedom and taking freedom away. 'Freedom' comes in many forms, such as the 'freedom' to travel wherever you please. Our ancestors knew freedom in that sense, since nothing stopped them from roaming across vast tracts of land and, as anthropologists and archaeologists have now shown, they could rely on networks of communal relationships to extend hospitality when the time came to seek shelter. Of course, the freedom to roam was never absolute. There were natural barriers in the form of mountains too high, oceans too wide and valleys too deep to cross. Any ancients looking up would gave gazed at a space that was completely inaccessible. No wonder, then, that the heavens have long been the place where the gods reside.

Nowadays, thanks to technological advances, natural barriers pose much less of an obstacle. We can cross oceans and mountains with ease, and the deepest place on Earth has been visited. We have even begun to venture into space. Well, I say 'we' but the fact is that only a tiny minority have visited the ocean depths or the fringes of outer-space. The reason why such places remain inaccessible to most is that one can travel to such destinations…but only if one can afford the cost.

Furthermore, it's not only costs that restrict our freedom. You can travel anywhere you please, if you can organise the paperwork and permissions we now require to do almost anything. Again, for those who have enough money, such bureaucratic obstacles are surpassable. Officials can be bribed, or lobbying can rewrite laws and change regulations in one's favour. For those of us lacking money and the power it confers, life feels less like boundless freedom and more like a state of structural oppression, and you would be hard-pressed to find a stranger's door that was not locked, its occupants not hospitable but wary of the stranger who just might have intentions to rob them.

When you live in a community of money, as we now do, then being in possession of money is a profoundly liberating state to be in. This is because money has, as Marx put it, "no bounds to its efficacy, i.e, it is the universal representative of material wealth, because it is directly convertible into any other commodity".

But this statement only really applies to money's formal status in the world of commodities. In reality, however, there are several ways in which the power of money is limited. With money, you can buy and sell anything that is a commodity, but not everything is commodifiable. No doubt the secret to eternal youth would fetch a very high price if it could be packaged, but so far the ways and means to do this have alluded us (though, as generations of snake-oil salesmen have shown, it is quite possible to commodify the promise of miracle cures). Some things are considered to be of incalculable wealth, which is why they are said to be priceless. One might put a nominal value in the range of tens or hundreds of

millions of euros on the Mona Lisa, but really the question of how much it might fetch were it ever to appear on the market is moot, because there's no way the French state is ever going to sell it.

If some things are not for sale because they are priceless, others cannot be commodified because they are worthless. But that does not mean to say such things are therefore useless. Nobody would deny that breathable air is vitally important, but it would be next to impossible to sell it. The reason why is because the air we need to breathe is abundantly available so nobody needs to pay for something they get for free. Only that which is alienable and at least somewhat scarce can have a price tag slapped on it. If it is in no way scarce then, by the logic of exchange value it is worthless. Still, things can change. We can imagine scenarios in which pollution renders the air less breathable, in which case maybe clean air could be bottled and sold to those who can afford it.

That last point highlights another way in which money has practical limitations. While 'money' itself is unlimited in its ability to buy anything for sale, for any actual sum of money (even those sums in the range of billions) there will always be things for sale that are unaffordable, given the amount of money you possess so far. Therefore, the multi-billionaire might well feel that her current wealth is insufficient to afford what she believes she needs, just as the penniless pauper feels the constraint of limited means of purchase. "This antagonism between the quantitative limits of money and its qualitative boundlessness", Marx informs us, "continually acts as a spur to the hoarder in this Sisyphus-like labour of accumulation. It is with him as it is with a conqueror who sees in every new country annexed, only a new boundary".

Note that Marx name-checks 'Sisyphus' in that quote. This is a reference to the Greek myth about a man condemned by the gods to endlessly roll a boulder up to the top of a hill, only for it to inevitably roll all the way back down. Marx is saying that the hoarder is, in some sense, likewise engaged in a never-ending task. This means the 'Sisyphus' quote is of particular importance, because it is the first time in 'Capital' that Marx has mentioned the fundamental drive of a Capitalist system- accumulation.

If there is a desire to keep on hoarding, to endlessly pursue the accumulation of more wealth, what is it that drives this 'Sisyphus'-like labour? Earlier, we saw how any particular sum of money is limited in what it can purchase, but there is also another limit restricting the endless pursuit of more use-values. Each one of us can only accumulate so much stuff before the satisfaction to be gained from the next purchase drops to zero. This holds true even if the item in question is highly coveted. There are only so many luxury homes, fine art pieces, jewellery and so on that one can collect before problems like lack of available space and inability to enjoy any additions to a vast collection imposes greater costs than rewards to be gained from continuing to accumulate.

Anyway, the 'hoarder' has no interest in any commodity other than gold, and all other commodities are only useful in so far as they may be exchanged so as to feed the hoarder's gold-fetish. If this hunger for gold is to take on a Sisyphus-like quality, then it has to be a hunger that knows no satisfaction no matter how much gold you currently possess.

But why should that be? Does not gold have limited practical purposes like any commodity? Well, considered in material terms of course there are many limits. But once a C-M-C circuit is fully established, gold is no longer just material but relational. It is representative of social power, and while material accumulation does have limits, the pursuit of more social power can, given the right circumstances, become boundless.

What circumstances are those? Well, it all depends on one's understanding of 'wealth'. For some, the wealthy person is he or she who can genuinely say they are happy with their life as it is. The title of one of Sinnead O Connor's (1966-2003) albums, 'I Do Not Want What I Haven't Got', best sums up this lifestyle. Such lifestyles are based on minimalism, and while others may wonder how this person can possibly be satisfied living in such conditions ("no en-suite bathroom, can you imagine?") their opinion in no way adversely affects the minimalist's happiness.

One thing such people cannot be accused of is being envious. But, for some, envy is very much what drives them. It is an emotion they both detest and love. It is to be loved when it is an emotion others feel towards them. It is to be detested when it is an emotion others make them feel. What causes them to feel the emotion of envy is the thought, the realisation, that somewhere in the world there are others who are richer, who possess more social power, than they. Such people must be beaten!

But beating people at this game of being richer than anybody else would be pointless if nobody else cared that you were richer than they. For this reason, such people are quick to accuse those who question their lust for accumulation of social power of being envious. "You're just jealous!", they say of anyone who points out that they might have unhealthy drives that are damaging to themselves and to society. That may be true. There will be others that define wealth not in minimalist terms but in terms of causing envy in anyone possessing less social power, but do not mistake such accusations for a desire to eradicate the emotion of envy from the minds of all people. That envy should exist in the minds of others is of fundamental importance to how such people define 'wealth'. After all, without such envy, how much potency can 'social power' really have?

We can safely assume that envy does exist and that one of the things that causes it is one's lack of social power relative to others. What, practically, can be done about it? Assuming one does not alter one's lifestyle to suit the 'minimalist' definition of wealth, one is left with no option but to accumulate wealth in a Sisyphus-like game of endless one-upmanship. At this stage in Marx's dialectic, we have established a 'C-M-C' circuit, and such a circuit offers only one way to accumulate social power. One must sell commodities, but never with the intention of using exchange value to acquire other use-values. As Marx observed, "in order that gold be held as money, and made to form a hoard, it must be prevented from circulation, or from transforming itself into a means of enjoyment. The hoarder, therefore, makes a sacrifice of the lusts of the flesh to his gold fetish".

The hoarder can only withdraw so much of the money-commodity from circulation, and the limit is set by how much 'commodity' he has to sell. This results in a compulsion to work as hard as possible so as to produce more commodities to be sold in order to get more gold, the crystallised form of social power. At the same time, the hoarder is at pains to ensure as little gold as possible falls out of his possession. "Hard work, saving and avarice are,

therefore, his three cardinal virtues, and to sell much and buy little the sum of his political economy".

Is this the only reason that hoards and hoarders exist? Because of a love/hate relationship with envy? Actually, no. Marx points out that hoarding is not only the preserve of those who desire to feed off of other's envy, but actually something that is of vital importance to the stability of the C-M-C circuit.

Marx reminds us that "along with the continual fluctuations in the extent and rapidity of the circulation of commodities, the quantity of money current unceasingly ebbs and flows". Here, then, we find him modifying his theory of money. Now, he is saying that the sum of prices is modified both by the velocity at which currencies circulate, plus a reserve fund. That reserve fund represents more currency that can be inputted into the system as and when a rise in demand necessitates an increase in currency. When there is less demand, it is time to withdraw some of that currency. "Circulating coin must be repelled in order to act again as more or less stagnant money". Hoarding removes currency from circulation, because it converts money from its role as currency or means of exchange, into a store of value. Without this ability to inject money into the system, or to withdraw it, commercial markets would be a good deal less stable.

CHAPTER TWENTY-SIX

In the next section, Marx turns the focus on 'Means of Payment'. His opening move is to remind us that, whereas with a 'C-C' exchange commodities are alienated 'here' and 'now' (or no exchange happens at all) once the C-M-C circuit is established both convenience and necessity mean "conditions arise under which the alienation of commodities becomes separated, by an interval of time, from the realisation of their prices".

There are all kinds of reasons why the producer of commodity A may be ready to sell before the producer of commodity B. Some commodities take longer to produce than others. Some commodities can be made from locally-sourced materials, but others require materials from distant locations. Sometimes, commodities are dependent on seasons, some only available in spring, others, perhaps, autumn. Given that all these conditions are factors in the production of commodities, it is obvious that producers will be ready to sell their wares at different times. In the previous section it was these different temporalities in entering the market that led to the need to hoard money. The commodity producers found they needed to save money in order to be able to buy necessities during hard times when they had no commodities to exchange.

But, it is hoarding, delaying the purchase of a commodity until you have the means to pay for it, the only option available to players in a C-M-C circuit? Actually, no. There is another option, and that is for the owner to agree to alienate their commodity and to receive payment for it at a later date. Perhaps the most familiar form of this arrangement are the mortgages people take on in order to own homes. Rather than a would-be buyer hoarding money until sufficient funds have been raised (which could take years as houses are usually the most expensive commodity one covets) the seller agrees to let the buyer have the home now, on condition that they pay for it at some time in the future.

So hoarding, which previously appeared to be completely essential to the smooth workings of the market, now turns out to be somewhat less necessary. Instead, ‘buyer’ and ‘seller’ can come to an agreement like “you can take this commodity now, and we’ll settle up at the end of the month”. There is, of course, a good deal of trust involved in such an arrangement, since the seller has only the buyer’s word that they will hand over payment when the time to do so comes. How can somebody’s word carry more weight? Well, one obvious way is for such arrangements to become formalised, with terms and conditions written into law and enforced by powerful regulators able to punish those who violate the agreement.

Whether these legal operations exist, or the ‘buy now pay later’ arrangement relies on a person’s good reputation and nothing else, once such arrangements are in operation we have another transition. Take the person who receives a commodity, what role are they taking on? They are not a ‘buyer’, since they have insufficient funds with which to purchase the commodity. Nor are they a hoarder, because they did not put off seeking an exchange until they had saved up enough money to afford what it was they wanted. Instead, the purchaser in this sort of arrangement is a ‘debtor’.

As for the person who agrees that the debtor may take a commodity they have not yet purchased, such a person is not a ‘seller’, since no real money has changed hands. They are a ‘creditor’ (and the word ‘credit’ has the same root as do words like ‘creed’, ‘credulity’ and ‘creditability’, all associated with trust). The means of exchange, too, has undergone a transition. No currency is in play here, and nobody is hoarding money. Instead we have what Marx calls a ‘means of payment’, or a promise to later purchase a commodity that changes hands today.

Now, so far we have talked about a ‘buy now, pay later’ arrangement, in which the creditor alienates their commodity under the condition that the debtor pays for it at an agreed future date. But once promises to pay or credit become part of market activity, the ‘commodification of everything’ effect can work on such arrangements. The effect this has is to bring about a transition of the C-M-C circuit. Rather than sellers alienating a commodity to get money with which to purchase a different commodity, you can have creditors lending debtors money so that they may buy what they need, but on condition that they later return the money. In other words, we have a ‘money-commodity-money’ or M-C-M circuit.

It would be incorrect, however, to suppose that credit arrangements are caused by temporality issues in the C-M-C circuit and that before such a circuit existed there were no such arrangements. Not so, Marx informs us, because “the same characters [of ‘creditor’ and ‘debtor’] can, however, be assumed independently of the circulation of commodities”.

Recall how the story of ‘credit’ emerging only at the end of an evolving system of exchange that began with barter is a prime example of a ‘Mythstake’, since it is a tale told as though it were a matter of historical fact, even though the evidence rules out things happening in this way. The truth is that credit came first and has always been the preferred arrangement among people who share some kind of social tie (part of the same family; community; guild, anyway, something that establishes networks of ongoing relations). Commercial markets did not evolve because individuals owing nothing to one another figured out ways to overcome the many shortcomings of barter, only relying on the State to referee credit systems when such arrangements came into being. Rather, the State has always played a fundamental role

in bringing commercial markets into being, either in a direct way, or as a side-effect of State operations. There has never been a ‘free market’, if by that we mean a commercial market run on true ‘Laissez Faire’ principles without the State involved in any way.

Since creditors and debtors far preceded the age of Capitalism, the most fundamental part of Marxist philosophy- that history is best thought of in terms of class struggle- was going on between ‘creditor’ and ‘debtor’ long before conditions that would allow Capitalism to take root and flourish were in place. “The class-struggles of the ancient world took the form chiefly of a contest between debtors and creditors, which in Rome ended in the ruin of the Plebian debtors. They were displaced by slaves. In the Middle-Ages, the contest ended with the ruin of the feudal debtors, who lost their political power together with the economic basis on which it was established”. Those viewing history from the perspective of a certain ‘Mythstake’ would no doubt say that such collapses of the debtor-creditor relationship must have resulted in everyone “returning to barter”. Not so. Instead, people abandoned the use of coinage and returned to anarchistic credit systems.

Another point that Marx makes is that, just like the roles of ‘buyer’ and ‘seller’, ‘creditor’ and ‘debtor’ are not fixed roles. Just as ‘buyer’ becomes ‘seller’ as exchanges go round and round the C-M-C circuit, so too are the roles of ‘creditor’ and ‘debtor’ transient and alternating. This was especially true of ancient credit systems in which everyone was simultaneously creditor and debtor in complex webs of obligations that were viewed as the very fabric of social life itself.

Remember, though, that there is a power relation between ‘buyer’ and ‘seller’ and an imbalance of difficulties that tend to disfavour the ‘seller’ and confer advantages onto the ‘buyer’. Likewise, there is a power imbalance between ‘creditor’ and ‘debtor’ only, Marx tells us, “one far more capable of crystallisation” than the roles of ‘buyer’ and ‘seller’. In other words, as markets evolve more and more in the direction of Capitalism, some will take on the role of Creditor on a more or less permanent basis, running their operations in that M-C-M circuit. By the Hegelian law of ‘identity of Opposites’, if some are full-time creditors, others must be permanently indebted. Maybe not individually, since one might have the means to clear one’s debts. But there must be a class of permanent debtors if there is a class of full-time creditors.

Marx then returns to the circulation process, noticing that something has happened to money, something that not only affects it, but also its equivalent, the ‘Commodity’. The difference now is that “the two poles of the process of sale, has ceased to be simultaneous”. In a C-M-C circuit, money functions mostly as a means to an end. The Seller’s intention is to sell a commodity in order to obtain its exchange-value so as to then purchase another commodity that satisfies an unmet want. For the hoarder, though, holding onto the money-commodity is the aim, not a means to an end. The hoarder sells commodities in order to preserve the money-form of his commodities.

And then there is the ‘Debtor’. How does money figure in this character’s relationship? It is not really a means of exchange, since commodities have already changed hands. The debtor sells commodities in order to clear her debts. Failure to so so risks damage to her reputation. Creditors would be less likely to extend credit in the future. Also, given the right legal framework, authorities could come in an claim whatever goods the debtor owns, up to

the value of the outstanding debt (in some cases, this can even include taking the debtor and/ or her children and forcing them to labour until the debt is repaid). In the case of both ‘hoarder’ and ‘debtor’, then, the need to have commodities to sell remains. But “the value form of commodities, money, is…now the end and aim of a sale, and that owing to a social necessity springing out of the process itself”.

What about the Creditor? So long as this character has money (which they must have, by definition) then there really is no need for them to produce commodities anymore. Since they already have money, they can operate exclusively in the M-C-M circuit. Here, the intention is to lend money. Those you lend it to are then obliged to produce commodities in order to return what they borrowed. True, as a human being, ‘Creditor’ still needs commodities in order to satisfy ongoing wants. But when acting in the role of Creditor, all this character does is lend money on the condition that the Debtor will later return it.

The thing is, though, if the Creditor desires money, wouldn’t it make a great deal more sense to be a Hoarder, holding onto money rather than loaning it? Where the C-M-C circuit is concerned, an exchange of equivalents is perfectly sensible. One uses money in order to exchange one use-value for a different use-value that embodies an equivalent amount of socially-necessary labour. Everything balances out and everyone is content. The M-C-M circuit, on the other hand, is completely nonsensical if all you get back is the same amount you loaned. Somehow (even though this would seem to violate the equivalence principle of exchange) the creditor is going to have to figure out a way to get more money out of the M-C-M circuit than they threw into it. Once this trick has been figured out, the Creditor will have transitioned into a new role. The Creditor will have become a Capitalist.

As well as setting up the challenge of gaining more money while not violating the rules of exchange, once the M-C-M circuit is in place and people fall into the roles of ‘creditor’ and ‘debtor’, market systems have a means of greatly economising means of payment. It is quite possible to have ‘chains’ of creditors and debtors. Creditor A lends to debtor B. Debtor B extends credit to C, who lends to D. But, what if D owes money to A? In that case, we can perhaps ‘close the circle’ and have these credits/debts instantly cancel each other out, at least so far as they balance.

This is quite possible, because what we are concerned with here is far more ‘relational’ than ‘material’. But, since we tend to believe it is more material than relational, the overall effect seems kind of weird. There’s an old story that highlights this weirdness.

The story asks us to imagine a town where everyone is in debt and there is a general atmosphere of depression. One day, a stranger passes through this town on the way to some distant location. Figuring it is almost time to rest before continuing on his journey, the stranger walks into the local hotel. He places an impressive looking paper note on the desk, which the hotel manager immediately recognises as ‘money’. The stranger says he might like to stay the night, but wants to check out the rooms before coming to a final decision. The hotel manager agrees that the stranger can go upstairs and see if everything is to his liking, and so the stranger goes upstairs, leaving the money on the desk as security.

The hotel manager takes that money and runs over to the local butcher. The butcher accepts the note in payment of debt, and then he runs over to the pig farmer so as to settle his debt.

The pig farmer, who is indebted to the supplier, the co-op, goes to said co-op so as to retire his debt. The guy at the co-op seeks out the local prostitute who, having been facing hard times, has had no option but to offer her services on credit. The co-op guy hands the hooker the money.

The prostitute has a debt of her own she needs to pay. She has a room bill at the local hotel, the same one that the stranger is checking out. She hands the note to the hotel manager who places it on the desk where the stranger left it.

Now, the stranger comes downstairs and he picks up that fancy-looking note. “Having checked out this hotel’s rooms, I have decided things are not to my satisfaction”, he says. Then, he does something that seems very shocking. He sets fire to the money and uses it to light a cigar. “Oh this?”, he says, noticing the shocked look on the manager’s face. “This was phoney money, pal!”. And with that, he departs in a cloud of smoke, never to be seen in this town again.

Throughout this sequence of events, what was produced? Nothing. How much did anyone really earn? Nobody earned anything. So, everything is the same as it was before the stranger showed up? Oh no, things are much better now, because everyone is out of debt and regarding the future with far more optimism (or, at least, they are so long as nobody owns up and admits they exchanged a fake banknote).

It may seem strange that such a change in people’s perceptions has come about when, in material terms, nothing has changed. But, remember, that we are really talking about intersubjectivity here. If people believe times are good (or bad) and collectively act on those feelings, social necessity makes it so.

It is also social necessity that is responsible for the formation of the M-C-M circuit. One of Marx’s primary concerns in this section is to hammer home this point, which makes this section a particularly crucial part of the argument being laid out here. Criticisms of Capitalism are often simplified down to individuals or groups acting out of greed and taking advantage of arrangements that allow one class to steal from another.

Here, though, we see that Marx’s argument is more complex than a simple matter of greed. Yes, greed does play a part. The M-C-M circuit attracts those who lust after gold and who desire the power that comes from hoarding the money-form. But, even if humans had no capacity to act in greedy ways and only ever exchanged commodities dispassionately, the M-C-M circuit would be bound to emerge, anyway. Why? Because there is a contradiction between ‘money’ as a measure of value, and ‘money’ as a means of circulation. The only way to resolve such a contradiction is to use money as a means of payment, thereby bringing about a form of circulation capable of bringing more money into circulation when it’s needed and removing money when it’s not.

Absent of that ability to inject and remove money as necessity dictates, neither the measure of value nor the means of circulation would reach anything like equilibrium. Forget a fairly constant measure of value, it would start shooting all over the place. Since people wish to prevent this because it causes too many problems, we seek ways to maintain a constant measure of value. This inevitably leads to money being used as a means of payment and a

hoard, as well as a currency facilitating exchange. It is impossible to use money in this way without bringing about a form of circulation where money is focused on money. So, the contradictions inherent to ‘money as measure of value’, and as ‘means of circulation’ is what primarily leads to the M-C-M circuit being established. It is social necessity that brings all this about.

As Marxist scholar David Harvey said, “Capitalism does not actually depend simply on individuals being greedy and so forth; it depends on social necessity piled on top of social necessity, which allows for greed of a certain kind to flourish in certain situations”.

But, in the true dialectic fashion, the synthesis of ‘means of payment’ turns out to have its own contradiction. Describing it as a form of circulation implies a neat, orderly process in which everything balances out. Sometimes, payments do indeed balance one another, as in that scenario where A owes B, B owes C, C owes D and D owes A. In such a situation, money functions only as a ‘money of account’ and so can operate in ideal form only. No coinage, notes or anything of that sort need change hands, because if the credits/debts all balance, then once confronted with each other they will annul each other, like positive and negative quantities that cancel each other out.

But, sometimes things don’t balance out and payments have to be made. In that case, we cannot say money serves as a circulating medium, because we cannot close the loop like in the scenario where A turns out to be both creditor and debtor. Instead, we have a chain of payments where A owes B, who owes C, who owes D…and on and on the chain goes. Debts that do not balance out tend instead to grow, and will keep on growing so long as loans are transferred from one person to another, particularly when a ‘greater sucker’ belief is in operation. That is to say, when one actor agrees to take on a burden of debt because they believe they can pass it onto someone else willing to shoulder a greater debt burden, meaning that not only are the current debt’s holder’s liabilities cleared but they end up with more money.

Here we have the formation of speculative bubbles, of the boom and bust explosions and contractions of markets that have long plagued Capitalism. “At the moment of speculation”, Marx noted, “everyone’s a Protestant”, meaning everyone is acting on the faith that debts will continue to be transferable (or, to use the favoured terminology, there will continue to be ‘liquidity’ in the markets). Intersubjectivity can have profound effects on fictitious value, since it can turn it into something almost indistinguishable from real value. After all, if one believes they possess a fortune, or possess something that can transition into a fortune, and everyone else believes it too, then their beliefs are justified. But, only in so far as that collective faith behind speculation remains in play.

Such faith, though, can evaporate, and that leads to crisis. According to Marx, “such a crisis occurs only when the ever-lengthening chain of payments, and an artificial means of settling them, has been fully developed. Whenever there is a general and extensive disturbance of this mechanism, no matter what its cause, money becomes immediately transformed, from its merely ideal shape of money of account, into hard cash”.

When this happens, the speculative boom is over and the bust begins. We tend to use material terminology to describe such events, even though they are almost entirely

relational. Come the bust, reports flood in, sending alarm that “the currency is collapsing” and “the economy has shrunk”. But, what does that mean? Does it mean that, were you to measure the earth, you would find it was smaller than it used to be? No of course not. Would the earth contain less resources, and did it somehow contain more, when the speculative bubble was expanding (there we go again with those materialist metaphors)? No, speculative bubbles and subsequent crashes never alter the sum total of earth’s inventory; they merely affect the way the fruits of collective effort are redistributed. Perhaps the weirdest thing about such crashes is that everything material is still there. Mines contain the same amount of ore; farms have as much food-growing capacity; shops contain as much produce as they ever did. Our capacity to transform materials into use-values is as effective as it ever was. There has been no alteration of the laws of nature, meaning what was possible yesterday is just as possible now.

But, we believe that a profound change has happened, and acting on such beliefs, collectively, makes it so. “The use-value of commodity becomes valueless, and their value vanishes in the presence of its own independent form. On the eve of the crisis, the bourgeoisie, with the self-sufficiency that springs from intoxicating prosperity, declares money to be a vain imagination. Commodities alone are money. But now the cry is everywhere: money alone is a commodity!…In a crisis, the antithesis between commodities and their value form, money, becomes heightened into an absolute contradiction”.

Again, both the ‘intoxicating prosperity’ and the pain so many feel when it all ‘evaporates’ away, are relational rather than material effects. What we are talking about here are reevaluations of what counts as ‘value’. For Marx, value ultimately lies not in any material (not even gold) but in our capacity to do socially-necessary work. When we imagine value to have detached from the immediate concerns of socially-necessary labour time, the money system flies out of control, pumping out greater amounts of fictitious value that evaporates the moment faith in the boundless future is lost.

CHAPTER TWENTY-SEVEN

Now we come to the final section of this chapter on the circulation of commodities. The heading of this section, ‘Universal Money’, indicates that Marx will be viewing the C-M-C/M-C-M circuits from the widest possible perspective. This is indeed what we find, for in this section Marx talks about how, once such circuits operate on a national and international level, the role of the State becomes crucial.

Individual states manage their own monetary systems, issue their own money tokens and regulate their own money supplies. Individual states cannot, however, act with complete freedom when it comes to money. The reason why not is because there is a greater entity that can discipline state behaviour. That greater entity is the world market. The need to expand, which is built into the very foundations of the M-C-M circuit, mean that nations come to exchange commodities with other nations, and so how commodity exchange works on an international or global level becomes a critical concern for the development of effective money systems.

A big concern for the State therefore becomes how to ensure the money system within its own borders remains stable within a world of market competition. All through Marx’s life, and

indeed up until the 1960s/70s, States thought the best way to achieve stability was to connect the monetary system firmly to a metallic base.

The chief motivation for the gold standard (as it came to be known) was the problem of trust. Players in C-M-C circuits needed assurance that when they exported goods to somebody else, that person would pay the correct amount, rather than not pay at all or pay with fake money (which amounts to the same thing). Such concerns were particularly acute when great distances separated the players, as was obviously the case where trade between nations was concerned.

It was decided that the best thing to do would be to dispense with the need to trust people altogether. This could be done, it was believed, by tying the notional value of different national currencies at a fixed rate. With the right rules and regulations in place, traders could be assured that x units of currency y would exchange for z units of gold, a metal that had long been regarded as a store of value, and which could not be altered by governments (at least, not easily).
Once each country was pegged to gold at a fixed rate, any foreign currency earned through trade could be converted back into gold. This alleviated the need to use gold itself as a form of currency, since traders could use tokens that could be taken to the issuing country's central bank and exchanged for the gold backing that paper money. Underlying this arrangement was a 'promise of convertibility'. In other words, the paper money would be convertible for gold at a fixed rate, and so would be equivalent in value to that gold. There was, therefore, no need to worry about what that paper money was really worth.

However, there was a possibility that 'promise of convertibility' would not be upheld, because there was always the temptation, for example, to run the printing presses in order to pay for imports in excess of a country's gold reserves. But, while that could be done, it was believed that the exporting countries would grow suspicious and demand gold. The issuing country would be unable to meet the 'promise of convertibility', because there were insufficient reserves to cope with demand. Once realisation that a country had violated that promise spread, there would be a growing loss of confidence resulting, ultimately, in the offending economy being wrecked. So, as Mark Blythe said, "being on a gold standard therefore gave holders of a foreign currency a 'credible' signal that the money was 'sound', so long as convertibility was maintained".

Something else the gold standard did was to bring states' exports and imports into balance, thanks to the effects of inflation and deflation on domestic wages and prices. To see how such a mechanism of adjustment works, think of what would result, should a country on the gold standard export more than it imported. The effect this would have would be to import gold from the recipient countries. This would bring benefits, since the imported gold would add to the supply of domestic money, giving the country more currency to issue, leading to a rise in wages (but also prices) domestically. But, the country's imports would become cheaper while its exports became less competitive. As a result, there would eventually be more imports then exports, turning a trade surplus into a trade deficit. Such a result would see gold moving out of the country, due to the need to pay for increased imports. That, in turn, would cause the money supply (tied to gold, remember) to shrink, bringing domestic wages and prices down with it. While that would seem bad to those experiencing a decline in wealth, the silver lining of this dark cloud would be the effect on the country's

competitiveness. Exports would be cheaper and so would increase, while at the same time imports would decline. The result? The balance of trade would always eventually correct itself.

So, it was believed that the global economy should produce a balance across the system of countries as a whole, provided certain conditions were met. Those conditions were that everyone on the gold standard would be open to trade and financial flows, and that the promise of convertibility would operate in unison with prices and wages acting as the mechanism of adjustment. So long as these conditions remained in play, the gold standard freed markets from both the dangers of inflation and the risks of governments interfering in the workings of markets. It was, as Mark Blyth said, “self-regulating, automatic and impersonal”.

All in all, then, it is hardly surprising if many countries came to see securing the metallic base as a crucial part in ensuring a stable monetary system. You may recall that our friend, John Locke, had been deeply critical of the way monarchs could (as he saw it) steal other people’s property. He very much supported the gold standard, since he saw that as a way to wrestle control of economies out of the hands of interfering royalty.

Interestingly, Locke wrote essays that argued in favour of religious tolerance, more or less at the same time that Sir Isaac Newton (1642-1727) took on the role of ‘Master of the King’s Mint’. His main responsibility in this role was to assay the gold, thereby assuring the quality of England’s currency.

The oversight of the Master of the King’s Mint was particularly crucial in the years in which Locke championed tolerance of alternative religious views, because there was great trade going on that was leading to a debasement of the coinage. Newton’s response to this was to have these fraudsters hanged. So, while Locke was saying nobody should face persecution for their religious views, people were being strung up by the neck for debasing coinage. As David Harvey commented, “God is displaced by Mammon in terms of capital punishment”.

The fact that the ‘Master of the King’s Mint’ had to go so far as sentencing people to death, suggests that the gold standard was not quite as ‘self-regulating, automatic and impersonal’ as it had been made out to be. Actually, though, the problem was that it did have these qualities, and its impersonal nature in particular caused problems once ordinary people became involved.

This was because what we are talking about here is a system where domestic wages and prices did most of the adjusting to external prices. Random inflation and deflation of prices and wages provided this mechanism of adjustment, which meant that such countries not only experienced a lot of uncertainty, but also a great deal of unemployment. Not only that, but the gold standard also brought about situations where domestic monetary authorities did things like cutting spending and interest rates in order to shrink deficits and other tactics that fell under the definition of ‘austerity politics’. Mark Blyth noted that “while widgets, potatoes, steel and pneumatic pumps care not one jot about their supply price, labour most certainly does care, especially when that price (wages) goes down”. Such concerns contributed to the rise of social movements demanding protection from the anarchy of the market, with labour organising itself into unions, and political parties that promised greater social protection.

If the gold standard's need for austerity politics only had negative effects for ordinary people, it's possible that the powerful could have ignored such protests. But, the gold standard also obviously depended on the global supply of gold, and that meant the whole system came with an in-built contradictory bias. Suppose demand in trade increased faster than the money supply could be expanded. What would happen? Well, interest rates would rise and there would be an economic slump. Yes, the problem of inflation could be solved in this way, but you would have to pay a high price, because you would be creating 'deflation'.

When deflation is in play, people do what they can to protect themselves. So, for example, workers might accept a reduction in wages, hoping that in doing so they'll price themselves back into the jobs market (low wages being better than no wages). But the aggregate effect of this is that consumption is cut, the economy shrinks, and universal unemployment becomes more likely. Indeed, should a state have large trade or budget deficits and it falls into recession, it may likely find itself in a hole that is almost impossible to climb out of, because recession and deflation compound each other. Yes, there are ways to gain temporary relief, namely the taking on of more loans and debt, but that won't help in the long-run to grow out of the problem.

What this means is that it is profoundly hard to maintain a gold standard if a State is also a democracy, because once austerity effects take hold, the angry populace will vote the ruling 'pro-austerity' party out of office. Also, the global supply of gold puts a ceiling on growth, making the gold standard antagonistic to Capitalism, which accepts no limits to growth.

The gold standard, then, is not perfect. Sometimes conditions favour it, and during such times a belief arises that money is gold and all other currencies either tokens that can be redeemed for gold, or fake money. At other times conditions work against monetary systems organised around bullion, and then we go back to credit.

Today, gold continues to possess great cultural significance. Those aiming for the best outcome are said to be "going for gold", solemn ceremonies may well involve the exchange of gold items like rings or medals, and gold is traded on the market. But what we no longer have is a metallic base to Capitalism. We did, up until the 70s or thereabouts, but the gold standard came under immense stress and ultimately collapsed (this is not the first time in history that 'money as coinage' collapsed).

There was a period in which the dollar was linked to petroleum, giving rise to the 'Petro-dollar'. In a way, making fossil fuels the secure base of monetary systems makes as much sense as using precious metal for such a purpose. Indeed, it might even have made more sense. This is because fossil fuels are not only in limited supply like gold, but they also have a greater claim to be the lifeblood of industrial society. It's not just the obvious uses, such as the way fossil fuels are used as energy sources, but also in the way oil is a key component in so many products (plastic, for example, requires oil for its manufacture). Certainly throughout the whole of the 20th century, fossil fuels were so interwoven into the fabric of industrial society it would be fair to say modern society was as dependent on fossil fuels as humans are dependent on breathable air.

But, relying on the Petro-dollar turned out to be not such a great idea after all, not least because its value was too much controlled by OPEC. What, then, do we use as commodity-money today? We have to use something, right? Otherwise, ‘money’ detaches from any notion of value and spirals out of control.

Well, the truth is, nothing backs the value of currencies in use today. Or, to put it more accurately, no single thing like gold, or petroleum, or land. Instead, the value of a nation’s currency arises from the total bundle of goods and services that a country produces, which is then compared to the whole economic productivity of other countries. Why is this comparison made? So the question can be asked: “Which country is producing a bundle of commodities inside its borders that is really sustaining its currency?”.

Talk of a ‘bundle of commodities’ may make it seem as if we still back up the value of money with material things. While that’s true to the extent of us obviously continuing to produce material goods, it’s much more accurate to see this ‘bundle of commodities’ as an imaginary construct. That’s why statistics, masses of them, play such an important role. It’s statistics that allow us to imagine there is such a thing as GDP (Gross Domestic Product).

The World Bank and the International Bank of Settlements produce and collect these statistics, and such data is used to construct a fiction. What ‘fiction’ is that? The fiction that there is such a thing as a national economy. In reality there is no such thing. Biologically-speaking, all evidence points to the human race being a single species. We are one big family, all related to each other. We are not divided into different species or ‘races’; we only imagine such differences through artificial cultural constructs like caste systems or concepts like ‘national identity’ or ‘religious identity’ and things like that. Nor does the idea of a ‘national economy’ have objective reality if we ignore ‘biology’ and just focus on trade. When we do that, we find that everything is trading with everything else, globally. So there really is no such thing as a ‘national economy’.

So, we have this fiction that there are national economies, a fiction created by the production and collection of masses of statistics, and then intersubjectivity makes it seem like the world of people can be divided up into different groups, nations, however you wish to define such things.

Now let’s return to that imaginary ‘bundle of commodities’ and the question “which economy is producing a bundle of commodities inside its borders that can really sustain its currency?”. Let’s say, for sake of argument, that it is the USA that is successfully doing this. In that case, the currency of the USA should appreciate. “Look at how the dollar is rising”, people would say, “the USA is doing very well”.

But, this imaginary world of national economies trying to possess the best ‘basket of commodities’ attracts speculators hoping to make a killing out of a certain gamble. Sometimes, ‘nations’ are mistaken in their belief that they are the ones who have that ‘basket’. The hope of commodity speculators is that they will be able to convincingly argue that this is correct, that in fact the wrong measures are being applied. Once realisation dawns that this is indeed what has been going on, they’ll make a huge amount of money on the resulting commodity movement. As with any gamble, the biggest jackpots come to those who back an outcome most other people thought could never happen.

The thing with gambling, whether it be a bet on the outcome of a sporting event, the value of currencies, or whatever, is that it never really creates value. It is merely a means of transferring existing value from the ‘losers’ to the ‘winners’, and the more losers there are, and the greater their loss, the more the winners gain. Currency speculators are a good example of how you can acquire great wealth without doing much of anything to really improve quality of life.

They do offer some insightful lessons, however. Above all, they remind us of what lies behind every monetary crash, and that is imaginary forms of value. Much of what we have discussed here concerns events that happened long after Marx passed away. Nevertheless they clearly connect to the final points of discussion he raised in this chapter. He began his analysis of ‘money’ with the ‘money-commodity’ or gold, and ended up discussing ‘universal money’, something far more imaginary. This imaginative quality is not something we can dispense with, because without it the whole system would cease to function. Some wonder how such a system might be improved so that more people are brought out of poverty. Others come to the conclusion that this is a fundamentally flawed system, though so far proposals for a genuine alternative have been too vague to have any lasting hope of transcending the global Capitalist system. And then there are those who see all this as a way to gain from exploitation, a way to appropriate ever-increasing amounts of collectively produced wealth without being accused of stealing by the authorities who make and enforce laws.

For Marx, successfully pulling off this trick depends on the M-C-M circuit, for it is the means by which money may be transformed into capital.

CHAPTER TWENTY-EIGHT

We have now worked our way not only to the end of chapter three but to the start of part two of ‘Capital’. Whereas part one was concerned with the fundamental properties of ‘the Commodity’ and how a dialectical unfolding of contradictions inherent to commodities results in the emergence of ‘universal money’, part two is concerned with the concept this entire book is named after: Capital.

The first thing we should notice is the title given to part two, which is ‘The Transformation of Money Into Capital’. Right away, then, Marx asserts that, while all capital is money, not all money is capital. As Marx himself explains, “all new capital, to commence with, comes on the stage, that is, on the market, whether of commodities, labour, or money, even in our days, in the shape of money that by a definite process has to be transformed into capital”.

Therefore, we need to distinguish between money that is money, and money that is capital, and we also need to figure out how one is transformed into the other. Since the focus is now very much on ‘money’ (aka ‘exchange value’) the most obvious thing to investigate is the M-C-M circuit, since that begins and ends with money. Marx comments, “money that circulates in [an M-C-M] circuit…is already potentially capital”.

What needs to happen in order for money circulating around M-C-M to become actual, and not just potential, capital? In order to answer that question, Marx suggests we undergo a closer examination of the M-C-M circuit.

First of all, it seems that this circuit is similar to C-M-C, and indeed these two circuits do have things in common. Both consist of purchases (M-C) and sales (C-M). In the case of C-M-C, a commodity is sold, a process that effectively transforms the commodity's use-value into exchange value, represented by money. Then, that money is used to buy (or, we might say, it transforms into) another commodity. In the case of M-C-M, the same operations occur, only in reverse: a commodity is bought with money and then sold for money.

Actually, we can simplify the operation of M-C-M by neglecting any difference between buying and selling. This we do by asserting that a commodity is bought with money, and then money is bought with that commodity. In making this move, the real purpose of this operation becomes a little clearer. Really, the aim is to exchange money for money. That being the case, can we not simplify things further, by reducing this circuit to a simple exchange of monies? After all, the C-M-C circuit can dispense altogether with money (since it makes exchanges more convenient, rather than being absolutely necessary) thereby becoming a C-C circuit. So why can't they cut out the middleman, so to speak, thereby giving us an M-M form of exchange?

Well, we have already suggested why such a move would make no sense, and now Marx himself confirms the inherent problem. "It is evident that the circuit M-C-M would be absurd and without meaning if the intention were to exchange by this means two equal sums of money, £100 for £100. The miser's plan would be far simpler and surer: he sticks to his £100 instead of exposing it to the dangers of circulation".

Having asserted that M-M is absurd, Marx then goes back to the things C-M-C/M-C-M have in common. They both consist of the same antithetical phases of C-M (sales) and M-C (purchases). The same material elements- a commodity and money- are involved. We also have the same roles of 'buyer' and 'seller'. When considering a complete circuit, we find, in either case (as Marx puts it) a "unity of the same two antithetical phases, and in each case this unity is brought about by the intervention of three contracting parties, of whom one only sells, another only buys, while the third both buys and sells".

That's what the forms C-M-C and M-C-M have in common, but of course these circuits are not identical. The most obvious difference is that we have an inversion of the order of the phases 'C-M' and 'M-C'. That is to say, the circulation of commodities commences with a sale and is brought to an end with a purchase, while where money that is to become capital is concerned, we begin with a purchase and end with a sale.

Now we can see why the C-M-C circuit cannot be the source of capital. It is because, in the case of a C-M-C circuit, commodities, not capital, are both the starting point and the goal. But, where capital is concerned, the starting point and goal has got to be 'money'. This means that markets could and indeed did exist, operating in the C-M-C form, before anyone was making any capital. 'Markets' and 'Capitalism' do not necessarily go together.

It might be less obvious why a ‘miser’ is not a capitalist, since such a character is obviously focused on accumulating money. The difference lies in how the miser or hoarder goes about fulfilling the goal of obtaining more money. This brings us to a provisional definition of capital, which is “money that is used in a certain way”. Therefore, although the creation of capital clearly involves the use of material elements (commodities and money, the latter assumed to be gold coins) what actually creates capital is more social than material, namely a decision on behalf of some to use money in a very particular way.

But, what is this “particular way”? Well, it’s not what happens in a C-M-C circuit. In that case, money is spent in order to buy another commodity and it is plain why such a circuit should come to a close. If one buys another commodity, with the intention of consuming its use-value, that commodity necessarily drops out of circulation and into the sphere of consumption. Here, then, money is spent once and for all. As Marx says, “the circuit C-M-C comes completely to an end, so soon as the money brought in by the sale of one commodity is abstracted again by the purchase of another”.

The goal of our wannabe capitalist, however, is not to end up with use-value. The wannabe capitalist is not interested in spending his money, at least not in the ordinary sense of the word. Rather, the aim of the capitalist is to let the money go (that’s why no capitalist is really a miser) with the intention of that money, transformed into capital, coming back. So, as Marx tells us, “the money, therefore, is not spent, it is merely advanced”.

This intent highlights another way in which capital is different to what goes on in a C-M-C circuit, In that case, one seller obtains money from one ‘buyer’, which is then paid to some other ‘seller’. The same money, therefore, changes its place twice. It is contrariwise with an M-C-M circuit, because in that case it is the commodity that changes place twice (taken from the hands of one seller, only to be placed in those of another buyer). “Here”, Marx tells us, “the double change of place of the same commodity brings about the reflux of the money to its point of departure”.

So, the starting point of capital involves money being advanced, thrown into an M-C-M circuit with the intention that it will flow back to its point of departure, the capitalist’s pocket. This reflux, though, can have three possible metamorphoses on that money. One possibility is that the same money is returned. Not literally the same as in the exact same physical coins, but the same amount: £100 is advanced and £100 comes back. Or, less money comes back. So, for example, £100 is advanced, but you end up with, say £98. Obviously, if advancing £100 only to receive £100 is absurd, then advancing any sum of money only to get a lesser sum back is worse than useless (from one person’s perspective at least).

So that leaves the third possibility, in which a commodity is sold for more than it was bought for. This outcome, and this outcome alone, is the one that interests our wannabe capitalist. However, the reflux that brings money back to its point of departure is not dependent on a commodity being sold for more than was paid for it. It depends only on a resale. “The reflux itself takes place as soon as the purchased commodity is resold, in other words, as soon as the circuit M-C-M is completed. We have here, therefore, a palpable difference between the circulation of money as capital, and its circulation as mere money”. The M-C-M circuit could return an equivalent sum of money, or less, as well as maybe returning more, since there’s nothing inherent to this circuit that guarantees those unfavourable outcomes won’t happen.

Marx does point out that, in a C-M-C circuit, money can flow back to its starting point, but this can only happen when the C-M-C circuit is repeated. This in turn means it's not 'the same' money that comes back. In other words, if I sell some of my commodity for a sum of money, that money now belongs to whoever purchased my commodity. I might then sell some more of my commodity, in which case money would flow to me, but only because the same operation, C-M-C, had happened twice, not because of a sequel of the first transaction. And, of course, as soon as the second C-M-C circuit is completed, this money also leaves my pocket and becomes somebody else's money.

The expenditure of money in a C-M-C circuit therefore really has nothing to do with its reflux. This puts it in stark contrast to the M-C-M circuit, because, absent of this flowing back of money, the circuit is not complete. It has been interrupted, it has failed. Money can stop flowing in a C-M-C circuit, because ultimately the aim here is to obtain a use-value that satisfies an unmet want. Actually consuming that use-value happens in the sphere of consumption, not exchange. The purpose of an M-C-M circuit, by contrast, begins and ends with money. So it's exchange value, not use-vale, that comprises the leading motive here.

Marx then reminds us that a C-C exchange can work because, while the two commodities have the same exchange value they have qualitatively different use-values. The same reasoning shows that a M-C exchange is also a mutually valid one. Person A gives the exchange-value to person B, who then alienates a commodity with a different use-value but which embodies equivalent exchange-value.

However, if we consider the opposite equation, 'C-M', a problem immediately arises. Such an equation is an expression of a tautology, because both the commodity and the money have the same economic form. In such an operation, both 'C' and 'M' are treated as 'money', since it is only the exchange-value that matters here. For, as Marx says, "[C-M] are not qualitatively different use-values, for money is but the converted form of commodities, in which their particular use-values vanish". In other words, C-M seems to be as purposeless as M-M. The only thing that distinguishes one sum of money from another is that they are quantitatively different sums of money.

Therefore, in order to prevent M-C-M from being tautological and useless, we need to modify the equation so that it expresses the need to produce different sums of money. M-C-M becomes M-C-M'. What does the M' signify? It stands for an increment, an additional sum of money, on top of the original sum advanced. So now, successfully completing this circuit does not entail a roundabout way of swapping equal sums of money. Instead, as Marx says, "the value originally advanced…not only remains intact while in circulation, but adds to itself a surplus-value or expands itself. It is this movement that converts it into capital".

So, now we can return to our provisional definition of capital ("money that is used in a certain way") and improve it, by now asserting that capital is "value which is moving in such a way as to create more value".

The key word in that definition is 'moving', because, as Marx said of the M-CM' circuit, "it is this movement that converts [money] into capital". Here, we again see Marx the 'historical

materialist' looking for a way to move somewhat beyond the material, in this case by defining capital in terms that describe it as a process more than as a thing. Money, too, is an abstraction, of course, and immaterial in that sense. But, it also sometimes crystallises into forms we can handle, such as notes and coins. Money remains money whether we hoard it, or alienate it in an exchange. But capital can never come to rest for, as David Harvey noted, "It's not a thing. Only when it is put in motion is it capital, and when that motion ceases it is not capital". Now we can also see that the eclipse metaphor Marx used earlier was particularly pertinent, because perpetual motion was central to the argument Marx was setting up.

Marx then notes that the two extremes of the C-M-C circuit may also represent different quantities of value. Recall that I said that a commodity might be sold for less than its exchange-value. No doubt the buyer would be happy in such circumstances, since he is getting a real bargain. However, in this case it was by no means the intention of both parties that this quantitative difference in exchange-values of the two commodities came about. It was, instead, a lucky (or misfortunate, depending on one's perspective) accident. If the two commodities had been handled as equivalents, in terms of exchange-value, the process of the C-M-C circuit would be a valid one because, as Marx said, "the equivalence of their value is rather a necessary condition of its normal course". In contrast, where M-C-M' is concerned, swapping equivalent exchange-values is to be avoided at all times.

Marx points out that, where selling in order to buy is concerned, the very purpose of this exchange keeps it within certain bounds. After all, what is one aiming for? The satisfaction of unmet wants. What does one need to do in order to satisfy such wants? Find a commodity with the appropriate use-value and withdraw it from circulation so as to consume it. Use-values can be hoarded, yes, but we've already seen how there's a limit on the number of use-values one can reasonably hoard.

But what happens when we reverse the process so that, instead of selling in order to buy, we are buying so that we can sell? In that case, we are not swapping qualitatively different use-values, because the process both begins and ends with exchange-value, a value that must expand if the process of M-C-M' is to be satisfied. But let's say the process is indeed satisfied, and £100 that was thrown into the M-C-M' circuit comes back as £101 or any sum higher than £100. What happens next?

There are three possibilities. One is that the money is spent so as to satisfy some unmet need. Since 'M-C' is not the M-C-M' form of circulation, no capital is being produced in this particular exchange. The second possibility is that the money is hoarded. That would necessitate withdrawing that money from circulation, and since capital is, by definition, "value in motion", a petrified hoard cannot be capital. The third possibility is that £101 being thrown into the M-C-M' circuit just like the original £100, with the intent that it too shall come back with surplus value attached. Why would anyone wish to part with £101 and throw it into the M-C-M' form of circulation? For the same reason that any definite sum of money is advanced rather than saved or spent. In purely qualitative terms, any two sums of money are the same, being as they are both money. Also, considered quantitatively, any particular sum of money always represents a sum of definite, and therefore limited, value. For these reasons, then, any definite amount of money has as much reason to be advanced, to be thrown into the M-C-M' circuit, as any other. And, of course, it is only when money is

advanced, not saved or spent, that it can become capital. Capital, ultimately, is not concerned with use-values or exchange-values. Such things only matter in so far as they help capital achieve what it's really aiming for. As Marx said, "there is just the same inducement to augment the value of the £110 as that of the £100, for both are but limited expressions for exchange-value, and therefore both have the same vocation to approach, by quantitative increase, as near as possible to absolute wealth".

Absolute wealth, then, is what capital is really seeking, a sum that is always more than any sum we can express (apart, of course, from the purely abstract sum of £infinity). This is the only way the definition of capital, the means of distinguishing it from spending money or hoarded money, can be satisfied. Capital is "value that is moving in such a way as to produce more value". It must always be moving in this process which produces surplus value, or it isn't capital.

Therefore, as David Harvey pointed out, "what is socially necessary for the survival of capitalism is its constant expansion, its constant growth. And it's striving towards this limitless growth…Capitalism as a system is socially necessarily connected to this drive for surplus value".

None of this is to say that capitalism will ever achieve its ultimate goal. Indeed, in some sense, it won't ever achieve its goal, since any definite sum of money is always less than 'absolute wealth'. The question isn't so much whether it will ever actually achieve its goal (since it clearly won't) but rather whether there are limits that will stop its never ending quest for surplus value. We can certainly imagine potential limits. Our planet is experiencing tremendous environmental pressures, in large part due to the speed and immensity at which natural resources are being consumed to feed capitalism's insatiable appetite for profit. Perhaps the harmful side-effects of this race for absolute wealth will accumulate until the whole system crashes in environmental Armageddon? Then again, capitalism's endless drive for surplus value might just drive the innovation needed to find solutions to these problems (especially if they are commodifiable) showing today's doomsayers to be as premature in their proclamations of catastrophe as, well, all past doomsayers who thought the end of capitalism is nigh.

But, then again, the total resources of our planet are not infinite, and nor can they be recycled infinitely quickly (indeed, many don't seem particularly recyclable at all). If Capitalism is to survive, it has to become inter-planetary, on the way to ever-greater expansion. In many ways, then, capitalism is only sustainable in so far as cancer is. Cancer will, if left to grow unchecked, eventually kill its living host. But, from cancer's perspective, that is of no concern so long as there are other hosts it can feed off. Similarly, it doesn't matter to Capitalism if it destroys this planet or if the growth that defines it is arrested on this planet, but it must, by definition, be seeking that surplus value somewhere.

As well as environmental challenges, there are possible social limits. People might just become satisfied with the level of prosperity currently reached, therefore adopting that attitude "I do not want what I haven't got". If that ever became a universal stance, capitalism would be over, and would stay dead unless and until the desire for absolute wealth was revived.

Having established the form of circulation that must be in operation if capital is to be produced, Marx then turns to the roles people must adopt so that such functions can be fulfilled. Here, it is worth remembering that Marx rarely talks about people, but rather characters who are personifications of relations of production/exchange. We have already met 'Buyer', 'Seller' and 'Hoarder'. Now we have another personification. "As the conscious representation of this movement [M-C-M'] the possessor of money becomes a capitalist". As ever, actual people are a complex mix of many (sometimes conflicting) motivations, so nobody is ever really just a Capitalist, just as nobody ever operates exclusively as 'Buyer' or 'Hoarder' all the time.

That caveat out of the way, assuming Marx's premise of 'roles' or 'characters', what would a person who is the very personification of the M-C-M' circuit be like? They would have no interest, ultimately, in use-values. They would certainly hope others could be persuaded to desire use-values, because such desires drive exchanges that just might satisfy the quest for surplus-value. But, in and of themselves, 'use-values' are never what 'the Capitalist' is aiming for.

Nor, for that matter, has the capitalist any real interest in making profit from a single transaction. Were the money thus obtained used for any other purpose, spent or saved, it would not be capital and the person using money in those alternative ways would not be acting like a capitalist. "The restless, never-ending process of profit-making alone is what he aims at". The Capitalist, by definition, has to be always seeking surplus-value, the expansion of profit, via the M-C-M' circuit.

In 1905, Max Weber (1864-1920) wrote an essay, in which he looked for the answer to the following question: why did Capitalism emerge in Western Europe? This may seem like an odd question. After all, Capitalism had to begin somewhere, so why should that 'somewhere' not happen to be Western Europe?

Weber, though, suspected reasons other than happenstance had been in play. This was because all of the component pieces needed to create Capitalism were to be found almost anywhere in the world. Whether you looked at China, India, or the Islamic world, you found markets, commerce, and wealthy merchants. Not only that, but you also found some people acting in ways that would have them labelled as 'Capitalists' and not unreasonably so. And yet, with all that in place, Capitalism did not emerge in several places (like the eye is said to have evolved, independently, in many different species) but only in Western Europe.

But Weber noticed something else could be found, again almost anywhere in the world. That 'something else' was an attitude that ultimately worked against the M-C-M' circuit. While it was not hard to find people who were very keen on amassing a fortune, in nearly all cases such people would, sooner or later, turn away from the pursuit of profit. Having cashed in their chips, the wealthy would retire into great luxury, buying palaces for themselves and enjoying a life of idle pleasure. Or (and this was the normal course of action, given the enormous amount of social pressure compelling anyone with the means to do so to conform) these one-time fortune hunters would turn philanthropic, spending money that could have been invested in profit-making schemes in religious or public works.

Weber wondered: What would it be like to behave like ‘the Capitalist’ in Marx’s book, given the social expectations that were so prevalent, everywhere in the world? Such a person would have no interest in the pursuit of personal luxury or, what is more, in using money to support charities and other public works. For such a person, money’s sole purpose was as a means of re-investment, thrown back into the M-C-M’ circuit so that wealth came back as more wealth, with never any sign that the amount of wealth acquired so far had reached that limit where it was ‘enough’, and the time had come to do as expectations dictated, and spread that wealth around.

Weber suspected that the first individuals to behave in such a way, defying all social expectations, would almost certainly be despised by their neighbours, neighbours who, by the logic of the ever-expanding operations the endless pursuit of profit demands, would become the employees of this despised figure. In order to be ‘the Capitalist’, then, in a world where social expectations imposed limits on the pursuit of profit, one would need to have developed a remarkable amount of single-minded determination.

Where might such an attitude come from? To find the answer to that question, Weber turned away from the world of commerce and pondered the religions that were prevalent throughout the world. He noticed that, in Western Europe, there was a strain of Christianity known as Puritanism that served the Capitalist mindset. For one thing, Puritan belief held that almost anything profits could be spent on amounted to sinful acts. We saw how this point of view was expressed in those essays “The Anatomie of Abuses” by the Puritan Philip Stubbes, and “Gospel of Work” by the Methodist Thomas Carlyle. The whole Protestant work ethic has its origins in the decline of life-cycle services, the rise of the proletarian class and deep middle-class concerns over how “the poor” spent their time.

As well as encouraging an attitude that supported frugal living and the re-investment of money, rather than spending it on private luxuries or public works seen as mollycoddling the ‘idle poor’, Puritan strains of Christianity also gave the first Capitalists what every person needs, which is the support of a moral community. Within Puritan congregations, early Capitalists found the support they needed to endure the hostility of their neighbours and pursue profit long enough for Capitalism to emerge. No wonder, then, that Weber gave this essay the title, “the Protestant Ethic and the Spirit of Capitalism”.

So, in order for Capitalism to really take off, it was not enough to have folk who were interested in gaining riches that would ultimately be converted into personal luxury. Nor was its take-off in any way supported by the wealthy spreading their wealth around, and certainly not when such wealth was used to fund the sort of popular festivities the public were treated to in most places where pre-Capitalist markets were in operation. “This boundless greed after riches, the passionate chase after exchange value, is common to the Capitalist and the miser”, Marx noted, “but while the miser is merely a capitalist gone mad, the capitalist is a rational miser. The never-ending augmentation of exchange-value, which the miser strives after, by seeking to save his money from circulation, is attained by the more acute capitalist, by constantly throwing it afresh into circulation”.

One way to read that quote would be to say ‘the Capitalist’ is exercising free will and choosing to use money in such a way that works for, rather than against, Capitalism. By and large we do tend to assume that the rich have more autonomy than any other class. For

example, it's popularly believed that bosses and executive management "pay themselves", whereas those they manage "get paid", their compensation determined by market forces they have little to no say over. But, actually, one of Marx's main concerns was to point out that nobody, rich or poor, has much of a choice when it comes to keeping Capitalism going. After all, there are only a limited number of ways in which money can be used so that it becomes capital. Only money reinvested in the M-C-M' circuit, only money transformed into value that is moving, forever moving, in such a way as to create ever-more surplus value, counts as capital. So, 'the Capitalist' has to pursue these ways of treating money, while avoiding all other possible uses (hoarding, spending on personal luxuries or charitable aids or boozy public festivities etc etc).

So, as David Harvey noted, "Marx is kind of saying, 'the Capitalist doesn't have any kind of choice. If they're going to be a capitalist, this is what they have to do'. And what that means is that, instead of analysing what individual capitalists do, we analyse the circulation of value…in order to understand what it is that capitalists do, what it is that drives them".

The way this analysis has gone so far, it may seem that only one, rather immaterial thing, value in motion, 'money' thrown into the M-C-M' circuit, drives Capitalism. But, think back to what Marx said near the start of this chapter. "All new capital, to commence with, comes onto the stage, whether in the shape of commodities, labour, or money…in the shape of money that by a definite process has to be transformed into capital". So, this is a process that does not depend solely on such intangibles as 'exchange value' and 'movement', but has to, at some point, interact with the material world. This necessity is right there in the M-C-M' circuit. The 'C', remember, stands for 'Commodities'. This value in motion, at some point, has to be objectified in physical forms.

As Marx said, "It is under the form of money that value begins and ends, and begins again, every act of its own spontaneous generation…But money itself is only one of the two forms of value. Unless it takes the form of some commodity it does not become capital. There is no antagonism, as is the case between hoarding, between the money and commodities. The Capitalist knows that all commodities [are] a wonderful means whereby out of money to make more money".

Notice how, in that passage, Marx speaks of the growth of Capital as if it were quite natural that it should keep on expanding. Framing things this way has to be intentional, because Marx phrases things in that kind of way several times. So, for example, elsewhere he writes, "value is here the active part of a process in which, while constantly assuming the form in turn of money and commodities, it at the same time changes in magnitude…expands spontaneously, for the movement, in the course of which it adds surplus-value, is its own movement, its own expansion, therefore, is automatic expansion".

This automatic growth of capital, the way it 'naturally' expands, is something we are all familiar with. Every day on the news, reports come in of businesses reporting a rise in profits, a situation that is regarded as right and proper, the way things should be. We may even have personal experience of this 'natural' growth of capital, as in when our savings grow by the magic of interest.

Marx, too, noted something magical about the way capital grows. In fact, he made comparison to a famous fairy tale. “Because it is value, it has acquired the occult quality of being able to add value to itself. It brings forth living offspring or, at least lays golden eggs”.

Indeed, more than that, it is like a goose that lays golden eggs, from which hatch goslings that, like their mother, can all lay golden eggs, all of which hatch yet more goslings endowed with that magical ability, and on an on it goes.

If we cast our minds back to Marx’s analysis of the fetishism of commodities, we recall how he talked about the “occult” nature of commodities, but not in any really serious way. Also, throughout part one, he made references to two ‘worlds’, the world of appearances, and the world as it actually is, the reality revealed when we take the effort to peer through surface reality. So, given Marx’s prior use of irony, we can safely assume that, when Marx talks of the M-C-M’ circuit having the “occult quality” of laying golden eggs, he’s not being entirely serious but is instead setting up the circuit that creates surplus value in the ‘world of appearance’.

You may also recall how, near the start of this chapter setting up the M-C-M’ circuit, Marx likened the market to a stage. Indeed, we may compare the way surplus value expands in a Capitalist market to a magician or illusionist who, from the audience’s perspective, seems to be performing miracles. We see objects levitating, people vanishing only to reappear elsewhere a moment later. We may even see the magician pour forth gold coins from an empty vessel. Magic is happening right before our eyes, or so it seems.

Of course, were we able to go onto the stage itself and take a closer look from a different perspective, we would see that the surface appearance of the illusion hid a deeper reality. Later, Marx will take us away from ‘the market’, where we are like an audience watching a magic show, and take us somewhere that affords is a view of how the trick of creating surplus value is actually pulled off. For now, though, we have set up the M-C-M’ circuit and the creation of surplus value in the world of appearances.

CHAPTER TWENTY-NINE

The very title of the next chapter (‘Contradictions in the General Formula of Capital’) tells us that, once again, Marx is going to examine the M-C-M’ circuit in order to find that crucial part of an evolving dialectic, a contradiction.

Marx begins by once again noting how, when written down, the commodity circuit and the general formula for capital seem very similar. Indeed, the only difference between the two appears to be an inversion in the order of the antithetical processes of ‘Sale’ and ‘Purchase’. And yet, from this tiny change we apparently get a profound and disturbing outcome, because all the laws that bear on the nature of commodities, value, money and even circulation itself seem to be violated whenever surplus value is created. This puzzling outcome leads Marx to ask, “How can this purely formal distinction between these processes change their character as it were by magic?”.

There is something else to bear in mind. We have said that we are now dealing with interactions that work according to the principle that the C-M-C circuit is reversed, giving us

M-C-M'. But who, out of all the personifications of the M-C-M' circuit actually do conduct themselves in this way? Out of the three personifications that must be present for this circuit to function, only one of them operates according to the principle that the circuit begins with a purchase and ends with a sale. That personification is, of course, the 'Capitalist' (or, perhaps we should say, the 'Embryonic Capitalist' or 'Wannabe Capitalist') who occupies the 'middleman' position between 'Buyer' and 'Seller'.

But, when 'Buyer' or 'Seller' encounter this middleman during these interactions that ultimately bring about a metamorphosis of value, is it obvious that this middleman is a 'capitalist'? Actually no. It is not at all obvious that this middleman is anything other than your standard 'Buyer' or 'Seller'. After all, as Marx said, "as Capitalist, I buy commodities from A and sell them again to B, but as a simple owner of commodities I sell them to B and then purchase fresh ones from A. A and B see no difference between the two sets of transactions".

So, A (who, from the wannabe Capitalist's perspective, is the 'Seller') meets somebody with money who wishes to purchase her commodity. While, from the 'Capitalist's' perspective, this is a 'M-C' form of exchange, as far as the 'seller' is concerned it is your standard C-M exchange. Now, possessing that commodity, our wannabe Capitalist seeks to alienate it in order to realise its exchange value. In order to achieve this aim, our Capitalist needs to find a 'Buyer'. From this buyer's perspective, the ensuing exchange is a purchase, or M-C. While, from the capitalist's perspective, both the purchase (M-C) and the sale (C-M) are part of a series, that's not how things appear to either 'Buyer' or 'Seller'. As Marx explained, "the connection between the two acts exists for [the capitalist] alone. A does not trouble himself about [the capitalist's) transactions with B, nor does B about [the capitalist's] business with A".

Moreover, from the standpoint of A, the transaction was a sale, not a purchase, while as far as B is concerned, it is a purchase rather than a sale. Which means to say, so far as A and B are concerned, this is just your normal C-M-C circuit, as indeed it would have been had B purchased direct from A. And why not cut out this middleman who has appeared 'between' them? As Marx said, on reflection both A and B should realise that "the whole series was superfluous and nothing but Hokus Pokus; that for the future A would buy direct from B, and B sell direct at A. Thus the whole transaction would be reduced to a single act forming an isolated, non-complemented phase in the ordinary circulation of commodities".

Now, what Marx is doing here is emphasising the fact that the wannabe capitalist's M-C-M' circuit has not replaced the C-M-C circuit, but actually operates within it, so to speak. That being the case, the capitalist must adhere to the rules that govern the simple circulation of commodities. It was accepted by everyone (and this included even capitalist theorists) that equality should be a condition of exchange. And yet, what the capitalist seeks is surplus value, a necessarily unequal outcome. As Marx said, "we must look, whether there is in this simple circulation anything permitting an expansion of value that enters into circulation, and, consequently, a creation of surplus-value".

Other classical political economists also realised that there was this challenge of explaining how profit could ever be justified when the rules of exchange dictated equality rather than gain. For some, the answer to that riddle was found by shifting focus, and not looking at this

from the perspective of ‘exchange’ but rather from ‘use-value’. So, for example, Etienne Bonnor de Condiliac (1714-1790) reasoned, “it is not true that on an exchange of commodities we give value for value…Why? The value of a thing consists solely in its relation to our wants. It is not to be assumed that we offer for sale the articles required for our own consumption…We wish to part with a useless thing, in order to get one that we need; we want to give less for more”.

So, since such transactions involve exchanging a superfluous commodity for a necessary one, it stands to reason that such a sale results in a gain. Right?

Marx argued that, when it comes to an exchange of use-values, it is quite possible for there to be mutual gain. Only, what gain can be had is not the sort that can bring about surplus value. Whenever a successful exchange of use-values is brought about, one parts with a useless commodity and receives a useful one. Not only that, but there is potential for further gain. Marx asks us to imagine somebody who is great at producing wine but whose capacity to grow corn is not so great. This person could try and produce both wine and corn, in which case a certain amount of both would be produced each year.

But, what if such a person could find somebody with opposing but complementary skills, which is to say they are brilliant at growing corn but struggle to produce wine? Well, since A produces more wine than B, and B produces more corn than A, A and B could exchange the commodities they are great at producing, thereby acquiring a lot more wine or corn than they would have obtained, had they tried to produce both commodities themselves. So, as Marx said, “with reference to use-value, there is good ground for saying that ‘exchange is a transaction by which both sides gain’”.

Yes, but what is it that the two gain? They gain more of a particular use-value than they would have got trying to produce everything themselves. But, what use is that to a wannabe capitalist? Such a fellow has no interest in use-values, ultimately; instead his intention is to realise a commodity’s exchange in such a way that surplus value is produced. In the scenario where A exchanges a quantity of wine (possibly via money) for a quantity of corn, no surplus value can result for either. Why? Because, as Marx observed, “the value of a commodity is expressed in its price before it goes into circulation, and is therefore a precedent condition of circulation, not its result”.

If we think back to the concept of the metamorphosis of use/exchange values, we can see why no surplus value can result from such an exchange. A begins by producing a quantity of wine. That wine is then sold for its exchange value. So that’s the first metamorphosis, C-M. Now, with that money, A buys a quantity of corn that embodies the same exchange value as the money offered, and M-C brings the metamorphosis to its completion. A has ended up with more corn than his own labours would have produced, but that corn has no more exchange value than either his wine or his money had. As Marx noted, “if therefore, as regards the use-value exchanged, both buyer and seller gain something, this is not the case in regards to exchange value. Here we must rather say, where equality exists there can be no gain…If commodities, or commodity and money, of equal exchange value and consequently equivalents, are exchanged, it is plain that no one abstracts more value than he throws into circulation. There is no creation of surplus value. And, in its normal form, the circulation of commodities demands the exchange of equivalents”.

So: Changing perspectives and focusing on use-values rather than exchange values gets us no closer to explaining where this surplus value is supposed to come from.

You may have noticed, though, that Marx's analysis contained an assumption that we may be able to exploit in such a way as to create surplus-value. He assumed the C-M-C circuit always took its 'normal form', meaning this had to be an exchange of equivalents. But, in reality, things don't always go as 'normality' dictates. Sometimes, circumstances bring about an exchange of non-equivalents. Could that be the source of this elusive surplus-value?

Well, what kind of 'non-equivalence' can there be? Given that the C-M-C circuit involves exchanges between 'Buyers' and 'Sellers', we have to assume a non-equivalence that privileges one or the other. How might 'the seller' be privileged in a C-M-C transaction? In this case, the privilege would entail selling one's commodity expensively, say, letting it go for a sale that's ten percent above its actual exchange-value.

In such a situation, we can say that the seller has pocketed a surplus value of 10. But, what seems like a successful realisation of surplus value is undone the moment our seller tries to complete the C-M-C circuit with a subsequent purchase. Remember, that we are dealing with roles, personifications of the C-M-C circuit, not individuals. So, when we say 'the Seller' sells a commodity at ten percent above its exchange value, this means all sellers have that privilege. Therefore, when our seller (who is now a Buyer) tries to purchase something, he has to deal with a seller who can overcharge him by ten percent. So, as a 'seller' he gains ten percent, but then, as 'Buyer' he loses ten percent. As Marx pointed out, "the net result is that owners of commodities sell their goods to one another at ten percent above their value, which comes precisely to the same as if they had sold them at their true value".

If non-equivalence for sellers is exchanging commodities above their value, then the 'Buyer' is privileged when they buy commodities cheaply, purchasing them at, say, ten percent below their true value. Again, going by the 'roles' assumption, all buyers have the privilege of buying commodities ten percent too cheaply. So, whereas the 'Seller' cancelled out his privilege when he bought another commodity, the 'Buyer' is someone who is able to purchase a commodity at ten percent below its value, but who will already have lost ten percent when, as Seller, he had to exchange with a Buyer.

Assuming non-equivalence gets us nowhere, then. For, as Marx observed, "the creation of surplus value, and therefore the conversion of money into capital, can consequently be explained neither on the assumption that commodities are sold above their value, nor that they are bought below their value".

The next idea Marx focuses on is something we would call 'effective demand' (Marx called it 'effectual demand'). To see how this was supposed to solve the riddle of surplus value, we can turn once again to Thomas Malthus, as this was an economist who was particularly keen on this idea.

Proponents of effective demand noted that society consisted of three major classes. In Marxist terminology, these would be classified as the 'Aristocracy', the 'Bourgeoisie' and the

‘Proletariat’. Another way of labelling these would be ‘upper class’, ‘investor class’ and ‘working class’.

First of all, Malthus considered the proletariat/working class. Could this class possibly be the source of effective demand? Such a possibility was easily dismissed by observing that such a class typically lived in poverty, and that their focus was on just trying to survive day to day.

Having dismissed the working class as a possible source of effective demand, Malthus next turned his attention to the bourgeoisie aka the capitalists. Here, too, you had a class who could not be considered a possible source of effective demand, because any money this class of people did not spend on the costs of production was re-invested.

So, that left the aristocracy. If the proletariat could almost be defined in terms of doing most of the work while owning very little, the aristocracy seemed like the mirror image, in that they owned vast wealth in the form of land and various other assets, but did very little physical work. Going back to the concept of the ‘production boundary’, some thinkers might well have placed the likes of aristocrats, lords and parsons outside of such a boundary, implying these were parasitical types who extracted rents from society rather than contributing to the production of value.

Malthus and the other ‘effective demand’ advocates saw this class in a different light. They were obviously an extremely wealthy class, and so they could function as ‘super-consumers’. Rather than being of no use to a society’s productive ability, the role of this class was to use their wealth so as to consume as much as they possibly could, thereby stabilising the system.

Here, then, was your source of effective demand and a possible source of surplus value. As another advocate, Col. Robert Torrens (1760-1864) explained, “effectual demand consists in the power and inclination, on the part of consumers, to give for commodities…some greater portion of…capital than their production costs”. In other words, you have a class of very wealthy showoffs with money to burn who flaunt their wealth by buying expensively-sold commodities (you know, like those people who are willing to spend thousands on a haircut just so they can say they spent thousands on a haircut).

Marx however, identified fundamental flaws in this argument. For one thing, it would seem to have the same flaw as the idea that sellers can overcharge buyers. We have already seen how such an advantage cancels out if buyer/seller are not fixed roles but personifications everyone moves in and out of as the C-M-C circuit operates.

But, what if not everyone moved back and forth between buyer and seller? What if some stayed permanently in the former role? As Marx noted, this was the assumption that effective demand advocates had to make, if such an idea was to work at all. “The upholders of the delusion that surplus-value has origin in a nominal rise of prices…must assume the existence of a class that only buys and does not sell, i.e, only consumes and does not produce”.

Now, the reason why he called such advocates deluded was because Marx saw that effective demand ignored a very important question, which was that “yes, there are some

who are very wealthy and who could behave like super-consumers, but where did they get all this money from?". As David Harvey explained, "all those hangers-on in the state apparatus get their money from somewhere, it comes from the circulation process. So, what is being extracted is simply being brought back in". Marx used the system of extraction that empires like Rome had used to expose this fundamental flaw in the 'effective demand' argument. Once the Romans conquered a people, they turned that society into a vassal state that had to pay regular tribute. Roman citizens did not have to pay taxes, because the State could pay for everything by demanding tribute from its conquered peoples.

As well as demanding 'tribute' from conquered people, empires like Rome also traded with them. This gave such people a way to get their own back, at least in some small way, because they would overcharge their masters. As Marx explained, "the provisionals cheated the Romans, and thus got back from their conquerors, in the course of trade, a portion of the tribute". But notice how, in this process of back-and-forth ripping off, no surplus value is being made. Instead what is happening is that pre-existing wealth is being concentrated into the hands of a ruling elite, and then some of that same wealth is returned to its source through price hikes. "The conquered were the really cheated", Marx observed. "Their goods were paid for with their own money. That is not the way to get rich or to create surplus value".

Throughout most of these scenarios you may have noticed that there is rarely an examination of how people might behave, but rather suppositions of how characters who are personifications of such things as 'purchases', 'debts' or 'capital' should behave. Marx's next move is to admit that such stereotyping might be the thing that is preventing us from discovering the source of surplus value. "Our difficulty may perhaps have arisen from treating the actors as personifications instead of as individuals".

Think back to that character who was great at producing wine. Thinking in terms of 'roles' or 'personifications' meant any privilege this character enjoys as 'Buyer' or 'Seller' had to be shared with all 'Buyers' or 'Sellers'. But, if we don't think in terms of personifications and consider what individuals might do, then perhaps we can imagine some individuals gaining an advantage over others, without there being a retaliation that cancels out that advantage.

So this is the next possibility that Marx considers. Returning to that wine producer, he now assumes that, having sold a quantity of wine for £40 to the person who grows corn, he then somehow manages to buy £50-worth of corn with that £40. Since the wine producer has completed the C-M-C circuit with more money than he began with, it would appear that he has succeeded in turning money into capital.

But such a supposition collapses once we think about the total value existing between the wine producer and the grower of corn. In total, there was £90 and all we're really talking about here are scenarios that redistribute that £90. Before the exchange, it was distributed in the form of £40-worth of wine in the hands of one, and £50-worth of corn in the hands of the other. After the exchange, somebody who owned a commodity worth £40 is now in possession of one worth £50, while somebody else has come out of this exchange ten pounds worse off. But the total amount of £90 never changed.

“Twist and turn then as we may”, Marx wrote, “the facts remain unaltered. If equal values are exchanged, no surplus-value results, and if non-equivalents are exchanged, still no surplus-value. Circulation, or the exchange of commodities, begets no value”.

So, having examined the interactions that can go on in a C-M-C circuit, Marx’s conclusion is that there is no way for value to become surplus value and that, therefore, nobody operating in such a circuit can be a capitalist.

But such results do not align with the historical records, because forms of capitalism had been going on, certainly since the 17th Century and possibly as early as the 16th Century. These ancient forms of capitalism involved practices that the prior examination of the C-M-C circuit had to leave out, namely merchants’ capital and financial capital. You will recall that those who personify such roles operate according to the rules of another circuit. As Marx said, “the circuit M-C-M’, buying in order to sell dearer, is seen most clearly in genuine merchants’ capital. But the movement takes place within the sphere of circulation”.

Somehow, then, merchants and financiers managed to establish a successful M-C-M’ circuit inside C-M-C, even though a thorough analysis of this latter circuit shows the creation of surplus value to be impossible.

How, then, did these early mercantilists and financiers succeed? One possibility is that these pioneering capitalists cheated, in that they violated the rules of market exchange as set out by classical political economists.

Looking at what went on, historically, it’s fair to say that such violations did indeed occur. As we shall see in later volumes, there was often little difference between a merchant-adventurer and a pirate. Armed to the teeth, and often employing mercenary soldiers in their crew, such merchants went around robbing the countries they came across and subjecting their people to forms of debt peonage that were hard to distinguish from outright slavery (of course, there was plenty of outright slavery being practiced too). With the money these merchant/pirates made from all that looting and forced labour, these embryonic capitalists returned home, used their ill-gotten gains to develop political power, and then used that to bring down the old power of landed property that supported the feudal system. Given shenanigans like these, there can be little wonder that the likes of Franklin commented, “war is robbery, commerce is generally cheating”.

The accusation of cheating seems even more to the point when we turn to financial capital. As Marx pointed out, where merchants’ capital is concerned we at least have something like your normal circulation of exchange-value and use-values. It is, after all, an M-C-M’ circuit. People are still trading money and goods. But, where financiers are concerned, there, as Marx says, “money-lenders’ capital the form M-C-M’ is reduced to the two extremes without a mean, M-M’, money exchanged for more money, a form that is incompatible with the nature of money, and therefore remains inexplicable from the standpoint of the circulation of commodities”.
The idea that usurers are engaged in decidedly dodgy practices is an ancient one that goes back at least as far as 320 BCE. Aristotle believed that economics was all about the exchange of use-values. But what usurers were engaged in, was something else entirely, something the great philosopher called ‘Chrematistics’. If ‘economics’ (commerce, or the

exchange of use-values) was “necessary and praiseworthy” in Aristotle’s view, ‘chrematistics’ (lending at interest) was “with justice disapproved (for it is not based on nature, but on mutual cheating)”.

We also find Aristotle saying things like, “the usurer is most rightly hated, because money itself is the source of his gain, and is not used for the purpose it was invented. For it originated for the exchange of commodities…But interest is money of money, so that of all modes of making a living, this is the most contrary to nature”.

Now, Marx quotes both Aristotle and Benjamin Franklin (1706-1864) and it may seem that he is drawing the same conclusions as they. Anyone who successfully operates within a M-C-M’ circuit has to be getting their value through a violation of the rules of exchange. Therefore, all capitalists are thieves and fraudsters.

But, actually, Marx is setting us up for a different approach. Throughout the rest of ‘Capital’, the main focus won’t be on merchants’ capital or financial capital, but rather on industrial capital. He will argue that, as industrial capital rises to dominance, something profound will happen to the more ancient forms of mercantile and financial capital. Whereas before these older forms of capitalism were out there doing all kinds of outrageous things, the industrial form of capitalism (which needs merchants and a financial system if it is to function optimally) will discipline these older forms, thereby bringing them in line with the rules of exchange as laid out in classical political economy.

As Marx said, “if the transformation of merchants’ money into capital is to be explained otherwise than by cheating, a long series of intermediate steps would be necessary, which, at present, when the simple circulation of commodities form our only assumption, are entirely wanting”.

So, once again Marx is preparing us for the idea that, in order to understand how surplus-value is created, we need to turn away from the public arena of the circulatory processes of market exchange and examine what is going in places normally hidden from public view.

But, before taking us on this journey, Marx asks a question. “Can surplus-value possibly originate anywhere else than in circulation which is the sum total of all the mutual relations of commodity-owners, as far as they are determined by their commodities?”.

If we look back over the ‘mutual relations’ discussed in this chapter so far, we see that the focus has been on one sort of relation. The examination has been one of how commodity owners relate to other commodity owners in a C-M-C/M-C-M’ circuit.

But that’s not the only relationship to consider. For, as Marx reminded us, “apart from circulation, the commodity-owner is in relation only with his own commodity”.

Related how? Well, in the sense that the commodity, by definition, contains some quantity of average labour time inputted by human labour. At this stage, we’re assuming it’s mostly the commodity-owners’ own labour that went into it, something that will change as the M-C-M’

circuit expands. But, anyway, human labour is quite capable of creating value by turning raw resources into materials, and materials into products. But, can human labour also create surplus-value?

Marx quickly rejects this possibility. “The commodity owner can, by his labour, create value, but not self-expanding value”.

To see how this is so, let’s sketch out a plausible scenario. Let’s say somebody does whatever work is required to transform sheep’s fleece into a quantity of wool. That wool, being as it is a commodity containing a measure of useful labour, would have an exchange-value. Now let’s say the commodity-owner takes that wool and uses it to knit a jumper. Since fresh labour has been added to the wool in order to make clothing out of it, that jumper has an exchange value greater than that of the wool it’s made from.

But, notice that the value of the actual wool has not increased at all. As Marx noted, anyone can “increase the value of his commodity, by adding fresh labour, and therefore adding more value to the value in hand”. But, of course, the point is that additional labour has been inputted, so it’s much the same as if the labourer had gone out and produced, say, a certain quantity of cotton or leather, and sold those commodities along with that quantity of wool. As Marx explained, the value of the wool “remains what it was; it has not expanded itself, has not, during the making of the [jumper] annexed surplus value”.

Now, such a conclusion has profound results for the creation of surplus-value. Whereas our examination of commodity owner-commodity owner relationships showed surplus value could not possibly result from within a C-M-C circuit that adheres to the rules of classical political economy, our examination of the owner-commodity relationship shows surplus-value cannot come from outside of circulation, either. And yet, presumably without violating the laws of exchange and circulation, surplus-value has been produced a great many times for hundreds of years. We have ourselves a paradox.

This chapter closes with a remark that hammers home the challenges of explaining legitimate profit, given what we have concluded so far. “The conversion of money into capital has to be explained on the basis of the laws that regulate the exchange of commodities, in such a way that the starting-point is the exchange of equivalents. Our friend, Moneybags, who is as yet only an embryo capitalist, must buy his commodities at their value, must sell them at their value, and yet at the end of the process must withdraw more value from circulation than he threw into it at starting. His development into a full-blown capitalist must take place, both within the sphere of circulation and without it. These are the conditions of the problem”.

CHAPTER THIRTY

In the next chapter, Marx continues his search for a plausible starting place for the conversion of money into capital. Right at the very beginning of this chapter, he asserts that such a change of value cannot take place in the money itself. After all, when it comes to the purchasing of commodities, all money can do is realise a commodity’s price. It cannot add any extra value to that commodity. A subsequent resale of that commodity won’t result in any

surplus value either; it will merely transform a commodity into a sum of money equal to its exchange value.

Indeed, that last point shows that we can rule out the ‘C-M’ part of the M-C-M equation as the source of this elusive surplus value. That, then, leaves us with what Marx called “the first act”, in which a commodity is purchased with money, ‘M-C’. Given that it’s all about the exchange of equivalents, any value being transformed won’t be the source of surplus value. So that leaves us one last aspect to consider, and that is the consumption (so to speak) of use-values.

“In order to be able to extract value from the consumption of a commodity”, Marx tells us, “our friend, Moneybags, must be so lucky as to find, within the sphere of circulation, in the market, a commodity whose use-value possesses the peculiar property of being a source of value, whose actual consumption, therefore, is an embodiment of labour, and, consequently, a creation of value”.

But, where are we to find this commodity whose consumption can create value? Well, why does any commodity have an exchange value? Because it has had socially-necessary labour time objectified in it. Labour-power, then, has got to be the source of legitimate surplus-value. But, in order to get us to the starting point of a successful and legitimate M-C-M’ circuit, labour-power itself must be commodifiable.

Marx then proceeds to lay down the conditions that have to be in place to get us to this starting position for capitalism. It is important to understand what Marx is doing here. Or, perhaps, more important to note what it is that he is not doing. What he is not doing, is talking about any real capitalist system that existed in his day. His aim, after all, is to apply a material-dialectic argument to the kind of capitalist system that classical political economics believed should manifest if only competitive exchange could operate under ideal conditions where nobody ever cheated the rules of exchange (or, if they did attempt to violate those rules, ‘the market’ would invariably punish this and return to ideal conditions like a thermostat returning a room to its ideal temperature). So, the following analysis will permit no cheating of the rules of exchange whatsoever. The equivalency requirement will be met at all times, meaning commodities (including ‘labour-power’) are never sold above or below their exchange-value.

So, then, under what conditions can we say that labour-power has been successfully turned into a commodity? Well, perhaps what is most important is that things are set up in such a way as to avoid the commodification of labourers themselves. Such systems had existed in the past. Coercive acts born of violence and/ or the social pressures of debt had resulted in systems where people were sold as slaves or even sold themselves of family members into slavery. In such cases, these poor souls were not the free agents of a commodity they could offer in fair exchange. They were the commodity.

In order to avoid this outcome, the labourer must remain, at all times, the owner of his or her own labour-power. Provided this condition is in place, then whenever the would-be seller of labour-power meets a potential buyer, they do not confront one another as ‘master’ and ‘servant’ but rather as two equals who may, if conditions satisfy both of them, sell/ buy the commodity of labour-power in a way that ensures the equality principle is not violated.

In order for this condition to remain always in effect, the labourer must never sell the commodity of labour-power outright. For, as Marx explained, “He and the owner of money meet in the market, and deal with each other on the basis of equal rights, with this difference alone, that one is a buyer, the other seller; both, therefore, equal in the eyes of the law. The continuance of this relation demands that the owner of labour-power…must constantly look upon his labour-power as his own property, his own commodity, and this he can only do by placing it at the disposal of the buyer temporarily, for a definite period of time. By this means alone can he avoid renouncing his rights of ownership over it”.

So, this is the first and, perhaps, the prime condition that must be in place in order to get us to a point where money can be converted into capital: Those who are owners of labour-power must remain the owners of labour-power. They must remain free to sell their labour-power to whomsoever, and whatever conditions of contract under which they agree to sell their labour-power, they remain in control of their own body as a labourer. No slavery, and no permanent servitude to any one money-owner, is permitted.

Is this the only necessary condition? No. Marx asserts that there is at least one more essential condition. For as long as the C-M-C circuit had been in operation, labourers had been pouring their labour-power into commodities they then exchanged, eventually via money, for use-values they could usefully consume. The starting point of capitalism begins, however, when labourers either no longer possess any means of production, or, if they have access to some sort of means of production, it’s no longer sufficient to support one’s means of subsistence.

Therefore, we should not imagine some tailor, carpenter, farmer or what-have-you turning up at a place of business with commodities like clothes, woodworks, farm produce or whatever for sale. We should instead imagine someone who has nothing to sell but their own labour-power. Or, if they do possess some other commodities, not enough to support an adequate standard of living. Their reason for approaching this place of business is because the owner does possess the means of production adequate to realise a minimal standard of living the owner of labour-power has no other means of obtaining.

In other words, the starting point for capitalism concerns conditions in which ‘freedom’ is always with the seller of labour-power, but ‘freedom’ has a double meaning. “For the conversion of his money into capital…the owner of money must meet in the market with the free labourer, free in the double sense, that as a free man he can dispose of his labour power as his own commodity, and that on the other hand he has no other commodity for sale, is short of everything necessary for the realisation of his labour power”.

So, the wannabe capitalist finds that a labourer has turned up at his place of business. In his capacity as (potential) capitalist, ‘Mr Moneybags’ has no need to concern himself with why the labourer has turned up. This is because the commodity the labourer brings, his labour-power, can be treated as just another branch of the general means of commodities, and one hardly ever needs to know the story of how a commodity came to be in order to know whether or not it might have a use-value that is practical for you.

Nevertheless, there is a question surrounding the arrival of the labourer. Why has he come to this place of business? The answer seems quite simple. He is here because he needs a job, having no other means of providing for his basic needs. But, that leads us to another question, namely, why doesn't the labourer have anywhere else to turn? Why is his self-sufficiency not adequate for supporting a basic standard of living? How come he cannot turn to family and find the support he needs there? And what about the wider community? where is it in his time of need? Something has happened to turn all these alternative options into no alternatives at all, and this is a situation that can hardly be described as 'natural'. As Marx himself stresses, "nature does not produce on the one side owners of money or commodities, and on the other men possessing nothing but their own labour power". Seeking a job, then, although by now so deeply interwoven into the fabric of everyday life as to feel perfectly natural, is in fact not natural at all.

Now, you might object: Just because only humans do something, that does not mean to say it is 'unnatural'. It may, rather, be a unique aspect of human nature, something our species (and no other) has always done.

But the 'human nature' argument does not hold up either. For, as Marx goes on to say, "neither is its social basis one that is common to all historical periods. It is clearly the result of a past historical development, the product of many economic revolutions, of the extinction of a whole series of older forms of social production".

In other words, there is a complex history surrounding the interaction between 'Mr Moneybags' and the labourer, the very existence of whom were shaped by past events. The reason why Marx calls these "economic revolutions" is not because they involved a bloody struggle, necessarily, but rather because the economic categories themselves had undergone profound transformations. Think back to how the "clock concept of time" and the wage structure built around it would have made no sense in the Middle Ages. As David Harvey pointed out, "what we understand by labour under feudalism is something very different from what we understand by labour under capitalism. {So too] what we understood as commodities".

What Marx is getting at here, is the understanding that not all markets are capitalistic, that there can be (and, indeed, there were) market systems and commodities, exchange systems (even quite complex ones) that were non-capitalistic. Yes, commodities and means of payment in the sophisticated form of 'universal money' were necessary components in establishing 'capitalism', but they were not sufficient. There also had to be a process of wage-labour creation or, as Marx would have called it, 'proletarisation'.

As he himself said, "the historical conditions of (capital's) existence are by no means given with the mere circulation of money and commodities. It can spring to life, only when the owner of the means of production meets in the market with the free labourer selling his labour power. And this one historical condition comprises a world's history".

Other than remind us that such processes took place, and occasionally referring back to such periods as feudal times or the Roman Empire, Marx does not concern himself with how it came to be that "the labourer" came to be 'free' of the choice of turning to self-sufficiency, or family, or community, and could only turn to the bourgeoisie in the hope of selling his

labour power for wages. Nor does Marx dwell much on how come the bourgeoisie gained possession of the means of production and the money with which to operate in a M-C-M' circuit. Instead, for the most part, all such conditions are taken as given. The starting point of 'Das Kapital' is one where the conditions necessary for launching capitalism are already in place.

When 'the labourer' turns up at 'Mr Moneybag's place of business looking for a job, in his capacity as wannabe capitalist seeing only a commodity that may or may not be useful, Mr Moneybags need ask himself only one question: "Is this person's labour power worth its exchange value"?

As a commodity, labour-power must have an exchange value, a price that one absolutely must pay if the rules of exchange are not to be violated. But how is Mr Moneybags to determine the correct exchange value for labour power?

Well, in some ways such a determination is quite simple. As with all commodities, the exchange value of labour power is determined by the amount of socially-necessary labour that had to go into its development. As Marx pointed out, "the minimum limit of the value of labour-power is determined by the value of the commodities, without which the labourer cannot renew his vital energy, consequently by the value of the means of subsistence that are physically indispensable. If the price of labour power falls to this minimum, it falls below its value, since under such circumstances it can be maintained and developed only in a crippled state. But the value of every commodity is determined by the labour-time requisite to turn it out so as to be of normal quality".

Since he wants the commodity of labour-power to be of "normal quality" (and certainly not in a "crippled state") Mr Moneybags has to pay whatever wages are sufficient to ensure the labourer has access to whatever commodities he needs to properly utilise his labour power.

Put that way, it becomes clear that an employee is not really being 'rewarded' when they receive wages, any more than one 'rewards' a tractor when one puts fuel in its tank, tops up its oil, cleans muck from its body and other such necessary tasks involved in maintaining it so it can carry out the tasks it was built for. Wages are not rewards, but just part of the costs 'Mr Moneybags' has to pay in his pursuit of profit.

Also, if one really thinks about it, although the question "how much should one pay for labour-power?" Seems to have a straightforward answer ("enough to maintain its normal capacity") in actual fact this is quite a tricky thing to calculate, not only because we're talking about a calculation that keeps on changing due to circumstances (for example: what one must pay in one time or place isn't necessarily what one has to pay in other times or places) but also because, unlike with that tractor, a moral element has to be factored in.

At the very least, Mr Moneybags is going to have to either provide the basic necessities the labourer needs to live, or pay wages sufficient for the labourer to obtain such basics himself. He must ensure his labourers have enough oxygen, water, food, and that the workplace temperature is maintained at the level where the work can carry on as normal.

Now, it may seem like the height of pedantry to specify “access to breathable air” as part of the bundle of commodities that Mr Moneybags must provide for. Surely, such a basic necessity is taken as given? But, actually, there are historical cases in which labourers have been packed into such a small space, and worked so hard and for so long, that they ended up suffocating to death.

This is obviously a tragedy from a human perspective, but so far as capitalism is concerned, such deaths are only really a problem when the death toll reaches such numbers as to be an inconvenience to the necessity of keeping the business going in a profitable way. In those places where labour-power is really cheap because its supply is so plentiful, the more ruthless business-person may well treat labourers as a more or less inexhaustible supply of throwaway labour-power.

In other times and places, though, you certainly cannot get away with such callous economic calculations. Most businesses do recognise that they have to at least provide enough of the absolute basics.

But, of course, that begs the question: How many commodities does the worker really need, and in what quantities? Take food, for example. Obviously, the amount of calories the workforce requires depends on how strenuous the labour they are expected to do is. Environmental factors have to be taken into consideration, too. Some workers find themselves doing jobs in places where environmental conditions are not as ideal compared to others. Some places may be too hot and sticky; others too cold. The nature of some work imposes such conditions on its workforce. One cannot forge steel without creating very hot working conditions, and labour in a meat-packing factory necessitates a frigid ambient temperature. In such cases, the commodities such workers must have, if they are to function properly, will include the sort of protective clothing that would not be necessary in other jobs.

Nor, for that matter, might the same level of protection be necessary for the same job in different times and places. This is where the moral and ethical element of calculating the ‘exchange value’ of labour-power can make a difference. Since we are dealing with human beings, it’s not just physical factors that have to be taken into consideration. Going back to that tractor, if the farmer were to neglect basic maintenance for too long, that piece of machinery would eventually suffer a catastrophic malfunction. But there is no way his tractor would become despondent because it is dirty, so down at heart that it cannot summon up the will to do its job. But, where people are concerned, it’s not just physical factors that have to be taken into consideration, but also those of a more subjective nature, things that affect our feelings. Workers who are too depressed, due to the conditions they are working under, don’t perform as well as those not driven to near despair by their working environment. But, for whatever reason, people in different times and places are willing (or, perhaps, just feel they have to put up with) conditions that would never be tolerated in other times or places. This is why mass-immigration from “less developed” parts of the world is so controversial. If a market can be flooded with cheap labour, the minimum requirements for satisfactory working conditions can be lowered.

That better conditions ever existed at all often has much to do with class struggles resulting in hard-won gains for the labourers, and so class struggles amount to another varying factor in calculating the exchange-value of labour-power.

No matter how careful bosses are in ensuring their workforce is adequately protected, wear-and-tear is bound to eat away at a person until, as with all living things, they meet that inevitable end.

This is obviously a problem for capitalism, since the M-C-M' circuit does not seek surplus value for a limited time only, but rather in an endless quest for more profit. This problem is solved when we combine the reproductive capabilities of people with the assumption Marx has adopted throughout this critique, namely that we are focusing on roles rather than individuals. As Marx himself noted, "the owner of labour-power is mortal. If, then, his appearance on the market is to be continuous, and the continuous conversion of money into capital assumes this…Labour power withdrawn from the market by wear and tear and death, must be continually replaced by, at the very least, an equal amount of fresh labour".

In other words, it's vital that the working class be not only 'productive', that favoured word representing the exchange-value that comes from socially-necessary labour, but that they are also reproductive. But, successfully bearing and raising new generations of workers comes with material costs that have to be factored into the calculation of the exchange-value of the commodity of labour-power. And, of course, you don't just want to breed more human beings, you will need to provide adequate education and skills training so that those humans become 'adults' (and, in Capitalist anthropology, adulthood can be considered to begin around 9 years of age) equipped to do the jobs that are available.

One way to think about all the costs that go into the exchange-value of labour-power is to return to a concept that was discussed earlier, that being the 'market-basket' of commodities. Only, we are no longer interested in figuring out whether or not a nation's currency is really supported by the bundle of commodities it produces. Rather, following Mollie Orshansky (1915-2006) we are inquiring into the market-basket of commodities a family would need in order to be fit to work. As David Harvey explained, "you add up the value of all those commodities, and the aggregate value of all those commodities when prorated over the year gave you the poverty level".

Now, this is obviously a calculation that is susceptible to variation and interpretation. Let's return to this idea of a trained and educated workforce. What, exactly, counts as vitally important training? In Marx's day, it was by no means necessary that an employee had basic literacy skills. Many a worker did their menial labour at the pace and quality expected of them, and they were in no way handicapped by the fact that they could not read and write. There may still be examples today where you can be gainfully employed while remaining illiterate, but such jobs are now vastly outnumbered by those where basic literacy skills are essential.

Conversely, there was a time when, if you worked in a warehouse and were paid to find, sort, and package goods for redistribution, you would need to be fit and healthy enough to run around all day long carrying objects, or perhaps trained to operate a fork-lift truck. But nowadays, you might find yourself working in a fulfilment centre that uses plenty of automation. Who needs to be big and strong when robots do the work of fetching the objects, and who needs to know how to pack a delivery-goods vehicle in the most optimal

way, when an artificial intelligence tells you what that most optimal arrangement of the packages is?

So, the question of what 'bundle of commodities' the workforce really needs in order to persistently turn out products of 'normal quality' obviously changes as society and the technologies at its disposal evolves. And, like I said, all this is also subject to interpretation, since the question, "what must we supply the workers with?", may well return different answers, depending on one's political philosophy. So, for example, those looking at this calculation through a more left-leaning socialist perspective might insist that a market-basket valued at £15,000 represents the bare minimum. But then, the conservative Right, wishing to reduce the cloying embrace of the Nanny State and encourage more self-responsibility, might view the Left's 'market-basket' as including too many 'non-essentials', and instead calculate that £10,000 is adequate. The calculation, after all, is supposed to determine what it takes to reproduce labour-power at a given standard of living, a given moment, and a given place. A lot of political contest and class-struggles can go into determining such factors. As Marx explained, "the value of labour-power resolves itself into the value of a definite quantity of the means of subsistence. It therefore varies with the value of these means of which the quantity of labour requisite for their production".

So, when it comes to working out the exchange-value of labour-power, what we are really dealing with is a moving target, a calculation whose results will change in different times and places for all kinds of reasons. It's all very complex and hard to quantify in reality, so as usual Marx (and, indeed, any economist) has to effectively say, "yes, yes, I know that, in reality, these numbers are ever-changing and there's too much subjectivity to make a precise, definitive calculation possible. But, for argument's sake, I am going to assume that, at X time and Y place, we know what the true exchange-value of labour power is".

In Marx's case, the result of all this economic calculation is that "three shillings is the price corresponding to the value of a day's labour-power. If it's owner therefore offers it for sale at three shillings a day, its selling price is equal to that value, and according to our supposition, our friend Moneybags, who is intent upon converting his three shillings into capital, pays this value".

Now, you might just have noticed something amiss with regards to Marx's assumption. Not the amount being paid ("3 shillings? That doesn't sound like much!") but rather when the labourer receives his payment. The way it has been portrayed here makes it seem as if one acquires the right to consume labour-power in the normal way. Usually, if you want to consume some commodity's use-value, you must first purchase it, and only then can you put it to good use.

But, in actual fact, when it comes to labour-power, the arrangement usually works the other way around. That is to say, the capitalist pays the labourer after the work is done. So, it's not that the capitalist pays the worker so as to consume his labour-power. Rather, it is the case that the labourer advances credit to the capitalist in the hope that eventually wages equivalent to his subsistence living will be forthcoming.

But, actually, Marx is well aware of how the arrangement usually works, as we can see from his own words. "In every country in which the capitalist mode of production reigns, it is the

custom not to pay for the labour power before it has been exercised for the period fixed by the contract…In all cases, therefore, the use-value of the labour-power is advanced to the capitalist by the buyer to consume it before he receives payment of the price; he everywhere gives credit to the capitalist".

Does it really matter whether you get paid after you work for a certain period, or if money changes hands before any work commences? So long as there are guarantees in place that ensure the employee will receive their wages, it doesn't really matter all that much if you only get paid at the end of the week, or month. These days, bosses have to comply with all sorts of laws guaranteeing the rights of workers, including paying wages in full as and when they are due.

But think back to what happened in the former Soviet Union when 'shock therapy' turned what had been a state-controlled market into the purest expression of an anarchistic free market since the Victorian era. The result was that workers often went months without receiving any wages, while still being expected to turn up and carry on doing their jobs, almost certainly under the threat of being cut off from any possibility of receiving any income in the future. Furthermore, when they did "get paid", oftentimes it was not wages they received but items from the workplace that they then had to try and exchange for money through barter.

"We are, nowadays, used to associate factories eighteen months in arrears for wages with a nation in economic free-fall, such as occurred during the collapse of the Soviet Union", said David Graeber. But, he also pointed out that what happened in the former Soviet Union was actually a return to normality for any market operating under anarchistic 'free market' principles. We can tell this is so from the vocabulary that was in common use during the time of Smith, Ricardo and Marx.

Working-class language included such terms as 'cabbage', 'chips', 'thrums', 'sweepings', 'buggings', 'gleamings', 'lops' 'keepy back' and 'pin money', to name but a few. What do these strange terms refer to? They referred to all the various kinds of waste, excess and side-products that workers were permitted to take from the workplace so as to barter for the essentials in life when, as is often the case under 'free market' capitalism, wages dipped below the poverty line or were not paid at all for extended periods. So, for example, tailors were allowed to take home 'cabbage'. No, not the vegetable, but rather whatever cloth was left over from tailoring. Dockworkers, meanwhile, were permitted to take home 'chips'. Again, not potatoes cut up and fried in fat, but any piece of timber less than two feet long. 'Thrums' referred to materials taken from the warping-bars of looms.

As for what terms like 'gleamings', 'buggings' and 'lop' refer to, well, I couldn't tell you. Such terms were in use in the 19th century but fell out of use when socialist reforms gave more of a guarantee that wages would be paid in full and on time, and it became more typical to view workers appropriating side-products and waste as 'stealing'. But, there was a time when all such words would have been instantly recognisable to folks used to not being paid their wages and having to survive by bartering whatever materials they could lay their hands on.

Having said all that, we should remember that Vol 1 of 'Das Kapital' is not really meant to be an examination of how capitalism actually operates, but rather how pro-capitalistic classical

political theorists thought it should operate, under ideal conditions. These ideal conditions included all parties in a contract receiving exactly what was due when it was due. Since that is the assumption, Marx saw that, for sake of argument, he could treat payment for the commodity of labour as if it were like payment for any other use-value. “The labour power is sold, although only paid for at a later period. It will, therefore, be useful, for a clear comprehension of the relation of the parties, to assume provisionally, that the possessor of labour power, on the occasion of each sale, immediately receives the price stipulated to be paid for it”.

You can see, from that quote, that what Marx is after is a “clear comprehension of the relation of the parties” of ‘labourer’ and ‘capitalist’. In order to acquire that ‘clear comprehension’ we have to be clear as to which circulation process labourers and capitalists are in.

Where labourers are concerned, since they start with a commodity (their own labour power) which they are trying to sell so as to realise its exchange-value, they are clearly operating in a C-M-C circuit. The fact that they typically have to “give credit” to the capitalist by doing work before being paid for the use-value of their labour-power, in no way changes the fact that they are in a C-M-C circuit.

As for the capitalists, since they start off with money which they use to purchase all the commodities they need (including labour-power) and are hoping to use those commodities in such a way as to produce surplus value, they are just as obviously operating in a M-C-M’ circuit.

And what have we already determined about those who come to such circuits with commodities to sell for money, and those who come with money with which to buy commodities? We have determined that, although the rules of exchange insist that these two parties are ‘equals’, in fact for various reasons the balance of power tips in favour of the possessor of money.

Something else that we have already determined is that, when a commodity is consumed, it ‘drops out’ of the ‘sphere of circulation’, aka market exchange, and enters into the ‘sphere of consumption’. This is just as much true for the commodity of labour-power as it is for any other commodity. As Marx pointed out, “the consumption of labour power is completed, as in the case of every other commodity, outside the limit of the market or the sphere of circulation”.

Now we can see why it is that we found it impossible to determine how surplus value could result from M-C-M. Our focus has been on ‘the market’. As David Harvey explained, “bourgeois constitutionality is entirely concerned with market relations and the rights that pertain there”. But what can you really determine, just by analysing the very public sphere of market relations? You can see that processes of exchange are taking place, with use-values being put into, and taken out of, circulation. You can also determine that, included among all those commodities there is one in particular- labour-power- whose use-value, when consumed under the right circumstances, must be the source of surplus-value. But, since that surplus value is only created when the commodity of labour-power is consumed, and in order to consume any use-value you must remove that commodity from the ‘sphere of

circulation', you can never determine how surplus-value is actually created just by examining 'the market'.

No, in order to know how surplus-value is created, you have to go someplace else. As Marx put it, "accompanied by Mr Moneybags and by the possessor of labour power, we therefore take leave for a time of this noisy sphere, where everything takes place on the surface and in view of all men, and follow them both into the hidden abode of production, on whose threshold there stares us in the face, "no admittance except on business". Here we shall see, not only how capital produces, but how capital is produced. We shall at last force the secret of profit making".

Now, you might be thinking: "Aha! What we are about to discover is how, behind these 'closed doors', the rules of exchange are blatantly violated and the capitalist makes surplus value out of an ongoing fraud perpetrated against the working classes".

Not only might you have anticipated that this is how Marx's analysis is going to go, it's also possible to find explanations of Marx's dialectical method that summarise Marxist theory like this is, indeed, his argument. So, for example, in 'Introducing Capitalism: A Graphic Guide', Dan Cyran and Sharron Shatil wrote, "capitalists, according to Marx, quite literally rob the proletariat of their freedom, their culture, and their essentially human traits, and force them to work endlessly just to acquire the basic means of survival".

But, in actual fact, this is not the approach that Marx is going to take at all. He is not about to argue that the working class gets "robbed". Nor is he about to suggest that, wherever production takes place and labour-power is consumed, those workers are forced to labour like they are slaves or something. In fact, he is not about to frame an argument based, in any way, on violating the rules of exchange. Actually, he will do the opposite, and assume that these places of business, where labour-power is being consumed, are actually where we find the purest expression of the rules of exchange, as laid out by classical political theory.

He put it like this. "The sphere that we are deserting, within whose boundaries the sale and purchase of labour power goes on, is in fact a very Eden of the rights of Man. There alone rule Freedom, Equality, Property".

There is 'Freedom', because both the seller and the buyer of labour-power (and, indeed, any commodity) are constrained by one thing only, and that is their own free will. Together, they draw up a contract as free agents, equal in all the ways that matter in order for this contract to have legitimacy, a contract that is, according to Marx, "but the form in which they give to their common will".

There is 'Equality', because what brings Mr Moneybags and the labourer into relation with each other, is the fact that one has a commodity whose use-value is worth paying the appropriate sum of money in order to be able to consume it. "As with a simple owner of commodities…they each exchange equivalent for equivalent".

Finally, we can speak of 'property', because at no time in this arrangement do any of the parties offer, or take, what is not theirs to offer or take, according to the 'rules of exchange'. As Marx explained, "each disposes only of what is his own".

Marx does admit that ‘forces’ of some kind or other do bring ‘Mr Moneybags’ and the labourer together, putting them in relation with each other. But what he does not do is suggest there’s anything particularly coercive about such forces.

But, what are these forces that bring Mr Moneybags and the labourer together? They are ‘selfishness’ (or, we might say, ‘self-interest’) ‘private interest’ and ‘gain’. Basically, Marx is going to go along with Adam Smith’s assumption of how the ‘free market’ should function, if people only look to their own self-interests and gains. “Because they do”, Marx wrote, “do they all, in accordance with the pre-established harmony of things, or under the auspices of an all-shrewed Providence, work together to their common advantage, for the common wheel and interests of all”.

So, basically, Marx has set up the capitalist mode of production in a world in which everything needed to create surplus-value is in place. There is already a labour market. What ever processes turn people into that class known as the ‘proletariat’ have already happened. Wage-labour is ubiquitous and the value of labour-power is known.

In short, all the component pieces required to establish the classical political theorists’ free market utopia is in place, and all we need to do now is ‘push the button’, start the M-C-M’ circuit running, and see what results.

Marx ends this chapter with a comment that shows he expects the results to be a lot darker than what the free market utopians promise.

“On leaving this sphere of simple circulation or of exchange of commodities, which furnishes the ‘free trader vulgaris’ with his views and ideas, and with the standard by which he judges a society based on capital and wages, we think we can perceive a change in the physiognomy of our dramatis personae. He, who before was the money-owner, now strides in front as capitalist; the possessor of labour follows as his labourer. The one with an air of importance, smirking, intent on business; the other, timid and holding back, like one who is bringing his own hide to market and has nothing to expect but- a hiding”.

CHAPTER THIRTY-ONE

We have now made it to chapter seven and part three of ‘Das Kapital’. While this is not the final chapter of volume one, it will be the last chapter that we are going to subject to a thorough analysis.

Part three is titled, ‘The Production of Absolute Surplus Value’, a title that promises to at last reveal the secret of legitimate profit. However, when we look at the two sections of chapter seven, we may suppose that we have a way to go before Marx informs us as to how capitalists pull off this trick.

Section one deals with ‘The Labour-process of the Production of use-values’, while section two is concerned with ‘The Production of Surplus Value’. Given that it’s laid out in this way, the first chapter of part three is rather like a condensed version of the book so far, only now,

having followed Marx's dialectic argument to this point, we are better equipped to understand why people operate in the ways they do in this Capitalist epoch we now find ourselves in.

Since section one is partly a summary of the book so far, it might be a good idea to briefly touch on what we have learned. What Marx has done is lead us through a critique of classical political theory, using the method of the dialectic. The point of this journey was to gain enlightenment as to the nature of this bourgeois epoch we are now living through. Since the argument is in the form of a dialectic, it would be wrong to assume we have been analysing a chain of cause and effect. Instead of adopting a mechanical approach like that, Marx's method is much more organic, and that's a handy approach to take, given that Marx very much wants us to think of capitalism as an organic system.

Starting with the unitary concept of the commodity, Marx showed, step by step, how things unfolded and expanded through a series of contradictions and reconciliations (or, we might also say, a series of internal differentiations) all ultimately resulting in the establishment of universal money and the M-C-M' circuit. Such things did not come about because they were invented by anyone; their emergence was a natural consequence of this organic unfolding and the way in which this or that contradiction was reconciled.

By the time Marx's historical dialectic had expanded to the point of revealing the absolute necessity for the generation of surplus value in a M-C-M' circuit, we appeared to have fallen into an impossible contradiction. The rules of classical political economy was quite clear that, when it comes to market exchange, equivalent must be exchanged for equivalent. But, if one assumes that is the case (as classical political economists did) then it would appear to be quite plain that, in this very public sphere of market exchange or the circulation of commodities and money, there is no way you can accumulate surplus-value without violating the rules of exchange.

But then we began to suspect why we were not able to see how legitimate profit could be generated. The reason why not was because our whole focus, up until the chapter we are about to look at, had been on exchange mechanisms. But, exchange mechanisms are not where surplus value really comes from. No, surplus value is produced when a certain commodity (labour-power) is consumed under certain circumstances. Whenever a use-value is consumed, the commodity that represents it effectively drops out of the sphere of exchange and enters the sphere of consumption. So, having examined 'the market', i.e, that very public sphere of exchange, Marx will soon take us into the very private sphere of 'production', where the use-value of labour-power (among other commodities) gets consumed and, in the process, profit is generated.

While the wannabe capitalist's ultimate aim is to keep on accumulating surplus value, there are things that must first happen if that ultimate aim is to be achieved at all. Above all, labour-power has to be consumed. How is labour-power consumed? Well, as Marx tells us, "the purchaser of labour power consumes it by setting the seller of it to work". Now we can see, given the setup that Marx has established, that not only was the capitalist not really a true capitalist but rather a wannabe or embryonic capitalist, so too was the labourer not really a labourer. One may only properly call oneself a labourer when one is using the means of production to create use-values. But in this setup that Marx has established, the wannabe

labourer is ‘free’ from any means of producing use-values and has one option left open, which is to try and sell his labour-power to the capitalists. As Marx explains, “by working (he) becomes actually, what before he was only potentially, labour-power in action, a labourer”.

Now, Marx is quite aware that people had been working, producing use-values and exchanging them through C-M-C circuits, long before the conditions that led to an M-C-M’ circuit came about. “We shall therefore”, he tells us, “in the first place have to consider the labour-process independently of the particular form it assumes under given social conditions”.

Though it may seem as if Marx is about to repeat discussions of labouring and the production of use-values, in actual fact he does approach such things in a different way in this section. In the chapters preceding this one, Marx has typically talked about the subjects through the sort of categories that are generated by bourgeois practices. One mistake we really need to try and avoid is to assume that the categories applicable for such an era are somehow universal. They are not. We saw hints of this non-universality of bourgeois concepts when we talked briefly about Aristotle and how, for him, it was extremely challenging to see how labour value could work. What made it so difficult was living in a society that mostly relied on slave labour. As we have seen by examining the basic requirements of a legitimate M-C-M’ circuit, a labour theory of value could not possibly work under the conditions prevalent in the society Aristotle lived in.

So, in this section at least, Marx is not about to examine the labour-process through bourgeois categories, but rather as that universal condition of existence that operates in all times and places. Now, think about what that word- ‘Universal’- implies. It brings to mind notions of unity, totality, oneness. Bourgeois categories, on the other hand, tend to effectively separate. When we think in terms of “work-life versus home-life”, “Man versus nature”, ‘natural versus artificial’, we are incorporating what are really bourgeois concepts into our thinking.

But here, when thinking about the labour-process within this universal condition of existence, Marx insists that we must forget about such categories of separation and treat the labour process as unitary. In other words, Marx is setting up this particular argument about the labour-process by doing the same thing he did with the commodity, which was revealed to be a singular thing with dual aspects.

In the case of labour-power, we should not ask questions like “is the labour process natural or social’, expecting the answer to fall one way or the other. Rather, we should just accept that the labour process is the labour process. It’s a naturally imposed necessity that is simultaneously natural and social. Environmental conditions demand that we alter things around us so that we may carry on living and surviving as a species. In the process, all kinds of social ways and social aspects are created.

Marx tells us that this universal condition of existence contains a decidedly dialectical truth. And the truth is this: you cannot change the world around you without changing yourself; you cannot change yourself without changing the world around you. Although oppositions can emerge (as was also the case with the commodity, what with its poles of use-value and

exchange-value) the unitary nature of this truth of changing oneself through changing the world and vice versa, never really goes away.

It's a truth that seems most evident in certain species. Beavers, for example, are famed for their ability to alter the environment around them. Most especially they have a knack of felling trees and using such timber to dam rivers. The animals themselves have become adapted by evolution to suit this way of life, for example by having jaws and teeth capable of gnawing through wood.

It's just as true with regards to our own species, and this can be demonstrated with the wristwatch. If you were to approach somebody wearing such a device and ask them "do you know the time?", they would likely say "yes, it's"…and then briefly look at their watch before telling you.

Now, if you think about it, such a person was really lying when they claimed to know what the time was. After all, if they really did know, there would have been no need to glance at their timepiece at all. So, why not be strictly truthful and say something like, "no, right now I do not know the time. But I can soon find out by consulting this watch I am wearing"?

The answer seems to be that the wristwatch is so easily accessible, the ability to tell the time whenever you need to becomes a part of oneself. This is something that Andy Clark (b. 1957) has called 'Extended Cognition', whereby external things out there in the physical world end up as part of the mental model of who we are and what we can do. There's quite a bit of brain science to back this up. For example, we know that certain parts of the brain activate whenever your hand comes within touching distance of an object you wish to touch. Now, if you were to hold a long pole, and the other end of that pole was near to touching some object, those same areas light up. But notice though, that your actual hand is nowhere near that object. The pole, then, has been included in your brain's mental map of your own body.

Similarly, the wristwatch, being so easily accessible, effectively becomes a part of us. It really is unnecessarily awkward to reason that you cannot literally know the time until you look at your watch. That would be almost as daft as somebody saying "no, I myself cannot see, but I can access the visual cortex I carry around in my brain, and then I will be able to identify this bird you say is nearby". It's just so much simpler to say "yes, the time is…' (looks down at the watch)…"10-10 AM".

So, what Marx is talking about here, is a decidedly dialectical process by which human societies evolve through the ability to transform nature.

Although this universal condition of existence is something all animals live under, Marx insists that there is something about the way we humans create that is unique to our species. As he himself explained, "a bee puts to shame many an architect in the construction of her cells". Similarly, any kid who ever tried to dam a stream with mud, pebbles and sticks, only to find the water always finds a way through, may well have marvelled at beavers' ability to properly dam mighty rivers. But, as Marx goes onto say, "what distinguishes the worst architect from the best of bees is this, that the architect raises the structure in imagination before he erects it in reality".

So, what Marx is saying here is that what distinguishes human labours from those of other animals is that other animals work in a purely instinctive way. To return to beavers, tests have shown that if they are put in a dry cell and the sound of running water is played through speakers, the animals will display ‘dam-building’ behaviour, going through the motions of building a dam, even though they have no materials to work with or, for that matter, any water that needs damming to begin with. The beavers just cannot imagine that the sound they have heard all their lives, that activates that need to behave in certain ways, is not really running water. Indeed, they cannot really imagine anything. Like all animals (bar one) their remarkable abilities operate entirely on an instinctive level.

That one exception is, of course, ourselves. Where human labour is concerned, we typically find that a certain level of mental calculation and purposive thinking precedes the physical act of creation. There is a moment or period of conception and design in which we dream something up.

But, this is clearly not an unlimited power, but rather one that is tied to the material world. How so? Well, in the sense that one’s imagination is kind of constrained by physical limits and practical knowledge. As David Harvey pointed out, “the imagination of the architect is brought to bear on a particular situation given the wealth of experience that has arisen out of a lifetime of activity, learning, all the rest of it”. It’s pretty obvious that we can imagine all kinds of things but have no way of realising them in the physical world, because the gap between our dreams and what we can practically bring about can be, sometimes, too large to cross. Also, we learned from the example of the clock and the concept of time associated with it, that there are things we could realise, in principle (since they don’t violate any of Nature’s laws) but we are unable to do so because one’s society, language and mental models are wholly inadequate for formulating such concepts.

This particular limit on our imagination can make it hard to see how there can be any paradigm beyond the one we are currently living through. When one questions the sustainability of Capitalism, for example, a typical response is to ask, “Ok then, what alternative do you propose?”. When one is unable to describe in detail how such a future society will work, rarely does the critic pause to consider how ridiculous it is to expect one person to exhaustively detail the outcome of a billion plans, accidents, and mostly evolutionary outcomes, occurring over multiple generations and involving millions of groups and billions of people. No, the normal reaction to this inability to explain in detail how a paradigm nobody ever experienced will work, is to take that as proof that no such paradigm can exist.

What is more, whatever proposal one does sketch out will likely be filtered through the concepts of the current paradigm. Think, for example, of those visions of a world full of AI and robots that have surpassed humans in creative knowledge and practical skills, and yet somehow it is still expected that people should continue to compete for jobs or suffer the indignity of being ‘unemployed’ and therefore ‘economically useless’.

Of course, in any epoch one is equipped with the mental concepts and linguistic terms needed to understand how things work ‘now’ and in the past, but there is a complete lack of the mental tools needed to understand the epochs that are yet to be. All we can do is identify

the contradictions that might grow large enough to fatally disrupt the current paradigm while providing the basic foundations upon which the next paradigm will be built.

As well as viewing the creation of use-values as a universal condition of existence, Marx argued that there was one other aspect that came with any labour properly called 'work'. Now, this returns us to something we previously looked at, which was the relation between 'work' and 'play'. We saw how beliefs like "do a job you love and you will never work a day in your life" assumes that 'play' is completely different to 'work'.

But, not everybody adopted this attitude. Among the socialists who came before Marx was a rather eccentric fellow by the name of Charles Fourier (1772-1837). His most famous work was 'The Theory of Universal Harmony', in which he outlined his idea of a perfect society. It would consist of people living communally in buildings large enough to contain 1,160 souls (such communities being called 'Phalansteries'). Work would be allocated to those who had a passion for it.

So, whereas most people seem to believe that work has nothing much to do with play, Fourier's attitude was quite the opposite. In an ideal, utopian world, society should be organised such that work is always pure play.

On what side, then, did Marx's attitude toward work and play fall? Well, he didn't quite agree with Fourier that work could and should be pure play. Rather, Marx pointed out that any creation of use-values entails not only an expenditure of physical energy but also a certain amount of self-discipline. As Marx put it, when engaged in labour a worker "not only effects a change of form in the material on which he works, but he also realises a purpose of his own…to which he must subordinate his will".

Anyone who has ever taken on a project knows what Marx is talking about. You are inspired by some great idea and start working in order to give material reality to it. But, as the work involved in completing said project grows, generating all kinds of problems and additional work you never accounted for when first you began, after a while it feels less like you are running the project, and more like the project is somehow running you. You wonder how you'll ever get to the end, and keeping up the work feels, at times, like a pretty tedious undertaking.

Of course, if the project were both entirely tedious and completely voluntary, you would have to imagine the worker would simply abandon it and find something else to do. But many a project is neither all bad, nor entirely fun and enjoyable. As far as Marx was concerned, Fourier was wrong, and one should expect to exert a certain amount of self-discipline so as to struggle through those tedious times that come with any activity properly called 'work'.

How much 'self-discipline' need one impose? According to Marx, this is largely dictated by the unappealing aspects of work. "The less he is attracted by the nature of the work…and the less, therefore, he enjoys it as something which gives play to his bodily and mental powers, the more close his attention is forced to be".

One would have to assume that some work could become so unattractive that no amount of self-discipline would be sufficient to ensure the workforce keeps at it, and that if such work

was indeed continuing, it would have to be down to additional factors, perhaps the sort of persuasive powers Marx would have considered part of the ‘coercive laws of competition’.

In such cases, we’re arguably talking about labour that’s moving away from ‘work’ and transitioning into something more like slavery. As far as Marx was concerned, while all labour properly called ‘work’ was never all fun and pure play, we should not loose sight of the fact that, when labour aligns with our species-being, it is a very positive thing indeed. By dreaming up this and that, and then being inspired by such fantasies to engage our creative and physical powers, we can not only reshape materials but also transform the world and ourselves.

Since it has this transformative quality, work can be a very noble thing indeed. It’s not a necessarily noble thing, something so pure it is beyond corruptibility . The whole point of the Marxist position on class struggle is that corruption of some kind or other has been going on, alienating the human race from its species-being and holding back our full development as social beings. Nevertheless, we should not let the alienating quality of work in the age of class struggles blind us to the fact that labour remains very much unitary to our species. The power to transform materials, society, the world, ourselves, there’s nothing particularly ‘unnatural’ about any of this. It’s a perfectly natural part of our powers as social beings that we should bring about such transformation.

Interestingly, though, Marx does not explicitly say much in ‘Das Kapital’ about our relation to Nature and how it evolves in the bourgeois era. Instead, his focus is much more on how contradictions build up and cause antagonisms in the workplace (and, when it came to ‘the workplace’, Marx focused mainly on factory labour) that would result in a proletariat revolution.

These days, I suspect, the focus would be much more on the fact that we inhabit a finite planet and that any economic system that demands infinite consumption-driven growth is bound to slam up against unsurpassable environmental barriers at some point.

But still, while Marx’s argument rarely takes on an explicitly environmentalist form, one can, by applying the right inferences, see that Marx does actually say quite a bit about it. Environmental crises happen under Capitalism, because its driving forces cause our relation to nature to evolve in much the same way as does the relationship between use-vale and exchange value, those dual aspects of any commodity. Just as contradictions inherent to these dual aspects will, by the time we get to universal money, produce the sort of serious contradictions that can result in such an alienation between a person and the fruits of their labour as to bring about fetishistic beliefs, so too can bourgeois drives result in something that feels like an alienation from Nature, caused by a relentlessly growing system that seems somehow opposed to the natural world it is, ultimately, completely dependent upon.

As David Harvey said, under Capitalism our work ethic can evolve in such a way as to “take it in a very specific direction in which indeed this conceptual separation of nature from society is going to become very significant, and is going to become antagonistic”.

Having established that the need to labour is a universal condition of existence, Marx then moves on to a general discussion of how the labour process works. He tells us that such a

process consists of three elementary factors. These are: “One, the personal activity of man, i.e, the work itself; two, the subject of that work; and three, its instruments”.

The most basic form of labour is that which entails taking something direct from its environment. Marx says that the earth is Man’s “original larder”, and obviously that’s equally true of all animals. Staying alive demands animals go out and work to gather edible fungi, plants, fruits; or hunt in order to catch and eat prey.

But this most basic form of labour, the sort where one’s “own limbs serve as the instruments of his labour”, as Marx put it, is capable of providing a relatively tiny percentage of everything society feels it needs. The bulk of what we believe we need to consume relies not just on animals and their limbs, but on the third factor on Marx’s list: Instruments.

This is because most of the stuff we work with must first have been subjected to previous labour before it can serve some useful purpose. Whenever that is the case, we say that Nature’s resources have been turned into raw materials. To a certain extent, animals make use of raw materials too. Birds gather forest debris so as to obtain the raw material needed to construct their nests. Apes and monkeys have been found to use leaves, sticks and stones as simple tools for the purpose of getting at this or that coveted prize.

However, in the case of nearly all animals, this ability to gather raw materials is restricted by the animal’s own physical limitations. A chimpanzee employing a stone as a bludgeoning tool is augmenting its strength somewhat, but this pales in comparison to the range and reach of one species’ capabilities, made possible by a far, far greater range of raw materials and tools at its disposal. I am, of course, referring to the human race.

Indeed, we make such extensive use of raw materials and tools that, although our earliest ancestors must have gathered and hunted natural resources just as our primate cousins continue to do, now the use of tools and the gathering of raw materials is so extensive it should be thought of as our primary function. So, as Marx commented, “the first thing of which the labourer possesses himself is not the subject of labour but its instrument”.

Indeed, we are so used to using tools to gather raw materials, we have lost the ability to take certain natural resources and immediately consume them. When a carnivore such as a tiger hunts, it relies only on its evolved array of formidable weapons, such as powerful claws, and jaws lined with teeth that can slice through flesh and break bones. But, even if humans have now equipped themselves with tools more deadly than those big cats evolved, we could not, like those carnivores, immediately eat whatever we hunted. After all, swallowing raw meat is a bad idea! We have to first cook our meat before it is safe for us to eat, and so, whereas for most animals fire is something to be avoided at all costs, for us, it is an essential tool for survival.

When we think of tools, it’s perhaps easiest to think of solid objects that are easy to handle, such as a flint stone that has been purposefully chipped and shaped to serve the purpose of a knife. But, as the example of fire reminds us, our ‘toolkit’ has expanded to include not just the physical properties of raw materials but their chemical properties too. We use acids, alkalines and the many effects that can result from a proper handling of chemical elements, such as explosive power.

As ever, it would be wrong to say that employing chemical properties is a feat that is totally unique to Homo sapiens. Ants are able to produce formic acid, which they squirt at those who would attack their colonies. An even more impressive use of chemical properties is found in the aptly-named ‘bombadier beetle’. Such a beetle uses two chemicals, hydroquinine and hydrogen peroxide which, when mixed together and made volatile with the inclusion of a catalyst, causes an explosion. Normally, a bomadier beetle keeps the two chemicals separate in difference chambers inside its body. But woe betide the predator who messes with it, for the beetle will then squirt both chemicals into a chamber near their rear end, resulting in an explosion that causes boiling hot, caustic liquid to be fired at the enemy’s face.

This is such a remarkable use of chemistry that the bombadier beetle has long been held up by creationists as a creature that cannot have evolved. They believe that such a beetle can have had no intermediary stages, because their ancestors would have exploded before evolution ‘learned’ how to safely store such volatile chemicals until the time came to exploit their explosive potential. Only some highly intelligent being could have had the foresight to design something like a bombadier beetle. But, actually, there is no explosion unless the beetle adds that catalyst. Over evolutionary time, the amount of catalyst was gradually and safely increased until the ability which earned the bombadier beetle its name was perfected.

Remarkable though it is, it’s kind of a stretch to say such beetles use chemical properties to cause explosions. Phrased that way, it implies too much planning on the beetle’s behalf. It would be much more appropriate to say that the bombadier beetle evolved the natural ability to fire noxious chemicals by way of defence, just as it would be better to say female animals evolved the ability to support embryonic development, rather than “females can manufacture babies inside their bodies”.

But, whereas a bombadier beetle never planned to use chemical weaponry as a means of defence, we humans did learn how to employ certain combinations of chemicals so as to bring about an anticipated result. We invented TNT, C4, and other explosives, knowing full well what powers we were unleashing. And, of course, we have gone far beyond explosive chemical reactions to create weapons and energy sources based on nuclear physics, the energy potential of which requires thousands or even millions of tons of TNT to produce an equivalent amount of energy.

For the longest time, it was thought that our ability to craft and handle instruments was the defining feature of our species, a belief that Marx went along with. “The use and fabrication of instruments of labour, although existing in the germ among certain species of animals, is specifically characteristic of the human labour process, and Franklin therefore defines Man as a tool-making animal”.

When it comes to the very earliest humans, all we can really know about them comes from the physical evidence they left behind, such as fossilised bones and the remains of tools and materials. In the case of their tools, all that remains now are those instruments made of materials tough enough to withstand environmental weathering for (in the oldest cases) millions of years. We tend to think of the earliest humans as existing in the ‘Stone Age’, but that’s only because the only material they used which would not be worn away after millions

of years would be something as solid as stone. No doubt they used many more plant materials and organic matter which has long been lost to the ravages of time.

But more to the point, I think, our earliest ancestors had scant ability to transmit into the future what they were thinking when they used instruments to fashion useful items out of raw materials. Sometimes, the purpose seems evident enough. We may infer that a flint stone was carefully shaped into a knife because some ancestor thought “I could use something sharp so as to cut this or that material”. But what rituals, what symbolisms did our ancestors create around such stuff? Such questions most easily spring to mind when it comes to such archeological discoveries as jewellery and statues. What complex beliefs, what stories, led to our ancestors carving stones into the shapes of dragons, or to invent paints in order to daub walls with images that combine human and animal features?

Unless our ancestors left behind physical evidence of a language we can translate, we can know next to nothing of the plans, facts, rationality, myths, legends and symbolisms that formed the mental aspects of the societies our ancestors lived under. But we can be quite certain that our ancestors did live in such an imaginative world, because Homo sapiens is not so much defined as the tool-making animal, but rather as the storytelling animal. We don’t just live in the world of objective reality, nor are we confined to individual flights of fancy. Thanks to our language capacity, we can use intersubjectivity to create amazingly rich and complex fantasies, some of which become ‘what ifs’ that affect changes in the physical world that go far beyond what other animals can plan for.

We know some animals are able to make use of fiction. Right back at the start we referred to the monkey that falsely raised the alarm that a predator was nearby. But, do animals tell each other stories? We do know that animals such as whales have very sophisticated vocalisation, and some birds are known to be extremely good at mimicking human speech. Maybe such animals spend their days telling one another elaborate tales and vocalising their beliefs concerning why things are and how they might be different. But, if so, such creatures have had no effect in changing reality at anything other than the pace that natural selection works at.

But the storytelling capacity of humans has led to historical events that have had a tremendous effect in shaping the world around us. Marx commented, “it is not the articles made, but how they are made, and by what instruments, that enables us to distinguish different economic epochs. Instruments of labour not only supply a standard of the degree of development to which human labour has attained, but they are also social conditions under which that labour is carried on”.

Just as there is a tight (yet possibly antagonistic) relationship between use-value and exchange value within every commodity, our histories are marked by a close (and sometimes antagonistic) relationship between technological capabilities and social relationships. The collaborative and competitive powers this unleashed has had world-changing effects. As far as large animals are concerned, by far the largest mass now consists of domesticated animals such as poultry, swine and cattle, creatures whose form is due as much to selective breeding and genetic engineering as to naturally-evolved traits. The landscape, too, has been purposefully transformed on a gargantuan scale. Were aliens to visit our solar system, the first signs of life they would notice would be our city lights, the

tell-tale geometric patterns of our farmlands (far too orderly for wild Nature) and the networks of roads and shipping lanes that cross-cross our planet.

Such infrastructure relies on a combination of millions of tools and materials nested within tools and materials nested within tools and materials…As Marx commented, “in a wider sense we may include among the instruments of labour, in addition to those things that are used for directly transferring labour to its subject….These do not enter direct into the process, but without them it is either impossible for it to take place at all, or possible only to a partial extent…Among the instruments that are the result of previous labour and also belong to this class, we find workshops, canals, roads and so forth”.

It might seem a bit strange to call a road network or a factory an ‘instrument’ or a ‘tool’, since we are used to thinking of such things as stuff we as individuals can easily handle. Transport networks and factories only really show their value when they enable the coordinated capabilities of a great many people. Not only that, but only the coordinated effects of masses of people, augmented by many design aids and machines, can build infrastructure like railways and transports like cargo ships to begin with. One day, perhaps, robots and AI will take over more, and maybe even most, of the duties involved in building and maintaining such infrastructure. If so, those artificial beings will be making use of the relationship between processes and things, just as we have been doing ever since we turned our imagination into physical tools, instruments and infrastructure.

When it comes to this process-thing relationship, which is more important: The process? or the thing? As ever, so tight is the relationship that we should really think of them both together. Marx understood this, but what he concentrates on here is how, in the production process, value is objectified in the thing. “The process disappears in the product, the latter is a use-value…That which in the labour appeared as movement, now appears in the product as a fixed quality without motion. The blacksmith forges and the product is a forging”.

Now, the way the production process has been presented so far portrays such goings-on as being far simpler than what is actually the case. After all, the system apparently works as follows: A production process leads to a use-value. But, if the production process requires an input of materials to begin with, and materials require an input of labour, then there must be an ongoing production process stretching way back into the past. …Use value-production value-use value-production value-use value….

And what is true of the past also holds if we look into the future. This is, after all, an ongoing process. As Marx tells us, “though a use-value, in the form of a product, issues from the labour-process, yet other use-values, products of previous labour, enter into it as means of production. The same use-value is both the product of a previous process, and a means of production in a later process. Products are therefore not only the results, but also essential conditions of labour”.

What rather complicates attempts to calculate how much previous labour-power is incorporated into a product is the fact that most materials have multiple possible uses, and many materials and products play more of a supporting role, rather than being directly integrated into the item you end up paying for.

Taking the former point first, if we consider something like an egg, it could, with a little work such as boiling, frying or poaching, be turned into a product one may directly consume. But this hardly exhausts all the ways in which that egg could be useful. Any recipe book is bound to have hundreds of dishes that rely, one way or another, on eggs. Other foodstuffs have even wider potential. Corn, for example, is the raw material not only for growers of corn (obviously) but also, in the form of feedstock, as raw material for cattle-breeders and therefore the production of beef; it's also a key material for the product distillers sell.

While some products can be consumed directly (and therefore can be thought of as the final product) others take on a more intermediary role, effectively becoming raw materials that serve no purpose unless incorporated into something more properly thought of as a final product. Flour would be a good example. Various processes have to occur before that bag of flour is produced. Once it is, you can't really consume it directly, since it is only useful as a component in many recipes. Or, think of a battery. Again, many materials and processes go into its production and, once made, it's useless unless put into some other product.

What, then, issues from the production process? Raw materials? Products? Instruments of labour? The answer is all of this, because most products may potentially fill all such roles. As Marx pointed out, "whether the use-value is to be regarded as raw material, as instrument of labour, or as product…is determined entirely by its function in the labour-process, by the position it there occupies; as it varies, so too does its character".

In this ongoing process, then, raw materials can be many potential products that, in turn, may become many potential materials or other factors in the production process, such as instruments. This has caused some to conclude that this is an evolutionary process. If so, does it work like natural selection?

Well, sometimes it does. Imagine our ancestors noticed a log floating down a river. It occurs to some that this might be a handy way of travelling. Just sit on a log and let the current carry you along. Trouble is, it turns out to be damned hard to sit on a floating log. Most attempts result in a dunking. A few, though, develop the knack of keeping the log steady enough to remain on it. Such skills catch on, and spread. But, still, using a log as a mode of aquatic transport remains cumbersome and difficult, so people are motivated to modify the log bit by bit, each attempt either improving the log's ability to function as a mode of transport (therefore adding to those skills worth transmitting into the future), or not helping at all and so being forgotten. Generations of tinkering later, what was once a log has become a canoe.

A dug-out canoe evolves in a way that is a lot like natural selection, because we are talking about a sequence of modifications. But ask yourself this: Would it be possible to modify a propeller plane, adjusting this part of it, modifying that, until you ended up with a jet airplane?

The problem here is that a gas turbine power plant (the official name for the engine that powers such aircraft) is so different to a propeller engine as to make it impossible to modify one into the other. Whereas the log could be hollowed out bit by bit, with every intermediary step being somewhat useful as a boat, there is no direct line of ancestry linking a Lear jet to something like a Sopwith Camel.

But if so, how did that jet airplane come to be? Surely, such sophisticated machines did not spring from nowhere? The answer is that something like a ‘gas turbine power plant’ contains components that do have an ancestry, only that ancestry has nothing whatsoever to do with aircraft. Inside a jet engine you will find such components as turbines, combustion systems and compressors. Go back and look at some earlier technologies other than airplanes, and you’ll find those same components. Early 20th Century industrial power units used compressors; combustion systems and turbines were previously used in electrical power generating systems. If you were to investigate where those technologies came from, you would again discover that their components also an ancestry of sorts, but often they were in products nothing like the one you are currently using.

This, then, is how technological evolution is different to natural selection. Nature can only modify what it has, and it cannot take the parts from radically different species and assemble them into something new. The Wicked Witch of the West might be able to attach eagle’s wings to a monkey’s body, but natural selection cannot.

But humans, evidently, can take components from radically different technologies and combine them in order to make a new product. So, whereas natural selection works by the principle of cummulative selection, the process driving technology is ‘combinatorial evolution’. As W. Brian Arthur (b.1946) explained in his book, “The Nature of Technology”, “all technologies are combinations. This simply means that individual technologies are constructed or put together- combined- from components or assemblies or subsystems at hand”. You can think of those components, assemblies and subsystems as the building blocks for new technologies, and every new technology as a potential building block. The more building blocks you have, the more technologies you could potentially produce.

Of course, not all combinations result in a useful product. No doubt, many if not most products we now have won’t be combined with other products, because the result would be useless. Nobody, it’s safe to say, is going to try and combine the top hat, the selfie stick and the motor car, because there’s no reason to believe anything of any practical value would result.

But, some folks did see the point in combining the phone, the microchip and the camera, along with other components that together gave us the smartphone. Those combinations worked, as made evident by how commercially successful smartphones have been. Conversely, Google thought combining cameras with eyeglasses would also result in the next consumer must-have, but customers thought otherwise and Google Glass went nowhere. That’s where the evolutionary part comes in. Some combinations make products that sell, and so long as they do they survive in the marketplace, multiplying and perhaps one day becoming the building blocks of newer technologies. Other combinations fail to catch on and disappear (though they may one day find a more useful purpose as components in some other technology). Most combinations are not even attempted, being obviously useless.

Now, when it comes to ancestry, retracing the steps that led to this or that product can feel like we are in a state of infinite regress. Modern technologies are combinations of earlier technologies, which in turn were combinations of even more primitive technologies…and on

and on it goes. Where does it all end, or, since we are going back into the past, where did it all begin?

Talk of ‘building blocks’ and components makes us think of objects one can easily handle. But combinatorial evolution relies on more than just materials and physical products. We also have to include all the infrastructure, such as factories, mines, transportation systems and so on. Also, all this physical stuff is useless unless there are labourers who know how to operate it. So, the ‘building blocks’ also include our growing store of knowledge; the techniques, the algorithms, the recipes, the skills, that turn resources into raw materials, raw materials into components, and components into products.

But what is all this aiming to do, ultimately? According to W. Brian Arthur, we develop ideas, gather materials, wield tools and build infrastructures, all so we can harness some natural phenomenon and put it to good use. For obvious reasons, people can only usefully harness the natural phenomenon they are aware of, understand sufficiently well and know how to practically exploit. The laws of nature allowed ancient people to sharpen stones, and eventually they knew enough to construct bows and arrows, exploiting certain forces so as to propel a weapon further than arms alone could throw it. The laws of nature also permitted the building of rocket ships, but nobody could build such things for the longest time, because they lacked knowledge of what natural phenomenon to harness, how to harness it, and all the infrastructure, technologies and tools needed to turn the idea of the rocket into an actual spaceship. As combinatorial evolution makes us aware of more natural phenomenon, and more ways to harness it to good effect, more and more technology evolves.

Now let’s turn to that other point, the one about many aspects of a production process being involved in an indirect way. As Marx observed, “raw material may either form the principle substance of a product, or it may enter into its formation only as an accessory”.

Consider a diamond ring. We can tell, just by looking at it, that previous labours went into its manufacture. That metal band reminds us of the goldsmith who shaped the gold so as to fit a finger. The diamond reminds us of the jeweller who took that rock and cut and polished it until it was the thing of dazzling beauty we now behold. All such labour have become objectified in this ring.

But not all the work that, one way or another, helped produce that ring is evident in the finished product. At some point, the gold was melted down, and something capable of generating tremendous heat was consumed as part of this process. Maybe it was coal, perhaps it was gas. Whatever it was, it’s not really ‘in’ the ring, having been consumed in an earlier part of the production process. But, we should still include this material and all the labours associated with it as part of the history of that ring.

Similarly, things such as the lighting systems that illuminated the mines from whence the gold and diamonds came, the roads and railways that transported labourers to all the workplaces involved, directly or indirectly, in the production of the ring, and a vast array of other tools, knowhow, infrastructure etc facilitated the manufacture of that diamond ring.

If you think about it, this is a bittersweet thing to learn; the fact that the vast majority of labour required to produce anything will essentially ‘disappear’, ignored out of existence. Mostly,

what helps such work ‘disappear’ is that the final product works really well. Remember that yarn the wannabe capitalist bought? All he needs to know is that it is good yarn. What needed to be done in order to turn cotton into good yarn need not concern him. Similarly, were he to purchase a spinning wheel or loom or some other equipment that can turn yarn into clothing, all that matters is that such technology does the job its supposed to do.

As Marx pointed out, “of course, it is impossible to spin without material and spindles, and therefore the existence of those things as products, at the commencement of the spinning operation, must be presumed: but in the process itself, the fact that they are products of previous labour is a matter of complete indifference”.

But this only really holds true so long as the materials, tools, and equipment do the tasks they were intended for. Imagine the following scenario. You are working late into the day and, as the sun goes down, you press a light switch, fully expecting that, by this simple act, light will flood your room and permit the work to go on. Do you stop to acknowledge all those workers who, one way or another, made it possible to banish the darkness whenever you want to? No, you just expect that, as soon as the switch is flicked, there will be light.

Only this time the effect is not what you were expecting. There is a loud bang coming from the light fixture. “That bulb cannot have blown already, I only bought it a short while ago”, you think, “goddamn bulb manufacturers must have sold me a dud!”. You replace the bulb and try the switch again. Nothing happens. With growing concern you try other equipment that depends on the power supply. None of it works! Suddenly, you are all too aware of the electricians who wired your house, those working to supply power and many others who, so long as their products and services were available as and when needed, never came to mind.

As Marx commented, “it is generally by their imperfections as products that the means of production in any process asserts themselves in their character as products. A blunt knife or weak thread forcibly reminds us of Mr A the cutter or Mr B the spinner. In the finished product the means of which it has acquired its useful qualities is not palpable has apparently disappeared”.

Materials, tools and equipment that cannot perform the functions they were intended for are, plainly, useless. But so too are all such things that do not serve their relevant purposes. As Marx said, “yarn which we neither weave nor knit, is cotton wasted”. And it’s not as if such material will hang around, persisting in the same condition until such time as we decide to realise its purpose. There are, after all, destructive natural forces at play, as anyone who has witnessed metal rusting and organic matter decaying knows. Of course, steps can be taken to delay such processes, but doing so entails some sort of ongoing work. Somebody has to ensure the freezer keeps meat fresh and that the idle tractor undergoes necessary maintenance.

Preserving a material is hardly the same thing as making use of a material. We saw earlier how, so long as they remain apart from the means of production, people are only potential, not actual, labourers. It stands to reason that the same thing is true of materials’ use-value. They remain materials whether used or not, because past labour went into their production. But they cannot realise their use-value if they are not part of a labour process. As Marx said,

“living labour must seize upon these things and rouse them from their death-sleep, change them from mere possible use-values into real and effective ones”.

Consumption has been talked about as if it were something that happens only at the end of a production process. Apple trees are cared for, ensuring they bear fruit. But once that fruit is plucked it is eaten. Or, maybe it goes on to become part of the cider-making process, and once bottled the product is removed from the production process and the sphere of circulation, and is consumed.

But, actually, consumption is not something that only happens at the end of the production process but is also a necessary part of it. “Labour”, Marx tells us, “uses up its material factors, its subject and its instruments, consumes them, and is therefore a process of consumption”. He then goes on to say that consumption comes in two main forms, those being ‘individual’ and ‘productive’ consumption. What the former consists of is any material or social cost involved in maintaining labour-power so it is fit enough to work at the standards expected of average socially-necessary labour. Productive consumption, on the other hand, involves all the materials, energy etc that get consumed so that the production process itself remains in an operative state, capable of taking materials with potential use-values, and turning them into products with realised use-values (and which may become the building-blocks of newer products).

“In so far as its instruments and subjects are themselves products”, wrote Marx, “labour consumes products in order to create products, or in other words, consumes one set of products by turning them into the means of production for another set”.
So both individual and productive consumption can be described in a metabolic way. It may seem as if the former is consuming and metabolising in a more literal fashion. The dictionary, after all defines that term thus: “the total processes in living organisms by which tissue is formed, energy produced and waste products eliminated”. But then, the production process consumes labour-power, which is why the labour force must be fed and looked after in other ways. Machines and other equipment consume fuel and require maintenance. Suitably ‘fed’ and cared for, the production process forms new products, new use-values. It produces energy that reflects both labourers and the labour process, and it produces waste that needs to be dealt with one way or another. Worn out workers, worn out equipment, and the garbage and pollution that’s left when the process has done all it can (or cares to do) to realise use-values in the materials and knowledge to hand.

We should remind ourselves that this is not just capitalist production we’re currently examining, but rather those aspects of the production process that must always play a part in human life, if we are to survive as a species. “It is”, wrote Marx, “the everlasting Nature-imposed condition of human existence, and therefore…is common to every social phase”.

If you think back to our discussion regarding the process by which commodities are created, you’ll recall that some things are quite easy to discern, just by looking at a product on a shelf. What use-value an item has is often easy to infer (“ah yes, clearly you cut things with this sharp-looking instrument”). But other aspects of the commodity were harder to determine with a mere look. Without a price tag, and considered apart from the world of commodities, it’s very hard to guess what exchange-value a commodity has (mostly

because, separated from the world of commodities, the ‘exchange-value’ of an item becomes meaningless). It is also very difficult, impossible actually, to know all the various kinds of labour processes that went into the creation of a commodity, a limitation of understanding that contributes to the fetishism of commodities.

Nor, for that matter, can you tell, just by looking at the end product, what kind of work, in a general sense, went into its creation. About all you can do is determine whether or not the production process entailed more, or less, modern techniques. Nobody thinks they have found an ancient artefact if they pull the remains of a games console from a landfill! But, as to what kind of work went into that product, well, such things are not signalled by the product alone.

Take the pyramids, for example. Clearly, they are structures built by human hands, not the chance outcome of natural forces. But what kind of work was involved in their construction? Did a downtrodden army of slaves build the pyramids, wearily heaving gigantic stones under the lash of a master’s whip? Was a collective of volunteers responsible, perhaps motivated by some religious and/ or artistic calling? Or was this labour more like ‘work’ as we know the term, with people paid to work in the construction industry and, if so, were those labourers paid enough to lift them out of sweatshop labour and debt peonage all too similar to outright slavery?

As Marx commented, “as the taste of porridge does not tell you who grew the oats, no more does this simple process tell you of itself what are the social conditions under which it is taking place, whether the slave-owners’ brutal lash, or the anxious eye of the capitalist”.

Ah yes, the Capitalist. It’s been a while since we talked about him, having taken time out to talk about the general conditions under which production processes carry out their metabolic function. But now Marx is ready to return to that embryonic Capitalist, that character who really has no interest, ultimately, in use-value or exchange-value, seeing such things as useful only to the extent that they continue to generate surplus-value, a trick he is yet to achieve without violating the rules of exchange.

Now, the point at which we examine the process by which surplus-value is produced begins at a stage where capitalist production can begin, where all the requisite components of such a system are in place. Therefore, we’re not going to be considering anything one might expect to find in more advanced capitalist economies. No workers with qualifications in higher education, no sophisticated technologies and certainly no robotics and AI. As Marx comments, the Capitalist “must begin by taking the labour-power as he finds it in the market, and consequently be satisfied with labour of such a kind as would be found in the period immediately preceding the rise of the capitalists”.

That being the case, the would-be labourer would in all likelihood not notice much difference, in terms of the actual work he will be doing, compared to the work he had been doing before his own means of production somehow vanished. “The general character of the labour-process”, Marx observed, “is evidently not changed by the fact, that the labourer works for the Capitalist, instead of for himself”.

Nevertheless, the contractural conditions under which the labourer works for the Capitalist does appear to be a pretty dramatic shift. There are two main points with regards to this contractural relationship. The first is that, since the labourer has sold his capacity to work for a day to the Capitalist, once he enters that workplace his labour-power belongs to the capitalist. As is always the case when a commodity is bought in fair exchange, the Capitalist may now consume that labour power.

And how is labour-power consumed? By putting it to work, operating the means of production to the standards set by average socially-necessary labour. “The Capitalist (takes) good care that the work is done in the proper manner…that there is no unnecessary waste of raw material, and no wear and tear of the implements beyond what is necessarily caused by the work”.

Since he is about to be put to work, doing whatever is necessary to bring about that metamorphosis whereby raw materials become products, the labourer will be producing commodities intended to fetch a price on the market.

This is where the second contractural condition comes into effect. “The product is the property of the Capitalist and not that of the labourer, its immediate producer”.

Now, think back to how John Locke justified private property. His case rested on the fact that somebody had “mixed their labour” with what was to become private property, thereby embodying their labour in that land, that material, that product, whatever it is that results from such work. In short, private property exists, rightly, because somebody worked in order to make something fit for consumption.

But, in this Capitalist mode of production, that is not what is going to happen at all. The labourer will produce valuable commodities, but the fruits of such labour will not belong to him. He will be alienated from the productive outcome of his efforts.

Put that way, it seems rather unfair, so far as the labourer is concerned. Really, though, it isn’t, because the first contractural condition necessarily makes it fair.

Suppose that the Capitalist had hired a horse for the day, and set that horse to work for the contracted period of time. We would not expect the horse’s owner to receive all the rewards rising from the horse’s work, and we certainly wouldn’t expect it all to go to the horse. No, it goes to the person who paid for the horse’s capacity to work.

Such conditions are even fairer with regard to human labourers, who have the capacity to understand the terms and conditions of this arrangement (which the horse, presumably, cannot do). The labourer agreed to sell a day’s labour to the capitalist, and so his labour-power belongs to the capitalist, just as do all the other commodities the latter purchased. As Marx commented, “the labour-process is a process between things that the capitalist has purchased, things that have become his property. The product of this process belongs, therefore, to him, just as much as does the wine which is the product of a process of fermentation completed in his cellar”.

CHAPTER THIRTY-TWO

In the previous section, Marx led us through an examination of “the labour-process or the production of use-values”. Since that was the focus of analysis, rather than surplus-value, Marx did something unusual in that section, which was to examine the labour process as a universal condition of existence, rather than assume bourgeois categories had any relevance.

By the time we got to the end of that section, we were a lot clearer as to how the labourer could be alienated from the fruits of her or his own work without this in any way violating Locke’s justification of private property. But we were no closer to figuring out how surplus-value could result from a process of consumption.

The title of section two, however, promises to shed light on this mystery at long last, for it is titled, “The Production of Surplus-Value”.

Now, the very first thing we learn in this section is that there is a product of some kind or other that the Capitalist appropriates, and that this product is a use-value. Therefore, the production process that is about to consume labour-power and raw materials must necessarily be one that produces use-values.

However, while it may be the case that customers operating in a C-M-C circuit will be interested in parting with their money so as to obtain the use-value of the product the Capitalist sells, as far as the Capitalist is concerned, the fact that his product has a use-value is far less important than the fact that the product also has an exchange value. As Marx tells us, “use-values are only produced by capitalists, because, and in so far as, they are the material substratum, the depositories, of exchange-value”.

We can see, then, that the production process which is about to consume labour-power and raw materials must have a very similar unitary nature with dual aspects as ‘the commodity’ itself. As Marx tells us, “just as commodities are, at the same time, use-values and values, so the process of producing them must be a labour-process, and at the same time, a process of creating value”.

In the previous section, Marx focused on the ‘labour process’ and how that related to the production of use-values. We learned that this process entailed a form of evolution known as ‘combinatorial evolution’, whereby ‘building blocks’ (both physical and mental) are put together in some way so as to usefully exploit certain natural phenomenon. What Marx intends to do in this section is to examine production as a creation of value.

In the example Marx uses, the Capitalist has set the labourer to work and the result is a particular commodity, which in this case is 10lbs of yarn. Like any commodity, that yarn has a value and, thanks to our examination of commodities, we know what gives that 10lbs of yarn its value. As Marx reminds us, “we know that the value of each commodity is determined by the quantity of labour expended on and materialised in it, by the working time necessary, under given social conditions, for its production”.

So, in order to figure out what price that 10lbs of yarn ought to fetch on the market, we have to determine the quantity of labour it embodies.

As is the case with nearly all commodities, that yarn required three main things for its production, those being materials, instruments and labour-power. In this case, the materials required to produce 10lbs of yarn are presumed to be 10lbs of cotton. Being as it is a material, the cotton is a commodity in and of itself, and Marx assumes our Capitalist bought it at its full value, which for sake of argument Marx says is ten shillings.

As well as now owning 10lbs of cotton, the Capitalist can also count a spindle among his possessions, which we are to assume stands in for all the instruments of production at his disposal. Since that spindle is also a commodity as well as an instrument, the Capitalist has two ways in which he might obtain yarn. One possibility would be to exchange the spindle and cotton for a quantity of yarn embodying an equivalent amount of labour-power to that embodied in the cotton and the spindle.

Alternatively, our Capitalist could use that cotton and that spindle to make some yarn, in which case different outcomes would appear to result for the cotton and the spindle. In the former case, the result would be a transformative one, for in the process of spinning it would be turned into yarn. But in the latter case, by putting the spindle to work it would inevitably undergo wear and tear, and so its use-value is simply being used up.

That being the case, it's obvious that there is a certain quantity of cotton that can be turned into yarn before the spindle is completely worn out and no more useful work can be done with it. For argument's sake, Marx supposes that this amounts to 40lbs of yarn. As he himself wrote, "40lbs of yarn= the value of 40lbs of cotton+ the value of a whole spindle".

Since that 40lbs of yarn is a commodity, it must fulfil the conditions anything properly called a commodity meets. "First, the cotton and the spindle must concur in the production of a use-value…Value is independent of the particular use-value by which it is borne, but it must be embodied in a use-value of some kind". It doesn't really matter to the Capitalist that this particular production-process happens to result in yarn, since he intends only to sell it in the hope of gaining surplus-value, but the customer he sells it to would not let her money go unless the item for sale had a use-value.

The second condition is that the production process use only socially-necessary production to transform the cotton into yarn. The time taken to affect that transformation must not exceed the time it normally takes, and no more cotton should be used than would ordinarily be necessary. If an excess of 40lbs of cotton had been used, due to the production process proceeding in a wasteful fashion, that would simply be time and cotton wasted, not a value-adding outcome. Similarly, as well as being used as socially-necessary labour dictates, the spindle must also be built in a way that conforms to such conditions. "Though the Capitalist have a hobby, and use a gold instead of a steel spindle, yet the only labour which counts for anything in the value of the yarn is that which would be required to produce a steel spindle, because no more is necessary under given social conditions".

Now, you'll recall that the Capitalist did not end up with 40 lbs of yarn but 10lbs. That means the value that is embodied in that yarn equals the exchange-value of 10lbs of cotton plus the

value of one-fourth of a spindle. Of course, what's really important is not that the spindle has been partly worn away, but that a certain amount of socially-necessary labour has been transferred from the cotton/spindle to the yarn. The work required to affect that wear and tear transfers two shillings-worth of value to the yarn, according to Marx's assumption.

Remember, though, that the twelve shillings that the yarn is now worth does not express the value of the labour-power that our labourer added to the cotton during the production process. That is yet to be factored in. No, the twelve shillings is only the value of the material (cotton) and that of a fraction of a spindle. Saying that amounts to twelve shillings is to say that the work used to grow/gather 10lbs of cotton and use up one-fourth of a spindle, equals the labour-time required to produce twelve shillings-worth of gold. "If", Marx tells us, "twenty-four hours' labour, or two working days, are required to produce the quantity of gold represented by twelve shillings, we have here, to begin with, two days' labour already incorporated in the yarn".

Another thing to bear in mind is that, although the yarn has gained some value, so far as the Capitalist is concerned all there have been so far are costs. Purchasing the raw material, that 10lbs of cotton, cost him ten shillings, and turning it into yarn also incurred costs, in the form of wear and tear of the spindle, though that did transfer another two shillings-worth of value to the yarn.

Having worked out what value is due to the labour contained in the cotton and the wearing out of the spindle, Marx then concentrates on the value added by the labourer himself. According to Marx, since we are considering how much value his labour adds, we should look at that work in a different way than if it was the use-value we were considering.

If we were considering the use-value, it would be the qualitative nature of the work that really mattered. One use-value can only be exchanged for another if it is different, something we learned from our analysis of 'the commodity'. We also see differences in the materials, instruments and the work that must be done in order to produce different use-values. So, for example, in order to manufacture a spindle you would need to employ different tools, materials and techniques than would be used to spin cotton into yarn, or grow and gather cotton on farms. As Marx informs us, when viewed from this 'use-values' perspective, "the labour of the spinner was then viewed as specifically different from other kinds of labour…for the operation of spinning, cotton and spindles are necessary, but for making rifled cannon they would be of no use whatsoever".

So, where use-values are concerned, it is essential that the materials, tools, and labour are never 'the same', that they differ in some ways, sometimes so much that it would appear one branch of production has nothing to do with what goes on in some distant branch.

But what about value? How do things look when viewed from that perspective? Now we see that all labour, no matter how different it would appear to be, is in fact 'the same', because it's all just different ways of achieving the same aim. As Marx says, "here, we have nothing more to do with the quality, the nature and the specific character of the labour, but merely with its quantity".

In other words, from this ‘value-creation’ perspective, it does not matter what kind of product the process turns out. It could be yarn, cheese, music, insurance policies…who cares what? All that matters is that, whatever it is, it has absorbed a quantity of labour. Yes, a use-value will and must result from this work, for nothing can be properly called a commodity if it cannot be imagined to have a use-value, but from our current perspective it is that quantity of labour, alone, that matters. “The raw material now serves merely as an absorbent of a definite quantity of labour. By this absorption it is in fact changed into yarn…but the product, the yarn, is now nothing more than a measure of the labour absorbed by the cotton”.

As ever, the usual rules concerning useful/superfluous labour apply here. The only time that should be consumed during any labour process is that time which, on average, is necessary, given what social conditions are available. “If under normal, i.e, average social conditions of production, a pounds of cotton ought to be made into b pounds of yarn by one hour’s labour, then a day’s labour does not count as 12 hours labour unless 12a pounds of cotton have been made into 12b pounds of yarn; for in the creation of value, the time that is socially necessary alone counts”.

So, every hour the labourer should turn out a certain quantity of product. Or, we might say, every hour the product should absorb the same amount of labour, on average. For sake of argument, Marx supposes that an hour’s worth of spinning should transform 1 2/3 lbs of cotton into 1 2/3 lbs of yarn.

We were told, though, that the wannabe capitalist had ended up with 10 lbs of yarn. Assuming the labourer has not been overworked, and therefore has only produced the amount of product each hour’s worth of spinning should produce, that 10lbs of yarn has absorbed six hours of labour.

The labourer did not do this work for free, of course, but was paid a wage equivalent to the work needed to be done so as to afford that bundle of commodities a worker must have, if they are to keep up their normal work rate, day after day. We assumed that this cost has already been paid, and that it came to three shillings. “Six hours labour is incorporated into that sum”.

That six hours of labour has been transferred to the yarn. If we now add the work due to the process of spinning to the work contained in the cotton and the wearing out of the spindle, there is now two and a half days’ labour absorbed in that yarn. That being the case, it should rightly fetch a price equivalent to two and a half days’ labour.

So far, the wannabe capitalist has been operating at the M-C side of the M-C-M’ equation, incurring costs that he hopes will result in a profit. But now that he has that 10 lbs of yarn, he can operate at the C-M side, and sell his rightful property for what it’s really worth. And what is it really worth, given the quantity of labour absorbed in it? “This two and a half days’ labour is also represented by a piece of gold of the value of fifteen shillings. Hence, fifteen shillings is an adequate price for the 10 lbs of yarn”.

Something has gone terribly wrong, so far as the wannabe capitalist is concerned. By sticking to the rules of fair exchange, he sold his 10 lbs of yarn for fifteen shillings. But how much did it cost him, in order to have 10lbs to sell? The cotton cost him ten shillings, the

labourer's time cost him three shillings, and two shillings-worth of value was worn away from the spindle. So, all together, the wannabe capitalist had to spend fifteen shillings in order to have 10 lbs of yarn to sell on the market.
As Marx tells us, "the value of the product is exactly equal to the value of the capital advanced. The value so advanced has not expanded, no surplus value has been created, and consequently, money has not been converted into capital".

Certainly, the yarn was able to fetch a higher price than the cotton. !0 lbs of cotton was worth ten shillings, whereas the yarn was worth fifteen. But that's due to the fact that the yarn absorbed more work, more time, and consequently, more costs. All the wannabe capitalist has managed to do is find a roundabout way of exchanging value for value; spending fifteen shillings and getting fifteen shillings back.

Or, to put it another way, our wannabe capitalist began with fifteen shillings. He then split that sum up so as to purchase all that was necessary to produce 10 lbs of yarn. Then, when he sold his 10lbs of yarn, the fifteen shillings was recombined. "It is merely the sum of the values formerly existing in the cotton, the spindle, and the labour power…These separate values are now all concentrated in one thing, but so were they also in the sum of fifteen shillings, before it was split into three parts, by the purchase of the commodities".

So far as the labourer who spun the yarn, and the customer who bought it, are concerned, everything turned out as it should. Operating in the C-M-C circuit, they received value for value and are happy with such a result. Our wannabe capitalist, however, is not at all happy, because, for him, operating in a M-C-M' circuit, a value for value exchange is a failure. "Oh! But I advanced my money for the express purpose of making more money", Marx imagines him saying.

How might our wannabe capitalist respond to this result? He might think it's not really worth incurring the costs of manufacturing anything. Better, instead, to just buy commodities on the market. But he had better hope this does not become a generalised attitude among the capitalist class. "If all his brother capitalists were to do the same, where would he find his commodities in the market? And his money he cannot eat".

Appealing to his fellow capitalists, expecting them to bear the costs of producing commodities that he can somehow subsequently extract surplus value from, won't work.

How about an appeal to the good use he put his money to? Marx imagines our wannabe capitalist saying something like, "I could have spent that money on wine, women and song, or just gambled with it. But I didn't do that, did I? No, I invested my money in productive operations. At the very least, I should get something in return for the productivity my investments enabled".

But, as Marx points out, he did indeed get something. "By way of reward he is now in possession of good yarn instead of a bad conscience".

Our wannabe capitalist's response to that is to point out that it was never his intention to end up with 10 lbs of yarn or, indeed any use-value. No, whatever commodity his production

process turned out, it was only an intermediary step toward his real concern. “the yarn is of no use to me: I produced it for sale”.

Marx suggests that, in the future, our wannabe capitalist sets out only to produce use-values that satisfy his personal wants. Of course, in doing so he would be a Capitalist no longer, since he would henceforth be operating in the C-M-C circuit, rather than chasing that illusive surplus value in a M-C-M’ circuit. But at least he would no longer need to care that his work produced more value than was absorbed in the processes themselves.

What does our capitalist say to that? His response is to point out something we’ve already highlighted. Before he found gainful employment at our wannabe capitalist’s place of business, the person who became ‘the Labourer’ could not possibly perform the duties one must undertake to be properly considered to be in such a role. After all, the role of the labourer is to operate the means of production so as to turn raw resources into materials, and materials into products, both of which become commodities we either remove from the market so as to consume their use-value, or alienate in a sale. Performing such roles requires resources and equipment that the ‘labourer’ did not have. “Did I not supply the materials, by means of which, and in which alone, his labour could be embodied?”.

Separated from the means of production, what becomes of the labourer? According to the sort of moralistic handwringing to be found in essays like Stubbes’ ‘The Anatomy of Abuses’ and sayings such as “the devil makes work for idle hands”, not much good. “As the greater part of society consists of such ne’er do wells”, the imaginary capitalist says, “have I not rendered society incalculable service by my instruments of production, my cotton, and my spindles?”.

It is obviously of tremendous social value that some find a way to provide all the necessary materials and tools needed to produce the commodities we believe we need so as to live life properly. But if the argument here is that the wannabe capitalist really aught to get something in return for providing the means of production, we should recall that the labourer did indeed give something back, which was to turn cotton into yarn, the value of which included an embodiment of the labourer’s work equal to the three shillings paid for his labour-power. As Marx points out, “he gave..value for value”.

Our wannabe capitalist’s final appeal is to point out that he, too, worked. After all, ensuring work is performed at the rate, quality and quantity expected of average socially-necessary labour requires supervisory roles. “Have I not performed the labour of superintendency and of overlooking the spinner? And does not this labour, too, create value?”.

There’s a couple of things to consider, here. Firstly, it’s quite possible for somebody to have enough money to employ people in every position that needs to be filled in order for operations to continue, day after day. This is something I call ‘Capital escape velocity’, because it frees the business owner from having to do any work. No matter what role, duty or task you can name, be it in sales, manufacturing, supervising, finances, legal issues, management….whatever, it’s a job undertaken by an employee of the business.

But, if one hundred percent of necessary work has been delegated to one’s employees, what could possibly be left for the owners to do?

Now, in order to get to ‘escape velocity’ you need to have acquired enough money so as to be able to pay others to do all your work for you. According to the Capitalists’ version of the “Fall from Eden”, there were originally two kinds of humans. On the one hand, you had those were were wise enough to use resources carefully, who worked when the opportunity to do so presented itself, and who spent their money carefully: investing it, saving it, but never wasting it.

On the other hand, you had the negative image of those prudent people. Where one type had a work ethic, this other type was lazy; where one type was careful with money, this other type wasted theirs on boozy festivities, and had scant desire to save for a rainy day.

“Thus it came to pass that the former sort accumulated wealth, and the latter sort had at last nothing to sell except their own skins”, wrote Marx. “From this original sin dates…the wealth of the few that increases constantly, although they have long ceased to work”.

This is an origin myth that has no more basis in fact than the idea that evil exists in the world because some woman ate forbidden fruit, or could not resist opening that box. But that does not mean to say it contains no truth whatsoever.

In particular, it is true to say that setting up a business that can run all by itself (by which I mean, your employees run it for you) is really hard, and demands significant commitment. Spending money is easy. Any fool can do that. But making money grow, expanding your capital, well that takes a talent that not many of us have, which is one reason so few of us will ever call ourselves millionaires or billionaires. Not every business owner has the financial wherewithal to delegate every single job to somebody else, and therefore they do have to take on some of those roles themselves. In some cases, such an owner may well prioritise the long term future of the business and their duty to compensate what staff they have, and work without pay.

But, what normally happens, particularly once that business grows beyond ‘small’, is that those capitalists who take on some kind of supervisory role do pay themselves. In fact, they pay themselves twice, awarding themselves managerial fees and then, on top of that, taking a rate of return on the capital they advanced.

It’s worth remembering that, in ‘Das Kapital’, Marx is not generally talking about people who can do the little things like putting some money into a pensions or savings account, or who can secure a loan so as to open a market stall. His focus is not on part-time, mini capitalists like that. No, his focus is on those with the financial clout, the credit score, sufficient to buy factories, airports, shopping malls; the sort of people powerful enough to own banks.

He is, in short, focusing on those people who have become so successful at turning money into capital that they no longer need to work at all, having already sufficient means to bring about that “escape velocity”. If they do work, either out of necessity, having not yet become rich enough to delegate all work to others, or because they just want to, they pay themselves twice. So, why complain that one is somehow not getting something in return? Well, as David Harvey commented, “it’s all about the value you imagined you created, even if you haven’t done it”.

So far, though, our wannabe capitalist has not been able to produce any profit, let alone generate billions. How on earth is this trick ever going to be pulled off?

Let's return to the Labourer. You will recall that he had a commodity he could sell to the wannabe Capitalist, which was a day's labour-power. As ever, the labourer's commodity was a unitary thing of dual aspects, because every commodity has two values: its value, and its use-value.

Where the 'value' aspect is concerned, what really matters happened in the past. This is because we are dealing here with accessibility to all the commodities labourers need so as to be able to work as normal the following day. That bundle of necessary commodities costs something, both in terms of money and how much time the labourer needs to work to earn that amount. In our example, adequate maintenance of the labourer cost three shillings, which required (Marx assumed) six hours out of the working day.

Now, Marx makes a very important observation. "The past labour that is embodied in the labour power, and the living labour that calls it into action; the daily cost of maintaining it, and its daily expenditure in work, are two totally different things".

This brings us to the use-value of the commodity of labour power, and now what matters concerns 'today' rather than the past. 'Today', the wannabe Capitalist consumes labour-power by having the labourer do his job, hour after hour, until the working day is done and, as per the contract, the labourer is free to go home without having to terminate the contract. In other words, he may leave his workplace and still have a job tomorrow.

Now, in the example we analysed earlier, the time it took to cover the cost of a day's labour, and the duration of the Labourer's 'working day', were the same: six hours. But, you'll recall that the contract both parties agreed to established that the labourer would work a full day. Well, as Dolly Parton, "working nine to five" could tell our labourer, six hours does not amount to a full working day.

A full day is 24 hours, of course. But our Labourer cannot work for that long, because every hour he should work at a normal rate, and too many hours on the job would leave him too exhausted to perform his duties properly. But, in between the absurdity of working a full 24 hours, or going home after just six hours on the job, the working day could be extended. For, as Marx observed, "the fact that half a day's labour is necessary to keep the Labourer alive during 24 hours, does not in any way prevent him from working a whole day".

What happens then is that Marx imagines the Labourer/Capitalist agreed to a different contract. The Labourer still agrees to sell his labour-power at three shillings per day, but now that working day is twelve hours long, not six.

Since the Labourer now works twice as many hours, always working at the pace set by average expectations for every one of those twelve hours, we would expect everything else to double. Whereas before the end result was 10lbs of yarn, now our Capitalist has 20lbs of yarn to sell. Assuming he does sell it all, he should be paid thirty shillings for it, if 10lbs of yarn produced in six hours is worth fifteen shillings.

Why thirty shillings? Because the yarn now embodies twice as much value. Whereas before there was two days' value contained in the cotton and in the substance of the spindle worn away; and half a day absorbed in the actual spinning process, now we have four days due to the cotton and the wear and tear of the spindle, and a full day absorbed in the spinning process.

But one thing did not double, and that was the Labourer's daily wage. He is paid three shillings, not six, and so we can subtract three shillings from the cost of producing 20lbs of yarn in twelve hours.

So, our wannabe Capitalist spent 27 shillings in order to obtain 20lbs of yarn. Since there are five days' labour altogether in that yarn (rather than two and a half days' labour in our previous example) he can sell it for thirty shillings.

But look! That's three shillings more than it cost to produce his yarn. We have ourselves surplus-value at long last. Our wannabe Capitalist is now a proper Capitalist.

Furthermore, all the conditions of a fair exchange have been met. Nobody was underpaid. The seller of the cotton, the spindle, and the labour-power, all received the full value for their commodities, because they were all paid enough to cover the costs of turning out that commodity at normal quality. By selling those commodities, and realising their exchange-values, every seller agreed to alienate the use-value of that commodity, and by buying them, our Capitalist became the rightful owner of all of it. As Marx commented, "the seller of labour power, like the seller of any other commodity, realises its exchange-value and parts with its use-value. He cannot take the one without giving the other. The use-value of labour-power, or in other words, labour, belongs as little to its seller, as the use of oil after it has been sold belongs to the dealer who sold it".

Having become the rightful owner of these commodities, our Capitalist then consumed them in the right and proper manner, which is to say he allowed no more waste, no more wear and tear, than is to be expected under normal conditions.

So really, then, the secret of producing surplus-value aka profit, turns out to be quite simple. All you need is a process that can produce value, a process that necessarily includes the consumption of labour-power, and then you run that process beyond the point where that labour-power has met the costs of its own reproduction.

Now, in the examples Marx gave, all the figures were arbitrary, there for illustrative purposes only. Did it really cost ten shillings to buy 10lbs of cotton, and did the Labourer doing the spinning really need six hours to generate the three shillings of value equivalent to the daily reproduction of his labour-power? Maybe so, maybe not. It doesn't really matter what the true numbers were, how much really had to be paid and how many hours' work really had to be embodied in that yarn. All that matters is that, once the working classes have covered the costs of reproducing their labour-power, they must continue working, generating that surplus-value that goes to the Capitalist to whom they sold their labour-power.

But still, you have to wonder: Why wouldn't the Labourer just stop working, once they had reached that six hour point or whatever it was, where they have covered the costs of their daily maintenance? Why carry on working a further six hours or whatever, if no compensation comes the labourers' way and the Capitalists pocket it all as profit?

Well, as we have seen, under Capitalism and the 'clock-concept' of time, it can be very hard to know when you have covered the costs of a day's labour. Furthermore, the Capitalist class holds the income of the working class hostage, because while the free labourer is indeed free to terminate the contract at any time, doing so means you no longer receive any income, a situation that could be particularly dire in Marx's time, given the lack of any real social support.

So, imagine if our Labourer had said, "twelve hours' work for three shillings? Rip off! Forget it!". In that case, our Capitalist might well have said, "that's the contract I am offering. If you don't like it, you can get lost and I will offer work to some other unemployed soul". And then where would our Labourer be? Out of a job, separated from the means of production, and with no income with which to pay for his daily needs.

Maybe our Labourer could find another job elsewhere, one offering more agreeable conditions? ("Five shillings for eight hours' work? Ok then!"). Maybe the Capitalists have to change the contract if too few labourers are taking up the current offer? Or, maybe, our Labourer goes so long without a job or means of providing for his basic needs that he ends up in such a cold and hungry state that he has to submit to that twelve hours for three shillings deal? In any case, you can see how a class struggle over how many hours, and how much compensation makes for the most agreeable contract, could come about.

Really, Marx is not interested in how, exactly, surplus-value could be generated without violating the rules of classical political economy. No, his real interest was class-struggles and how that works in a dialectical process, creating and reconciling contradictions if they can be reconciled, or, if they can't, where pressure might build that could result one day in a revolution, as past revolutions had transformed earlier class structures.

In the case of our current bourgeois epoch, the source of that struggle among the classes of Proletariat and Bourgeoisie, seems fairly obvious. After all, what would be ideal, from a Capitalist's point of view? That the price you pay for a day's labour is as low as it possibly can be; that the time and resources required to reproduce that labour-power is reduced as much as possible, and that the working-day should go on for as long as it possibly can.

But, beyond a certain point, that results in hell for the working-classes, for they are being made to do work stripped of all meaning, reduced to components in a de-humanising system, doing drudge labour for so long as to require a whipping or some other means of squeezing more work out of an exhausted workforce. And then, when they finally get a break, their subsistence pay is enough to keep the dire effects of absolute poverty at bay….but only just.

So, what are ideal conditions for the Capitalist class- squeezing maximum profit from labour-power- creates appalling conditions for the working-classes. But, the demands of that

same M-C-M' circuit creates conditions that lead to revolution, or so Marx predicted in the final chapter of volume one of Das Kapital:

"Along with the constantly diminishing number of the magnates of capital, who usurp and monopolise all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation and exploitation; but with that too grows the revolt of the working-class, a class always increasing in number, and disciplined, united, organised by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter on the modes of production, which has sprung up and flourished along with, and under it. Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument. The integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated".

CHAPTER THIRTY-THREE

There is a noteworthy street, somewhere in Chicago. The most striking thing about it is that a great many mansions, dating from the 1870s, line this street. These were the homes of Chicago's rich industrialists.

The amount of grand houses lining this street begs a question: Why this road, of all places? The reason had to do with where this road led to. It was the most direct route to the nearest military base. Far from feeling assured that Capitalism would be around forever and that their position at the top of the current system would never be threatened, those industrialists thought it wise to set down roots somewhere they had quick access to military protection, once that inevitable Proletariat revolution got under way.

If that sounds like paranoid thinking, bear in mind that such fears were reinforced by pretty much all the great theorists of Capitalism. One could read across the political spectrum, Left to Right, from Marx, to Weber (1864-1920) to Schumpeter (1883-1950) to Von Mises (1881-1973) and not one of them would have told you that Capitalism was going to last. Instead, the general feeling was that it would last for one or two generations before that rising tide of socialist attitudes would sweep it away.

Those houses were built in the late 19th century. Now we are in the early decades of the 21st century. Over a hundred years have passed since Marx wrote down those words predicting a global socialist revolution, but the total and final collapse of Capitalism has, so far, not happened. There obviously were revolutions fuelled by proletariat anger, most famously in Russia. In stark contrast to the aforementioned thinkers, the leaders of such regimes behaved in ways that suggested they believed the system that gave them their power would last forever. In fact those regimes did what Capitalism was expected to do. They collapsed.

I am not so much interested in why Socialist regimes collapsed, but rather why Capitalism should have endured for over a century, when every major political thinker concurred with Marx that it was just not sustainable. I think the answer has to do with evolution and the effect that had on the socialist revolution.

Socialism never went away entirely. You can still find union representatives in some workplaces. You can vote for Labour, or whatever is the left-leaning political party in your country. Turn on the news, and you might well see footage of striking workers waving placards with socialist slogans.

Socialists are still here. But so too, apparently, is Capitalism, an economic system with far more resilience than Marx thought possible.

How did Marx get things so wrong? I say 'evolution' has something to do with this, because capitalism has proven to be more adaptable than he supposed. Having said that, it's hard to say what Marx really thought, because he wrote so much and we've only looked at the first few chapters of one book. Furthermore, that book was not an historical account of Capitalism as it was actually practiced (at least, not primarily so) but rather a 'what if?', that set out to show what would result if politics really did get out of the way and let the Capitalists behave free from the constraints of law, ethics and morality.

In reality, Capitalism has hardly ever been set free to run on totally laissez faire conditions. Something close to that was tried in 90s Russia, and as we have seen that led to the bad results Marx thought should be a consequence of unconstrained capitalistic behaviour, but again that final collapse never happened. There was, rather, an evolution of Russian style capitalism.

So, for the most part, Capitalism has been restrained to a greater or lesser extent by Socialist controls, and that just might be the thing that saved it by forcing it to evolve.

It works something like this. Capitalists, chasing profits, put the squeeze on their workforce and society as a whole. This builds up unrest that Left-leaning political figures exploit for their purposes. Think of this as a bit like steam building up more and more pressure, leading to a catastrophic explosion unless something is done to relieve some of that pressure.

And that's what Capitalism does. It adapts, it changes. But it only changes enough to relieve some of that tension, to make those angry with current conditions feel like, maybe, they have a stake in the system after all, a chance to improve their lives within it.

So, to give one example, as factories churned out an increasing number of consumer goods, and the production processes and supply chains responsible for all this grew in complexity, it became necessary to increase the number of supervisory and administrative roles. This turned out to be convenient in more ways than one, because not only was this increase in the amount of administration necessary, given the extra complexity, it also provided new managerial roles that the working class could aim for, and if they succeeded in filling such roles in lower-, middle- and- who knows- maybe even upper-management, they might just move out of working-class and into middle-class standards of living.

But what never really changes is that most of us won't ever make it to the top, to become the owners of means of production on the scale Marx was focusing on. Very few of us will ever know the financial and political power that comes with being a billionaire, of being able to affect great changes in the movement of stocks by one's actions ("oh gosh, why is Elon Musk drinking black coffee? Does he need a pick me up? Oh dear I had better get on to my

stock broker right away!"). It's still the case that the few command the means of production on a massive scale, and that the rest of us are forced to volunteer our services to them.

But, the thing with evolution is, only so much change can happen before something is transformed into something quite different. People are not just modified apes, but Homo sapiens, which is an entirely different species. If Capitalism keeps on changing and adapting so as to survive whatever pressures threaten it, will it too end up so transformed that we really shouldn't call it 'Capitalism' any longer? If that's possible, has this already happened?

If it has happened, how would we know? Well, one indication might well be the existence of something that aught to be very rare, if not impossible, under a system like Capitalism. Looking back over Marx's analysis of how capitalist markets operate, one gets the impression that Capitalism is very much geared towards increasing efficiency and reducing waste, sometimes ruthlessly so. The last thing we would expect any employer to do, then, would be to create useless jobs. We might expect some jobs to involve menial, dirty or dangerous work, but jobs that serve no valuable service? These should be extremely rare, if any such jobs exist at all.

How strange it is, then, to discover that the percentage of jobs deemed either totally useless or as having a detrimental effect on society, is actually quite high. How high? Well, when the poling agency YouGov conducted a survey that asked questions like "does your job make a meaningful difference to the world?', fifty percent of respondents replied that they did believe their jobs to be meaningful. However, a third of respondents- 37 percent- were certain that their jobs had no good reason to exist, while the remaining 13 percent could not decide if their job was good for society or not.

This poll was conducted in the UK. A similar poll was conducted in Holland, where the results showed a slight increase in the percentage who thought their jobs were just a waste of time and energy. There, it came to 40 percent of respondents who insisted their job was useless.

If we were to lump the 'undecided' along with those who are quite sure there is no good reason for their job to exist, then a whopping fifty percent of people are doing jobs that, were they to disappear, it would probably not make any difference or, if it did, it would be an improvement rather than a detrimental effect. Even without making this move, 37 percent of jobs being basically pointless seems far too high, given that Capitalism is supposed to be ruthlessly adept at cutting waste and increasing efficiency.

So what's going on here? To answer that question, it might help to look at how attitudes to work and where its value comes from changed in what is perhaps the most pro-capitalist country there is: the USA.

As far as Westerners are concerned, the United States was colonised by pilgrims whose ancestry could be traced back to the Brownist English Dissenters who, in the 16th-17th century, had fled from the dangerous political climate of their native England for the Netherlands. The pilgrims arranged with English investors to establish a new North American colony, because they were concerned that emigrating to the Netherlands would lead to a loss of their English identity. So, in 1620, they established the Plymouth colony in

present day Massachusetts, which was the second successful English settlement (Jamestown, Virginia, being the first. It was settled in 1607.)

The pilgrims who founded the Plymouth colony subscribed to a variant of the Puritan faith known as Calvinism, named after John Calvin (1509-1564) who lived in the 16th century. This was a particularly harsh and judgemental form of Christianity, one whose God “reveals his hatred for his creatures, not his love for them”, in the words of literary scholar Ann Douglas. Calvinists believed that this God’s heaven had only a limited number of spaces available, and whether you were chosen or not had been predetermined since before your birth. As to one’s duties here on Earth, the Calvinist religion saw much virtue in industrious labour and particularly in constant self-examination for any sinful thought. Idleness and pleasure-seeking were viewed as being particularly contemptible sins.

We saw earlier how, in ‘Protestant Ethics and the Spirit of Capitalism’, Max Weber argued that capitalism has its roots in Calvinist Protestantism, since it taught its followers to defer gratification in favour of hard work and wealth accumulation. It was also a mindset that was pretty well suited to the conditions the New World imposed on the colonists. Forget the images invoked by the patriotic song, ‘America the Beautiful’ with its amber waves of grain, from sea to shining sea. What greeted the settlers was “a hideous, desolate wilderness” in the words of William Bradford (1663-1752). Not for nothing was this land known as the Wild West. In a harsh, tough environment such as this, where even subsistence living demanded ceaseless effort, the tough-minded ideology of Calvinism probably helped the colonists to survive.

If there was one thing that the settlers learned as they worked to tame the Wild West, it was that good things in life owe their existence to the fact that people applied brains and brawn to transform the world around them. In such a world, where most people worked as farmers, merchants or shopkeepers, the value system that made the most intuitive sense was the Labour theory of value. Nor was this a belief restricted to ‘ordinary folk’ like farm labourers. Even at the very top of society, one could find examples of speeches that could well have come from Karl Marx.

Consider, for example, one speech that was given in 1861. “Labour is prior to and independent of Capital. Capital is only the fruit of labour, and could never have existed if labour had not first existed. Labour is the superior of Capital, and deserves much the higher consideration”.

Those were the words of Abraham Lincoln, spoken at his first annual meeting to Congress. The reference to the Labour theory of Value, and the priority that should be given to the working classes for creating value, are unmistakable.

Still, one should not suppose that Lincoln agreed with Karl Marx in every respect. One pretty major disagreement involved the existence of a permanent population of wage labourers. As we saw in our analysis of Marx’s ‘Capital’, Marx saw Capitalism as requiring a class of people ‘free’ to offer their labour-power to whomsoever, but also ‘free’ from access to their own adequate means of production. Under such conditions, the ‘coercive laws of competition’ forced such people to work for their Capitalist masters on a more or less permanent basis.

But, Lincoln insisted, things were rather different in the United States. Thanks largely to the rapid economic and territorial expansion that was going on around 1869, it was possible to bring about something that sounds very similar to the 'life-cycle service' that existed in Northern Europe during the medieval period. That system, you'll recall, was not so much set to to produce profitable commodities, but rather to train people in the skills needed to manage households, farms and shops, and to pass on such skills to the next generation.

Likewise, in the USA, Lincoln insisted, "there is not of necessity any such thing as the free hired labourer being fixed to that condition for life. Many independent men everywhere in these states a few years back were hired labourers. The prudent, penniless beginner in the world labours for a while, saves a surplus with which to buy tools or land for himself, then labours on his own account another while, and at length hires a new beginner to help him".

As ever, this image of free individuals working to improve society brushed over some details, not least of which was the fact that the land being bought had sometimes been stolen from the indigenous population. But, that aside, and ignoring the fact that, in the USA, most hired labourers were not actually called 'servants' and did not live in their employers' homes (which was the case in Northern Europe) the traditions of life-cycle service managed to endure until around the 1890s.

Since this was the ideal, both workers and politicians in the mid-19th century USA campaigned for and passed legislations that protected this way of life. So, for example, in 1837, a group of businessmen from Massachusetts wanted to create a limited-liability carriage company, but this was opposed for the following reasons. "As journeymen, they looked forward to being their own masters when they would not have to relinquish to others the value they created", reckoned the opponents. "Incorporations put means into the hands of inexperienced capitalists, to take from us the profits of our arts, which has cost us years of labour to obtain, and which we consider to be our exclusive privilege to enjoy". It was normally the case that requests to create a limited-liability company was only granted to those who intended to create and maintain public works, such as railroads or canals, that were of obvious social benefit. As Graeber pointed out, "in other words, the notion of social value not only existed but was inscribed in law".

Almost everyone, then, all the way up to the President, subscribed to the Labour Theory of Value, and saw value as resulting primarily from the efforts of the working classes, not the Capitalists themselves. That such attitudes should have arisen around the Labour Theory of Value is kind of ironic, given that its founding fathers- the likes of Adam Smith and David Ricardo- had taken up such a theory because it seemed to them the best way to distinguish between the industrious bourgeoisie who (so they thought) went out and produced value, and the landed gentry, a class they were keen to portray as mere idle consumers. Similarly, once the American War of Independence got underway, its foot soldiers were comprised of tradesmen, merchants, and other such types who liked to think of themselves as the true producers of value that was being looted by the British Crown.

But then, after the revolution was completed and large-scale bureaucratic, corporate Capitalism produced some astoundingly rich and powerful businessmen, such titans of industry found that negative language which had once been directed at the landed gentry,

was now being aimed at them. Consider, for instance, the name given to these industrial giants. They were referred to as ‘Robber Barons’, which is hardly a flattering term. What is more, in 1895, New York State assemblyman Mike Walsh spoke of capital in a decidedly negative way. “What is capital”, he asked, “but that all-grasping power which has been wrung by fraud, avarice and malice from the labour of this and all ages past?”.

So, until around the 1890s, almost everyone in the USA subscribed to the Labour Theory of Value, and as popular Protestantism spread, along with it spread a belief in ‘Producerism’, or the idea that work was not only a value in itself, but also the only real producer of value. According to anthropologists Dimitra Doukas and Paul Derrenberger, producerism was a more explicitly religious version of the ‘Gospel of Work’ argument put forward by Carlyle. “Work”, they wrote, “was a sacred duty and a claim to moral and political superiority over the idle rich”.

Up until the last decades of the 19th century, then, most Americans subscribed to the Labour Theory of value, believed that social value not only existed but should be inscribed in Law, and held such anti-Capitalist views that ultra-successful captains of Industry were denounced as “robber barons”. In other words, mid-late 19th century America could not be further from the pro-individualistic, pro-Capitalist society that is the contemporary United States. So, how did we go from one predominant attitude to another, decidedly different one?

Well, first of all, while it is true that the majority of Americans subscribed to ‘producerism’, one could find one or two voices speaking up for the Capitalists, even before Marx published ‘Das Kapital’. In 1832, for example (some thirty-five years before Marx’s book was published) one John Cazenove (1788-1879) published the snappily-titled ‘Outliners of Political Economy, Being a Plain and Short View of the Laws Relating to Production, Distribution, and Consumption of Wealth’, in which he warned, “that labour is the sole source of wealth seems to be a doctrine as dangerous as it is false, as it unhappily affords a handle to those who would represent all profits as belonging to the working classes, and the share which is received by others as a robbery or fraud upon them”.

Still, it must be emphasised that this was decidedly the minority view in the USA, and for such an attack on the Labour Theory to become a mainstream attitude and, moreover, for a belief that Capitalists rather than those they employ are wealth creators to become the mainstream assumption as well, that would have required extensive and well-funded intellectual counteroffensives against ‘producerism’ and the Labour Theory of value.

But, of course, the means to fund such a counteroffensive was exactly what those ‘robber barons’ had. As E. Paul Derrenberger and Dimitra Douglas explained, “the fledgling corporate giants, their bankers and their political allies objected to producerist moral claims and, starting in the 1890s, reached out with a new ideology”. The attitude this group of powerful businessmen were keen to promote found its way not only into rotary clubs and chambers of commerce, but also schools, churches and civic associations. A leading proponent of this counteroffensive was the steel magnate Andrew Carnegie (1836-1919). What people should adopt, he insisted, was something that should sound familiar, being as it is the very subtitle of this volume. Forget a ‘gospel of work’, Carnegie argued, what people needed to follow was a “gospel of wealth”.

As Derrenberger and Douglas explained, the message that this gospel of wealth promoted was that “capital, not labour, produces wealth and prosperity”. Since this was the case, nobody should stand in the way of those captains of industry, and nor should they campaign for higher wages for their employees. Instead, the great men who directed such firms should be free to do what they do best, which is to make profit. In doing so, the businesses under their leadership would produce such a material bounty it would enable a new form of self-expression and signalling of status among the population.

As Harry Braverman (1920-1976)) explained, “the source of status was no longer the ability to make things but simply to purchase them”. That is to say, by freeing Capitalism to do its thing, vast material wealth would result, and with that would come ways to enable people to express themselves, not through what they produced but what they consumed. So, if Carlyle’s ‘Gospel of Work’ had led to ‘Producerism’, what Carnegie’s ‘Gospel of Wealth’ led to was ‘Consumerism’.

The success of this campaign can be appreciated by considering just how mainstream terms like ‘consumerism’ and ‘consumer’ have become. Terms such as these crop up all the time on the news and in popular culture. In contrast, the term ‘producerism’ has all but gone extinct (my spellchecker does not recognise it as a legitimate word, unlike ‘consumerism’).

Something else that has virtually gone extinct is the ‘Labour Theory of Value’. Whereas once it had been the framework that almost everybody felt they had to work with when debating wealth creation and concepts of value, eventually it would become almost entirely rejected, a discredited, antiquated value theory that only diehard Marxists gave any credence to. For everybody else, the Labour Theory of Value was pushed aside by something called the ‘Marginal Revolution’, and it told us that, when we think of ‘wealth producers’, the default assumption should be that the term refers to capitalists, not those of us who work for them.

As the Wild West was gradually tamed, the constant self-examination for sinful thought and its eradication through labour came to impose a hefty toll on those who became cut off from industrious work (as were, for example, women- barred from higher education by male prejudice and faced with industrialisation stripping away productive home tasks like sewing and soap-making.) With productive activity taken away, Calvinism left these people with nothing but morbid introspection, which led to various illnesses that we would now recognise as being diagnostic of mental stress.

With the medical establishment seemingly unable to cure such patients, people began to reject their forebears’ punitive religion and looked for something more effective. There was, for example, Phineas Parkhurst Quimby, a watchmaker and inventor, who held metaphysical beliefs concerning (in his words) “the science of life and happiness”. In the 1880s, Quimby met with one Mary Baker Eddy who, like many middle-class women of her day, rejected the guilt-ridden and patriarchal Calvinism in favour of a more loving and maternal deity.

Together, Eddy and Quimby launched what we now describe as the cultural phenomenon of positive thinking. Back in the 1800s, the post-Calvinist way of thinking that Quimby and Eddy established was known as “New Thought”. Drawing on a variety of sources from transcendentalism to Hinduism, New Thought re-imagined God from the hostile entity of

Calvinism to a positive and all-powerful spirit. And humanity was brought closer to God, too. Out went the idea of an exclusive heaven reserved only for a select few, replaced with a concept of Man as part of one universal, benevolent spirit. And if reality consisted of nothing but the perfect and positive spirit of God, how could there be such things as sin, disease and other negative things? New Thought saw these as mere errors that humans could eradicate through “the boundless power of spirit”.

Patients suffering mental breakdown due to the ceaseless morbid introspection of Calvinism came to see Quimby (1802-1886) and his “talking cure”, which sought to replace such negative thoughts with a belief in a universe that was benevolent, coupled with the insistence that the patient could ‘correct’ any negativity with positive thinking, The ‘talking cure’ did indeed seem to cure the mental anxieties that were leading to invalidism among those Calvinists who had idleness imposed upon them.

Meanwhile, Mary Baker Eddy (1821-1910) went on to gain considerable wealth after founding Christian Science, the core teachings of which were that the material world did not exist; there was only Thought, Mind, Spirit, Goodness and Love. Whatever negativity or want that seemed to exist were really just temporary delusions.

New Thought would go on to influence such people as William James (1842-1910) America’s first psychologist, who claimed in his ‘Varieties of Religious Experience’ that, through New Thought, “lifelong invalids have had their health restored”. It also influenced Norman Vincent Peale (1898-1993) who is perhaps best known for his 1952 “the Power of Positive Thinking”. But, arguably its most important influence was the way Mary Baker Eddy’s notion of negativity as controllable delusions would become incorporated into the mystical teachings of modern-day ‘motivational gurus’ who would lead those aspiring to the American Dream into believing that success and wealth would surely come their way, if only they believed fervently enough.

And now we come to the dark side of New Thought. Although intended as an alternative to Calvinism, it did not succeed in eradicating all the harmful aspects of that religion. As Barbara Ehrenreich (1941-2022) explained in her book, ‘Smile Or Die’, “it ended up preserving some of Calvinism’s more toxic features- a harsh judgmentalism, echoing the religion’s condemnation of sin, and the insistence on the constant exterior labour of self-examination”. The only difference was that, while the Calvinist’s introspection was intended to eradicate sin, the practitioner of New Thought and its later incarnations of positive thinking was constantly monitoring the self for negativity. Anything other than positive thought was an error that had to be driven out of the mind.

So, from the 19th century onwards, a belief that the universe is fundamentally benevolent, and that the power of positive thought could make wishes come true and prevent all negative things from happening, was simmering away in the American subconsciousness. When consumerism took hold, positive thinking would become increasingly imposed on anyone looking to get ahead in an increasingly materialistic world.

Returning to the ‘Labour Theory of Value’, one would have to assume that, had it really offered a watertight argument, its opponents would not have been so successful at replacing

it, even taking into consideration pockets as deep as theirs. It so happens that the Labour Theory of Value did have its flaws.

The most obvious flaw concerned its predictions for what would result from population increase and intensified production. According to the Labour Theory of Value, we should expect diminishing returns, and here's why. Intensifying production and growing numbers of people drive up the cost of land. Because land is becoming more expensive, the extra cost drives down the returns to labour and capital. As this continues, we get to a point where insufficient wealth can be squeezed from natural resources, and so we cannot sustain the population at its current state, leading to a Malthusian crash.

Well, that's what the theory predicted should happen, but history attests to a different outcome. While it is true that land values did steadily rise, it turned out that a factor that classical economists forgot to include meant that there was not necessarily an inverse correlation between land values and the returns to labour and capital. That factor was technological change. With the right technological advances, wages and profits can go up, even as the cost of land increases. The most dramatic proof of this are the sheer numbers of people alive today. Of course, for many people life is hard. But now over seven billion people live on this planet, which is way beyond the total amount Malthusians thought possible.

So, since the labour theory did have demonsratable flaws, those keen on replacing it with an alternative economic theory had an excuse to attempt such a replacement. The result was something called 'Neo Classical Economics'.

Now, such a name suggests this was not a total and comprehensive switch to a completely different theory, but rather a reform of the earlier model. And, indeed, it is true that the neo-classical economists retained something from their predecessors. That something was Adam Smith's notion of the 'invisible hand'. The problem was, they did not simply incorporate Smith's idea into their model; they misinterpreted his original outcome. According to the neo-classical interpretation, the 'invisible hand' is a market mechanism that ensures social good always results from selfish behaviour, meaning Capitalism will always, in the end, work out for the best for everybody. But, as Jonathon Shelfer explained, "this makes him sound as if he thought that the invisible hand always leads to an individuals who are pursuing their own interests to promote the good of society. He did not. He saw the interests of large capitalists as conflicting with those of the public".

Had 'political economy' retained Smith's more critical version of the 'Invisible hand', it's possible that we might have been more inclined to question the outcomes capitalism was producing. But the misinterpreted version of the 'invisible hand' led us to believe in (as Australian economist professor Steve Keen (b 1953) put it) "a world so perfectly coordinated that no superior power is needed to direct it".

Misinterpreting Smith's 'invisible hand' was not the only error committed in the quest to replace classical economics with neo-classical economics. According to the former school of thought, land should be thought of as a distinct factor of production, along with capital and wages. But, according to neo-classical economics, we can dispense with land as a distinct factor of production, and conflate land with capital.

Can we really dispense with land, though? It is possible that, in a rapidly industrialising society, we may well find ways to squeeze more value out of less land, and in such circumstances it's understandable if people believe land to be of less importance. But land could never become unimportant, because it is from the 'land' (which, in this context, includes the seas and the air) that we extract all the raw resources required to produce anything of tangible value.

Since land remains a vitally important resource, why would neo-classical economists have ever thought it would be a good idea to exclude land from their calculations? Some suggest that a 19th century economist by the name of Henry George (1839-1897) figured out the answer to that question. He argued that neo-classical economics was established above all to support the vested interests of landownership. Such a class was not overly keen on classical economics, where 'land' was treated as a distinct factor of production, because then the massive advantage of this tiny proportion who controlled access to most of the world's resources would have been glaringly obvious. So, as Martin Wolf (b. 1946) explained, "the powerful owners of natural resources wished to protect their unearned gains. In practice, therefore, the tax burden fell on labour and capital. Economics, one might argue, was pushed into supporting this way of organising economic life". The way they protected their "unearned gains" by excluding land from economic models, was because such a move meant, while revenues earned by labour and capital are subject to taxation, revenues earned by landowners are not.

But, perhaps the most dramatic change wrought by neo-classical economics was to switch thinking from something called 'methodological holism' to 'methodological individualism'. Such a move made political economy a lot more subjective, compared to how it appeared to a classical economical frame of mind, and this switch had a dramatic effect on we we perceived the relationship between 'value' and 'price'.

As we saw in our analysis of Marx's 'Capital', 'supply and demand' was what determined the price of products. It did not, however, explain their value. In order to understand how goods and services had the value they had, one had to consider the 'objective' conditions of production, technology and, perhaps most important of all, power relationships.
Since the latter was so important, classical economics had assessed the economy in terms of factor classes, which meant it was always casting a critical eye over the impact of power relations on social outcomes. This in turn meant it tended to encourage questions that fell under what we now call 'economic justice'. The classical economists asked questions like, "does each factor of production receive a fair reward for its contribution?', and to ask such questions, one had to suppose that value determined price.

But, under neo-classical economics, a move was made, one that changed the entire procedural focus of political economy. What this move entailed was a rejection of the idea that the economy should be assessed in terms of factor classes. Instead, the neo-classical economists insisted, it was quite possible to extrapolate models that set out to explain how entire economies worked, from the way consumers and producers behaved on an individual basis.

The way neo-classical economics made this move, was by working not with the real, messy and sometimes contradictory real economy, but rather an imaginary world. In this imaginary

world, all participants in the economy shared full and equal knowledge, both of the market and of the consequences of every decision taken by every individual. At the same time, there was a swing, from the belief that value determined price, to the attitude that price determined value. This meant ‘value’ was treated as a lot more subjective than was the case under classical political economics, because now it was supposed that whatever the consumer was prepared to pay, determined the value of commodities. In other words, ‘value’ was now purely in the eye of the beholder, and any goods sold at an agreed market price were, by definition, value-creating.

Now, earlier, we saw how the Plymouth Colonists had settled in a harsh, untamed environment that required ceaseless labour just to maintain subsistence living. But this environment also allowed for something akin to the life-cycle service of Medieval times. Eventually, the unforgiving Wild West was tamed, with railroads and freeways stretching from state to state, vast swathes of farmland providing an abundance of food, and industrial centres capable of such high productivity, it seemed as though everybody’s needs would soon be met.

But, while this might sound like a positive thing, it actually posed something of a problem for the economic system that had been established. Fundamentally, Capitalism aims for infinite consumption from a point of current scarcity. Or, to put it another way, it assumes people’s needs are not currently met and aims to abundantly meet those needs tomorrow. The important thing to bear in mind, however, is that it always assumes that ‘today’ resources are scarce and people have unmet needs. Now, any system based on perpetual growth and the endless satisfaction of unmet needs through consumption, is fundamentally opposed to any notion of ‘enough’ that might dwell in the human soul. In the competitive world of business, companies manufacturing goods were compelled to steadily increase market share and profits, for fear of being swallowed by a larger enterprise. But how could perpetual growth, driven by consumption, be maintained in a world where customers acted with frugality and were content with what they had?

Psychologists were therefore brought in to change the human psyche. One such expert was Edward Bernays (1891-1995). He took certain ideas about human status from Freudian analysis and applied them to advertising campaigns. Products were no longer to be thought of as mere practical solutions to a limited set of problems. In other words, for example, a truck was no longer to be thought of as a convenient means of transporting yourself and your equipment from A to B. Instead, the truck, the appliance, furniture, every item for sale, were to be less relevant in terms of their utility and instead seen as fashion accessories, as an expression of “who you were”. Advertising played a major role in developing this new ‘consumer culture’, because if the economy was to fulfil its imperative of perpetual growth, the customer had to be persuaded to buy things people did not even know they needed.

The consumer economy necessitated the rise of sales- and service-based industries, and those kinds of workplaces proved fertile breeding ground for positive thinking. After all, we all expect staff in shops and waiters serving us food and drink to be friendly and greet us with smiles (even if we don’t really believe the grinning sales assistant is genuinely pleased to see us.).

Increasingly, then, employees found themselves in occupations that required the kind of self-examination and improvement that practitioners of positive thinking had strived to achieve. As Ehrenrich explained, “the work of Americans, and especially its ever-growing white-collar proletariat, is in no small part work that is performed on the self in order to make that self more acceptable and even likeable to employers, clients, coworkers and potential customers”. Nor were interpersonal skills and constant optimism confined to such obvious areas of business as sales and service-based industries. As Carnegie observed, “even in such technical lines as engineering, about fifteen percent of one’s financial success is due to one’s technical knowledge and about eighty-five percent is due to skill in human engineering”.

And so, whether in work or out, the consumer lived surrounded by the positive thinking message that anyone can have whatever they wanted, provided they exercised sufficient belief that good things would come their way.

Now, in order to affect the kind of macro models that neo-classical economists preferred to work with, those models had to be treated to some pretty radical reductionism. We saw earlier how neo-classical economics ignores the importance of land in economic activity. But that’s not all. As well as ignoring ‘land’, it also doesn’t much bother with considerations of money or debt, either.

No wonder, then, that the ‘mythstake’ of barter continues to be the default position among economists, the story they prefer to tell when it comes to explaining the origins of money, even though the evidence is very clear that this was not how money and markets evolved at all. The ‘myth of barter’ is, after all, a tale set in a fantasy world where there is no debt, and no obligations tying people into ongoing collectives. There are only individuals swapping things in a way that cancels out obligations immediately. It is, in other words, the very fantasy world that neo-classical economists prefer to work with.

Apart from being based on a history of money relationship that runs contrary to the evidence, the model presented by neo-classical economics leads to some assumptions that are, frankly, absurd. Like what? Well, for instance, like the idea that overall wellbeing is maximised when individual behaviour is primarily motivated by selfishness; that no matter where they are applied, ‘free markets’ will always maximise wealth creation and assure its optimal distribution, and that speculative investment has zero negative impact on the economy’s capacity to create genuine wealth.

Related to that latter assumption is something known as the ‘Efficient Markets Hypothesis’, which is the bit of neo-classical economics that attempts to explain how financial markets work. Since they are, by their very nature, ‘informationally efficient’, the dominant school of economic thought insists, financial markets should never crash. Instead, they should always tend to be in equilibrium, matching supply with demand and holding the system stable.

One would have thought that the many financial crashes that have occurred over the years would be more than sufficient to debunk this ‘efficient markets hypothesis’, but that never seems to happen. Instead, economists reason that such crashes would not occur, if only people would behave as their models predict they should.

Given that our current dominant school of economic thought makes assumptions and excuses like these, we can begin to explain how come there's such a high percentage of jobs that are considered bullshit by those that do them. If there is one condition in which absurd or harmful effects can spread, it is conditions in which that is believed to be impossible, no matter what the evidence shows.

Imagine, for example, that there was a person- let's call him 'Mr X'- who is believed by everybody to be an honest person who is simply incapable of defrauding anyone. Well, if everybody was to find 'reasons' to hold onto this belief, regardless of how Mr X actually behaved, he could become a very successful conman. After all, if nobody believes Mr X would ever cheat anyone (or if the majority of people rubbished the claims of the few who suspect Mr X's character is not as squeaky clean as most people assume) he would be able to get away with being a fraudster.

Similarly, since mainstream economics thinks 'capitalist' markets are driven by rationality, efficiency, and productivity, it's therefore assumed that such a market system could never create bullshit jobs. So, anyone who claims to have a job that serves no useful purpose simply must be mistaken.

But there are other reasons why bullshit jobs proliferate without many of us objecting to such an absurd or harmful result, and this has to do with how 'political economy' was supposed to evolve under the neo-classical school of thought, and what actually did occur.

On an intellectual level, the thinkers who developed neo-classical economics wanted to make their discipline seem more scientific. The way that could happen, they thought, was if 'political economy' was more like physics and less like sociology. In order to make this move, much of the political and philosophical argumentation that could be found in the writings of classical economists, from Smith to Marx, was abandoned. The result of this stripping down was that 'political economy' transformed into 'economics'.

In this new school of thought, one thing that disappeared almost entirely were analyses of different theories of value and the dynamics of value creation. If 'Value' did show up at all, it was in the form of 'shareholder value', 'value chains' and things like that. Moreover, students of economics no longer bother much with learning about what different schools of thought had to say about value. Instead of presenting neo-classical economics as one particular theory, instead students are only taught that value is determined by the dynamics of price, something presented as economics 101. As Marina Mazzacuto said, "an intellectually impoverished idea of value is just taken as read, assumed to simply be true".

So, the assumptions are that markets are self-regulating, efficient, and shouldn't need much in the way of administrative oversight to keep them stable. As we shall see in the next chapter, reality tells a different story.