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Mad world! Mad kings! Mad composition! ...
That smooth-fac'd gentleman, tickling commodity,
Commodity, the bias of the world;
The world, who of itself is peised well
Made to run even upon even ground.
Till this advantage, this vile-drawing bias,
This sway of motion, this commodity,
Makes it take head from all indifference,
From all direction, purpose, course, intent.
And this same bias, this commodity,
This bawd, this broker, this all-changing word ...
And why rail I on this commodity?
But for because he hath not woo'd me yet.
Not that I have the power to clutch my hand
When his fair angels would salute my palm;
But for my hand, as unattempted yet,
Like a poor beggar, raileth on the rich.
Well, whiles I am a beggar, I will rail
And say here is no sin, but to be rich;
And being rich, my virtue then shall be
To say there is no vice but beggary.
Since kings break faith upon commodity,
Gain, be my lord, for I will worship thee.

William Shakespeare, *King John*

Prologue

Throughout his life Marx made a prodigious effort to understand how capital worked. He was obsessed with trying to figure out how what he called ‘the laws of motion of capital’ affected daily life of the common people. He relentlessly exposed the conditions of inequality and exploitation that lay buried in the morass of self-congratulatory theories propounded by the ruling classes. He was particularly interested in why capitalism seemed to be so crisis prone. Were these crises, like those he experienced firsthand in 1848 and 1857, due to external shocks, such as wars, natural scarcities and bad harvests, or was there something about the way capital itself worked that made such destructive crashes inevitable? This question still bedevils economic enquiry. Given the sad state and confusing trajectory of global capitalism since the crash of 2007–8 – and its deleterious impacts on the daily lives of millions of people – it seems a good moment to review what Marx managed to figure out. Maybe there are some useful insights here to help clarify the nature of the problems we are now facing.

It is not, alas, easy to summarise Marx’s findings, and follow his intricate arguments and his detailed reconstructions. This is partly due to the fact that most of his work was incomplete. Only a small fraction of it ever saw the light of day in a form that Marx thought fit for publication. The rest exists as an intriguing and voluminous mass of notes and drafts, comments of self-clarification, thought experiments of the ‘what if it worked like this’ variety, and a host of rebuttals of real and imagined objections and criticisms. To the degree that Marx himself relied a great deal on a critical interrogation of how classical political economy answered these kinds of questions (where figures like Adam Smith, David Ricardo, Thomas

Malthus, James Steuart, John Stuart Mill, Bentham and a host of other thinkers and researchers held sway), so our reading of his findings often demands a working knowledge of those he is criticising. The same is true with respect to Marx's reliance upon classical German philosophy for his critical method, where the imposing figure of Hegel dominates backed up by Spinoza, Kant and a host of other thinkers stretching way back to the Greeks (Marx did his doctorate on the Greek philosophers Democritus and Epicurus). Add the French socialist thinkers, such as Saint-Simon, Fourier, Proudhon and Cabet into the mix, and the huge canvas upon which Marx sought to construct his oeuvre becomes intimidatingly apparent.

Marx was, moreover, a restless analyst rather than a static thinker. The more he learned from his voluminous reading (not only of the political economists, anthropologists and philosophers but of the business and financial press, Parliamentary debates and Official Reports), the more he evolved his views (or some would say changed his mind). He was a voracious reader of classical literature – Shakespeare, Cervantes, Goethe, Balzac, Dante, Shelley and on and on. He not only spiced up his writing (particularly in the first volume of *Capital*, which is a literary masterpiece) with lots of references to their thinking but he genuinely valued their insights into how the world worked and drew much inspiration from their method of presentation. And if that did not suffice there was a voluminous correspondence with fellow travellers in multiple languages along with lectures and talks to British trade unionists or communications in and around the International Working Men's Association formed in 1864 with its pan-European working-class aspirations. Marx was an activist and polemicist as well as a theorist, scholar and thinker of the first rank. The closest he ever came to getting a steady income was as a regular correspondent to the *New York Tribune*, which was one of the largest circulation newspapers in the United States at that time. While his columns asserted his distinctive views, they also entailed up-to-date analysis of current events.

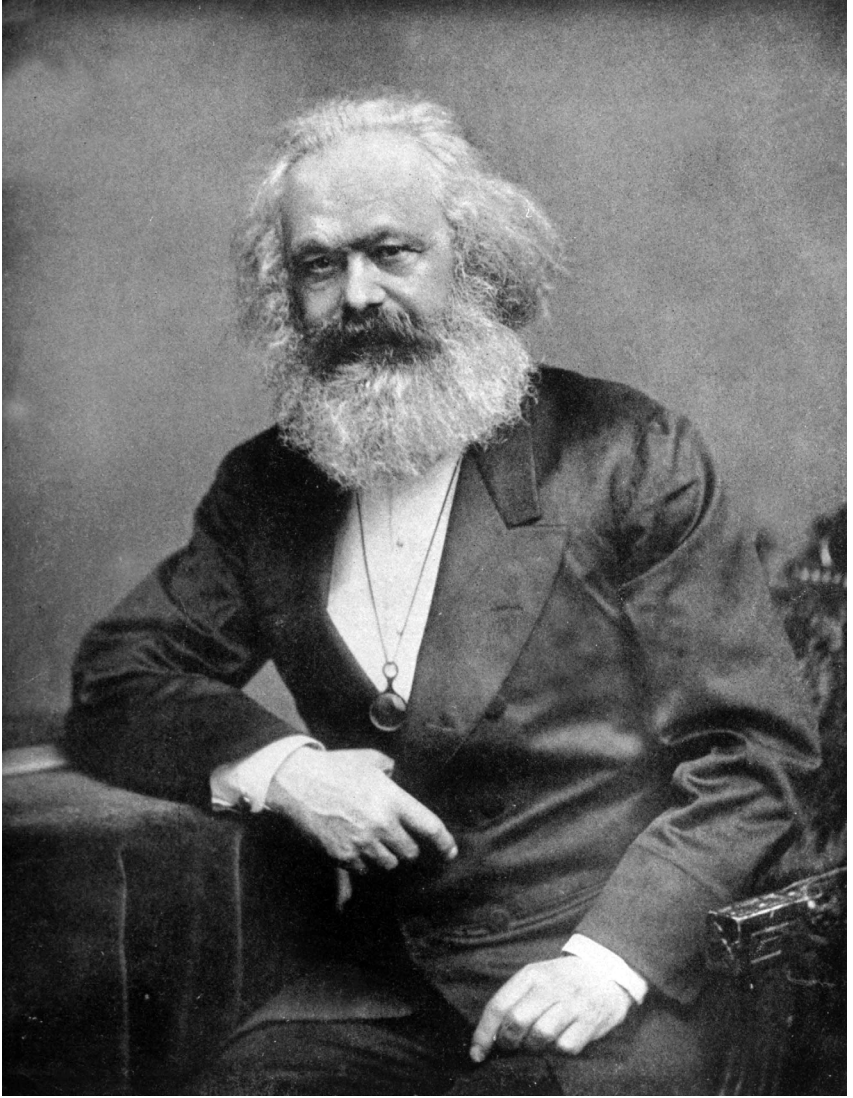
In recent times there has been a flurry of comprehensive studies of Marx in relation to the personal, political, intellectual and

economic milieu in which he was writing. The major works of Jonathan Sperber and Gareth Stedman Jones are invaluable, at least in certain respects.¹ Unfortunately, they also seem aimed at burying Marx's thinking and massive oeuvre along with Marx himself in Highgate Cemetery as a dated and defective product of nineteenth-century thought. Marx was an interesting historical figure for them but his conceptual apparatus has little relevance today, if it ever did. Both of them forget that the object of Marx's study in *Capital* was capital and not nineteenth-century life (about which he certainly had many opinions). And capital is still with us, alive and well in some respects while plainly ailing if not spiralling out of control, drunk on its own success and excess, in others. Marx considered the concept of capital foundational for modern economics as well as for the critical understanding of bourgeois society. Yet one can read to the end of the Stedman Jones and Sperber volumes without having the foggiest clue as to what Marx's concept of capital was all about let alone how it might be put to good use today. Marx's analyses, though obviously dated in some ways, are, I find, even more relevant now than they were at their time of writing. What, in Marx's day, was a dominant economic system in only a small corner of the world now blankets the earth with astonishing implications and results. In Marx's time, political economy was a far more open terrain of debate than it is now. Since then, a supposedly scientific, highly mathematised and data driven field of study called economics has achieved the status of an orthodoxy, a closed body of supposedly rational knowledge – a true science – to which no one else is admitted except on state and corporate business. It is now supplemented by a growing belief in the powers of computer capacity (doubling every two years) to construct, dissect and analyse enormous data sets on almost everything. For some influential analysts, sponsored by the big corporations, this supposedly opens the way to a technoutopia of rational management (e.g. of smart cities) where artificial intelligence rules. This fantasy rests on the assumption that if something cannot be measured and condensed into data points then it is either irrelevant or does not exist. Make no mistake, large data sets

can be extremely useful but they do not exhaust the terrain of what needs to be known. They do not help solve problems of alienation or of deteriorating social relations.

Marx's prescient commentaries on capital's laws of motion and their internal contradictions, its fundamental and underlying irrationalities, turn out to be far more incisive and penetrating than the one-dimensional macroeconomic theories of contemporary economics that were found so wanting when confronted with the crash of 2007–8 and its long-drawn-out aftermath. Marx's analyses along with his distinctive method of enquiry and his mode of theorising are invaluable for our intellectual struggles to understand the capitalism of our times. His insights deserve to be taken up and studied critically with all due seriousness.

So what, then, are we to make of Marx's concept of capital and of its purported laws of motion? How might this help us understand our current predicaments? These are the questions I shall explore here.



The Visualisation of Capital as Value in Motion

The transformation of a sum of money into means of production and labour-power is the first phase of the movement undergone by the quantum of value which is going to function as capital. It takes place in the market, within the sphere of circulation. The second phase of the movement, the process of production, is complete as soon as the means of production have been converted into commodities whose value exceeds that of their component parts, and therefore contains the capital originally advanced plus a surplus value. The commodities must then be thrown back into the sphere of circulation. They must be sold, their value must be realized in money, this money must be transformed once again into capital, and so on, again and again. This cycle, in which the same phases are continually gone through in succession, forms the circulation of capital.

Capital, Volume 1, p. 709

I need to find some way to systematise Marx's voluminous writings on political economy, such as the three volumes of *Capital*, another three volumes of *Theories of Surplus Value*, the earlier published works such as *A Contribution to the Critique of Political Economy* and the recently edited and published notebooks such as the *Grundrisse* along with the notebooks from which Engels painstakingly reconstructed (not without criticism or controversy) the posthumously published versions of the second and third volumes

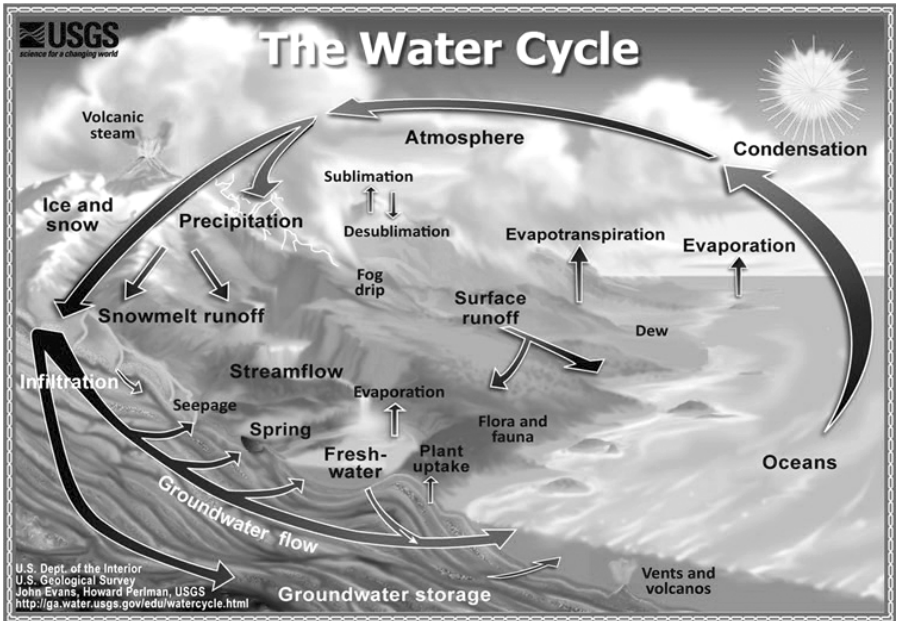


Figure 1 *The hydrological cycle as depicted by the US Geological Survey*

of *Capital*. I then need to find a comprehensible way to represent Marx's basic findings.

In the natural sciences we find many simplified representations of complex processes, which help visualise what is going on in some field of enquiry. One such representation I find particularly interesting and which I shall use as a template for depicting how capital works, is that of the hydrological cycle (Figure 1). What I find particularly interesting is that the cyclical movement of H_2O entails transformations of form. Liquid in the oceans evaporates under the glare of the sun and moves as a vapour upwards until it condenses out as the water droplets that form clouds. If the droplets form at a high enough altitude they crystallise out as ice particles, which form the high-flying cirrus clouds that give us beautiful sunsets. At some point the droplets or ice particles merge and as they become

heavier so they drop from the clouds under the force of gravity as precipitation, which occurs in a variety of forms (rain, fog, dew, snow, ice, hail, freezing rain). Once returned to the surface of the earth some of the water falls directly back into the oceans, some of it gets stuck on high ground or cold regions as ice that moves extremely slowly if at all, while the rest flows downwards across the land as streams and rivers (with some water evaporating back into the atmosphere) or under the land as ground water back into the oceans. En route it is used by plants and animals that transpire and perspire to return some water directly to the atmosphere through evapo-transpiration. There are also large amounts of water stored in ice fields or underground aquifers. Not everything is in motion at the same pace. Glaciers move at the proverbial glacial pace, torrents rush downhill, groundwater sometimes takes many years to travel a few miles.

What I like about this model is that it depicts H₂O passing through different forms and states at different rates before returning to the oceans to start all over again. This is very similar to how capital moves. It begins as money capital before taking on commodity form passing through production systems and emerging as new commodities to be sold (monetised) in the market and distributed in different forms to different factions of claimants (in the forms of wages, interest, rent, taxes, profits) before returning to the role of money capital once more. There is, however, one very significant difference between the hydrological cycle and the circulation of capital. The driving force in the hydrological cycle is incoming energy from the sun and that is fairly constant (though it oscillates a bit). Its conversion into heat has in the past changed a great deal (plunging the earth into ice ages or phases of tropical heat). In recent times the heat retained has been increasing significantly due to entrapment by greenhouse gases (arising out of fossil fuel use). The total volume of water equivalent circulating remains fairly constant or changes slowly (measured in historical as opposed to geological time) as ice caps melt and underground aquifers get drained dry by human uses. In the case of capital, the sources of energy, as we shall see, are more

varied and the volume of capital in motion is constantly expanding at a compound rate because of a growth requirement. The hydro-logical cycle is closer to a genuine cycle (though there are signs of speed-up due to global warming), whereas the circulation of capital is, for reasons we will soon explain, a spiral in constant expansion.

Value in motion

So what, then, would a flow model of capital in motion look like and how can this help visualise what Marx's capital is all about?

I start with Marx's favoured definition of capital as 'value in motion'. I plan here to use Marx's own terms, offering definitions as we go along. Some of his terms are unusual and on the surface may sound confusing, even mysteriously technocratic. In fact, they are not too hard to understand when explained and the only way to be true to my mission is to tell the story of capital in Marx's own language.

So what is meant by the 'value' that is in motion? Marx's meaning is very special so this is the first of his terms that requires some elaboration.¹ I will try to unfold its full meaning as we go along. But its initial definition is *the social labour we do for others as organised through commodity exchanges in competitive price-fixing markets*. This is a bit of a mouthful but not really too hard to digest. I have shoes but I make shoes to sell to others and I use the money I get to buy the shirts that I need from others. In such an exchange, I in effect exchange my labour time making shoes for the labour time someone else spends making shirts. In a competitive economy with many people making shirts and shoes it would make sense to think that if more labour time on average is taken up in shoe-making as opposed to shirt-making, then shoes should end up costing more than shirts. The price of shoes would converge around some average and the price of shirts should also converge on some average. Value underlines the difference between these averages. It might show, for example, that one pair of shoes is equivalent to two shirts. But notice it is the average labour time that counts. If I spend an inordinate amount of labour time on the shoes I make I will not get the

equivalent back in exchange. That would reward inefficiency. I will receive only the average labour time equivalent.

Marx defines value as *socially necessary labour time*. The labour time I spend on making goods for others to buy and use is a social relation. As such it is, like gravity, an immaterial but objective force. I cannot dissect a shirt and find atoms of value in it any more than I can dissect a stone and find atoms of gravity. Both are immaterial relations that have objective material consequences. I cannot over-emphasise the importance of this conception. Physical materialism, particularly in its empiricist garb, tends not to recognise things or processes that cannot be physically documented and directly measured. But we use concepts like 'value' all of the time. If I say 'political power is highly decentralised in China', most people will understand what I mean even though we cannot go into the streets and measure it directly. Historical materialism recognises the importance of immaterial but objective powers of this sort. We typically appeal to them to account for the collapse of the Berlin Wall, the election of Donald Trump, feelings of national identity or the desire of indigenous populations to live according to their own cultural norms. We describe features such as power, influence, belief, status, loyalty and social solidarity in immaterial terms. Value, for Marx, is exactly such a concept. 'Material elements do not make capital into capital,' writes Marx. Instead, 'they recall that capital is also in another respect a value, that is, something immaterial, something indifferent to its material consistency'.²

Given this condition, a crying need arises for some sort of material representation – something we can touch and hold and measure – of what value is about. This need is satisfied by the existence of money as an expression or representation of value. Value is the social relation and all social relations escape direct material investigation. Money is the material representation and expression of this social relation.³

If capital is value in motion then how, where and why does it move and take on the different forms that it does? To answer this I have constructed a diagram of the general flow of capital as Marx

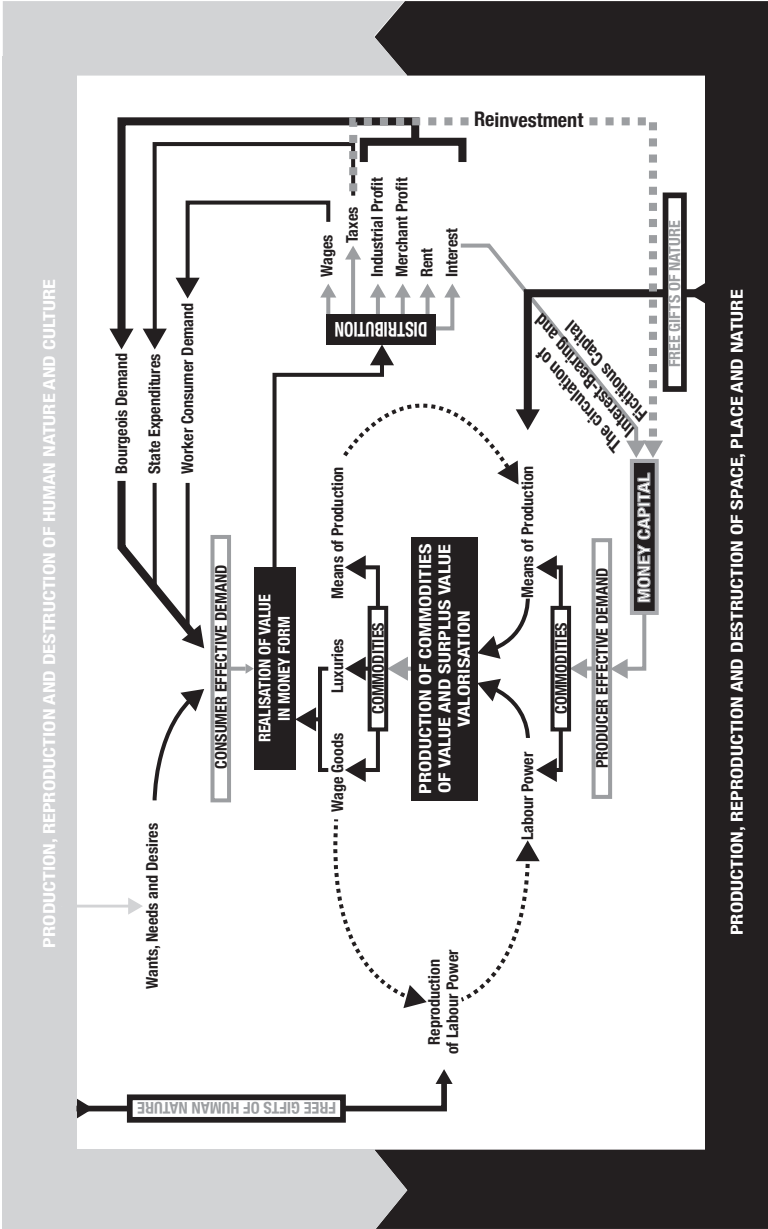


Figure 2 *The paths of value in motion as derived from the study of Marx's writings on political economy*

depicts it (Figure 2). The diagram is a bit intricate at first sight but no more difficult to understand than the standard visualisation of the hydrological cycle.

Capital in money form

The capitalist appropriates a certain amount of money to be used as capital. This presumes there is a well-developed monetary system already in place. The money floating around in society in general can be and is used in all sorts of ways. It is out of this vast ocean of money already in use that a part is syphoned off to become money capital. Not all money is capital. Capital is a portion of the total money used in a certain way. This distinction is foundational for Marx. He does not support (though he does sometimes cite it as a common understanding) the more familiar definition of capital as money being used to make more money. Marx prefers his definition of 'value in motion' for reasons that will later become apparent. It allows him, for example, to develop a critical perspective on what money is about.

Armed with money as capital, the capitalist goes into the market place and buys two kinds of commodities – labour power and means of production. This presumes that wage labour already exists and that labour power is waiting there to be bought. It also presumes that the class of wage labourers has been successfully deprived of access to the means of production and must, therefore, sell its labour power in order to live. The value of this labour power is set by its costs of reproduction at a given standard of living. It is equivalent to the value of the market basket of commodities the labourer needs to survive and reproduce. But note that the capitalist does not buy the labourer (that would be slavery) but buys the use of the labourer's labour power for a fixed period of time (for an eight hour day, for example).

The means of production are commodities that come in a variety of forms: raw materials taken directly as free gifts from nature, partially finished products like auto parts or silicon chips, machines and the energy to power them, factories and the use of surrounding physical infrastructures (roads, sewers, water supplies, etc.,

which may be given free by the state or paid for collectively by many capitalists as well as other users). While some of them may be used in common, most of these commodities must be bought in the market at prices which represent their values. So not only must there already be a monetary system and a labour market in existence, there must also be a sophisticated commodity exchange system and adequate physical infrastructures for capital to use. It is for this reason that Marx insists that capital can originate only within an already established system of circulation of money, commodities and wage labour.⁴

Value at this point in the circulation process undergoes a metamorphosis (much as liquid water becomes water vapour in the hydrological cycle). Capital initially had the form of money. Now the money has disappeared and value appears in the guise of commodities: of labour power waiting to be deployed and the means of production assembled together ready for use in production. Keeping the value concept as central permits Marx to enquire into the nature of the metamorphosis that converts value from the money form into the commodity form. Could this moment of metamorphosis become problematic? Marx invites us to think about this question. He sees in it the possibility – but only the possibility – of crises.

Production of commodities and production of surplus value

Once the labour power and the means of production are successfully brought together under the supervision of the capitalist, they are put to work in a labour process to produce a commodity for sale. It is here that value is produced by labour in the form of a new commodity. Value is produced and sustained by a movement that runs from things (commodities) to processes (the activities of labouring that congeal value in commodities) to things (new commodities).

The labour process entails the adoption of a certain technology, the character of which determines the quantitative amounts of labour power, raw materials, energy and machinery which the capitalist earlier purchased in the market. Plainly, as the technology