

PURPOSELESS TECHNOLOGY AND CHREMATISTIC PURSUITS: THE IMPLICIT SUBORDINATION OF *HOMO ECONOMICUS*

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ABSTRACT: The threat to livelihoods posed by the increased mechanization of labour has led to the question of whether new technologies will eventually render human beings obsolete. However, this immediately raises another more fundamental question: 'what is the function, or utility, of human beings in modern society?' Mainstream economics and the concept of *Homo economicus* tells us that human beings are little more than rationally calculating, profit maximizing machines devoted to the accumulation of capital. This paper will argue that the intellectual origins of *Homo economicus* can be traced to the mechanical philosophies of Descartes, Hobbes, Locke and Newton, and that these philosophies find their expression in the political economy of Adam Smith. It will be shown that the mechanization of labour (along with the subsequent obsolescence of human beings) is a central tenet of classic liberalism, the ends of which is the unceasing increase of capital through the division of labour. In light of this, Ancient Greek conceptions of wealth and economic activity—which prioritize human self-creation and notions of the good life—will be considered as alternatives to the norms presented in classic liberalism. Ultimately, it is argued that in order to avoid being eclipsed by new technologies we must reconsider what it means to be human and in doing so rediscover properly human ends.

KEYWORDS: Philosophy; Economics; Homo Economicus; Oikonomia; Adam Smith; Hobbes; Descartes; Locke; Aristotle; Xenophon; Mechanization; Technology; Philosophy of Technology; Political Economy; Early Modern Philosophy; Division of Labour

PREFACE: ON SYNOPTIC PHILOSOPHY

Before proceeding I want to acknowledge some difficulties in presenting a synoptic philosophical argument. The first of these is the impossibility of an exhaustive appraisal of any thinker in their entirety; such is the complexity of another's thought that there will always be omissions made. The second is the challenge of interpreting thinkers through the lens of disciplinary boundaries. To their credit, the thinkers discussed and criticized in this paper knew no disciplinary boundaries. As such, to approach their work through such boundaries would be counterintuitive, if not absurd. The third lies in the two distinct modes of doing philosophy. One is the narrow analysis of parts; the second is the construction of broad narratives designed at bringing together and making sense of otherwise disparate parts. Both modes of philosophy make sacrifices on details, yet both are required in the discipline for their respective strengths. With these strengths come weaknesses. The danger in synthesizing too much, in providing too synoptic an account is the exclusion of particular details. Such an approach cannot do absolute justice to an individual thinker, if absolute justice is an exhaustive appraisal of their work. On the other hand, a narrow analysis likewise leaves no doubt that it will be excluding facts. This is due to the narrowing of scope, the suspension of context and the lack of narrative meaning. Discuss any thinker and you are bound to leave out details; ignore them altogether and you make it a certainty. From a narrow analysis we sacrifice a whole range of related content, implications and, ultimately, the significance of what is being discussed; the *why* in philosophy. Difficult decisions must be made on the range of exclusions we are willing to make; whether to exclude details for the sake of narrative sense, or narrative sense for the sake of details. Like all papers, this paper makes sacrifices. These sacrifices are aimed at generating interesting ideas, problems and sometimes solutions. The judgment on whether or not these sacrifices enrich or diminish the paper I leave to the reader.

THE PROBLEM OF *HOMO ECONOMICUS*

Homo economicus, or economic man, is a concept that portrays human beings as isolated, rational agents who act solely in their own material self-interest. Equating rationality with the intelligent pursuit of private gain,¹ *Homo economicus* is 'dictated and dominated by the rationality of *industry* and *utility*.'² The 'soul' of this modern economic man is

¹ H.E. Daly and J.B. Cobb, *For the Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future*, 2nd edn., Boston, Beacon Press, 1994, p. 5.

² H.Y. Jung, 'Marxism and Deep Ecology in Postmodernity: From Homo Oeconomicus to Homo Ecologicus', *Thesis Eleven*, vol. 28, 1991, p. 90.

extreme self-interest,³ and it is from this self-interest that *Homo economicus* is inevitably drawn into conflict and competition with others. However, *Homo economicus* is a creature that knows ‘neither benevolence or malevolence ... only indifference.’⁴ It has no regard for the successes, sufferings or failures of others. For *Homo economicus*, such concerns only enter into considerations in so far as they exist as real or potential market relations.

Despite never using the term himself, *Homo economicus* is most directly linked to the work of utilitarian J.S. Mill. Mill’s economic man is a deliberately simplified abstraction based off reductionist impulses common to early modern science. In this capacity, *Homo economicus* was understood as ‘a hypothetical subject, whose narrow and well-defined motives made him a useful abstraction in economic analysis.’⁵ His rationality was limited to self-interest, through an underlying drive for accumulation, along with the pursuit of leisure, luxury and procreation.⁶ Mill’s argument against expanding this range of motives was that it would risk greater complexity and indeterminacy, and therefore provide less reliable economic modeling.⁷ In light of this, Persky notes that ‘the message to derive from Mill’s *homo economicus* is not that humans are greedy, not that man is rational, but that social science works best when it ruthlessly limits its range.’⁸

While there is no argument that *Homo economicus* is a hypothetical abstraction, the very real danger is the extent to which *Homo economicus* has become a normative script for human behavior. The dominance of neoliberal economics has entailed the expansion of the economic field into all facets of society.⁹ Therefore, in neoliberal societies, *Homo economicus* is seen to represent not just the ideal, abstract economic agent, but the ideal human being. Daly and Cobb maintain that the abstraction of *Homo economicus* from ‘real flesh and blood human beings’ is the most important assumption basic to contemporary economic theory,¹⁰ and given the dominance of economics in public discourse, to have real-world policies based on this limited account of human nature is nothing short of dangerous. While apologists might stress that *Homo economicus* is just an abstraction limited for the purposes of theoretical ‘accuracy’, this should only amplify our concerns about what kind of ‘accuracy’ can be gained from such an admittedly shallow

³*The Soul of Modern Economic Man*, Chicago, University of Chicago Press, 1983, p. 2.

⁴ Daly and Cobb, p. 86.

⁵ J. Persky, ‘Retrospectives: The Ethology of Homo Economicus’, *Journal of Economic Perspectives*, vol. 9, no. 2, 1995, pp. 222-223.

⁶*Ibid.*

⁷ *Ibid.*, p. 224.

⁸ *Ibid.*, p. 230.

⁹ J. Read, ‘A Genealogy of Homo-Economicus: Neoliberalism and the Production of Subjectivity’, *Foucault Studies*, no. 6, 2009, p. 28.

¹⁰ Daly and Cobb, p. 85.

appreciation of human nature. Given that ‘the invention of the social sciences ... cannot be separated historically from the method and metaphysics of early modern science,’¹¹ and since economics prides itself on being an objective science, it is only appropriate that we trace *Homo economicus* back to its origins in early modern science.

BACONIAN VISION AND CARTESIAN INDIVIDUALISM

Modern science can only be understood in reference to Francis Bacon, who characterized scientific knowledge as the widest possible accumulation of facts about nature.¹² For Bacon, ‘Human knowledge and human power meet in one,’¹³ and it is through the steady and gradual accumulation of knowledge that Bacon believed we would achieve ‘the true and lawful goal of the sciences,’ which he described as the endowment of human life with new discoveries and powers.¹⁴ As Horkheimer and Adorno note, Bacon’s concern is with the ‘operation’ of knowledge in its effective capacity and utility. They argue that the essence of this knowledge is technological, the aim of which is the development of an exploitable method of control.¹⁵

Such a method is realized in Descartes who, like Bacon, saw the role of science as delivering the control of nature to rational humans. The Cartesian method, outlined in his *Discourse on Method*, consists of four laws. These are:

- I. ‘Never to accept anything as true that I did not know to be evidently so.’
- II. ‘To divide each of the difficulties that I was examining into as many parts as might be possible and necessary in order best to solve it.’
- III. ‘To conduct my thoughts in an orderly way, beginning with the simplest objects ... in order to climb gradually, as by degrees, as far as the knowledge of the most complex.’
- IV. ‘To make such complete enumerations and such general reviews that I would be sure to have omitted nothing.’¹⁶

¹¹ M.C. Jacob, *The Cultural Meaning of the Scientific Revolution*, Philadelphia, Temple University Press, 1988, p. 253.

¹² *Ibid.*, p. 31.

¹³ F. Bacon, *Novum Organum Scientiarum*, trans. J. Spedding, R.L. Ellis, and D.D. Heath., Memphis, Bottom of the Hill Publishing, 2012, p. 10.

¹⁴ *Ibid.*, p. 37.

¹⁵ M. Horkheimer, T. Adorno and G.S. Noerr, *Dialectic of Enlightenment: Philosophical Fragments*, trans. E. Jephcott, Stanford, Stanford University Press, 2002, p. 2.

¹⁶ R. Descartes and F.E. Sutcliffe, *Discourse on Method and The Meditations, Discourse on Method and the Meditations*, London, Penguin Books, 1968, p. 41.

Descartes' method is essentially a doctrine of division that advocates the mathematical deconstruction of any problem into its most basic parts. It follows from this that any problem can be dismantled and reduced in order to derive objects of knowledge from it. When put back together, these pieces of knowledge will lead to a gradual and complete understanding, and it is through this method that nature—the biggest problem of all—can be understood in its entirety and controlled.¹⁷

Descartes applied this method most famously to his own mind and body. Indivisible and absolute, the mind is 'distinct and superior to matter,'¹⁸ maintaining a unity that is not found elsewhere in nature. By contrast, the body 'is always divisible,'¹⁹ serving as the vehicle that mediates a mind's rational experience with the external world.²⁰ Descartes understands the body as no more than an 'assemblage of limbs,'²¹ equating it with a 'machine made up of flesh and bones.'²² So automated is this machine that without a mind it would still continue to operate in a chain of causation similar to that of cascading dominoes. Descartes argues that just as:

'a clock, made up of wheels and counterweights, observes all the laws of nature ... so in the same way if I consider man's body as being a machine, so built and composed of bones, nerves, muscles, veins, blood and skin, that although it had no mind in it, it would still move all the same ways that it does at present, when it does not move by the direction of its will, or ... with the help of the mind, but only by the disposition of its organs.'²³

Descartes notes that such mindless automatons are found in nature, with animals sharing all of the mechanical characteristics of human beings, albeit devoid of souls and rational minds.²⁴ It is from Descartes that we get the idea that the body is an automated machine, a sum of individual parts that the mind *possesses*. Furthermore, Descartes posits the self as the first principle of philosophy and the locus of all knowledge and truth. All we can be certain of is that our minds exist. This first person account of knowledge represents a radical form of individualism in that it situates the first principles of not only philosophy, but of reality, in the self. Descartes' radical doubt therefore gives way to a

¹⁷ Jacob notes that the reward promised those following the Cartesian method was 'nothing less than mastery over nature,' p. 59.

¹⁸ Descartes and Sutcliffe, p. 19.

¹⁹ *Ibid.*, p. 164.

²⁰ A. Kirkpatrick, 'Modernity, Post-Modernity, and Proto-Historicism: Reorienting Humanity Through a New Sense of Narrative Emplotment', *Cosmos and History: The Journal of Natural and Social Philosophy*, vol. 10, no. 2, 2014, p. 26.

²¹ Descartes and Sutcliffe, p. 105.

²² *Ibid.*, p. 104.

²³ *Ibid.*, p. 163.

²⁴ *Ibid.*, p. 65.

radical individualism that has inaugurated ‘an intellectual order in the service of self-interest and human desire.’²⁵

POWER AND MOTION: HOBBS

As with Descartes, Hobbes understands life as ‘a motion of Limbs,’²⁶ equating organic life with clocks. He argues that:

‘*Automata* (Engines that move themselves by springs and wheelles as doth a watch) have an artificiall life ... For what is the *Heart*, but a *Spring*; and the *Nerves*, but so many *Strings*; and the *Joynts*, but so many *Wheelles*, giving motion to the whole Body, such as was intended by the Artificer?’²⁷

Influenced by Galileo,²⁸ Hobbes understood the world as consisting of matter in motion. Unlike in the Scholastic tradition, whereby heavy bodies are seen to fall downwards ‘out of an appetite to rest,’ for Galileo and Hobbes, matter desires motion and will continue to move until it comes into conflict with another force which will either cause it to change trajectory or stop completely.²⁹ Hobbes applied this logic to the actions of men, which he saw as moved by appetites and aversions. Appetite, or desire, is characterized as the endeavor towards something, while aversion is the endeavor away from something.³⁰

For Hobbes, agency comes from the outside. The motion within us, what he would call our voluntary motion,³¹ is motion ‘caused by the action of external objects.’³² Such voluntary motion refers to the actions that are caused by the things that we see, hear and take in through our senses.³³ Our agency is thus dictated by a mechanical response to external stimulus. When we sense something through the mechanical apparatus of the body, it is deferred to the Cartesian plane of rationality. In making decisions on how to act, our mind calculates pros and cons—the costs and the benefits—to arrive at what Hobbes defines as the ‘summe totall’ of ‘*Addition* ... and *Substraction*.’³⁴ For Hobbes, this constitutes the very nature of reasoning. However, not all actions in response to a given stimulus will be the same. Though reason is ‘a certain and infallible art ... no mans

²⁵ Jacob, p. 69.

²⁶ T. Hobbes and C.B. Macpherson, *Leviathan*, London, Penguin Books, 1985, p. 81.

²⁷ *Ibid.*

²⁸ *Ibid.*, p. 19.

²⁹ *Ibid.*, p. 88.

³⁰ *Ibid.*, p. 119.

³¹ *Ibid.*, p. 118.

³² *Ibid.*, p. 121.

³³ *Ibid.*, p. 118.

³⁴ *Ibid.*, p. 110.

Reason, nor the Reason of any ... number of men, makes the certaintie [sic].³⁵ That is, reason may be singular and absolute, but the degree to which an individual has access to reason will vary depending on the competency of the machine; some machines will calculate better than others, or will have more information at their disposal. For instance, according to Descartes, those who follow the Cartesian method will have greater access to reason and will thus be better equipped to arrive at the 'right' decision in any given scenario, providing them with the ability to exert greater power over the natural world.

According to Hobbes, it is the pursuit of power that moves men, a conclusion that he arrives at through his theorization of the state of nature. In the state of nature, Hobbes argues that all men are made equal, and that from this initial equality arises the hope of each man to attain his desired ends. If any two men desire the same thing, which they both cannot have, then they become enemies and will endeavor to destroy one another. Each man thus exists in a state of war of all against all, living in continual fear and danger of violent death. In this condition, every man has a natural right to use his own power for the preservation of his own life.³⁶ Because of this natural state, Hobbes advocates for a central power to ensure peace amongst men,³⁷ with such a central power embodied in his all-powerful *Leviathan*.

Hobbes arrives at his state of nature in a method that is thoroughly Cartesian. By 'stripping away the disguising and obscuring paraphernalia of social life,' Hobbes desires to 'see man in his natural and essential state.'³⁸ True to form, Hobbes subtracts the elements that make up the totality of man's condition in order to find the denominator common to all individuals.³⁹ That common denominator is self-interest and the pursuit of power. Telling in Hobbes' reduction is the conspicuous indivisibility of bourgeois values in natural man. While designed as the 'negation' of civilized society, his state of nature is arrived at by 'successive degrees of abstraction' *from* civilized society.⁴⁰ On this view, such a 'natural' man cannot be opposed to 'civilized' man, because the 'natural' man in Hobbes' state of nature still maintains civilized desires. That is, he desires to not only live, but to live well and commodiously.⁴¹ Therefore, Hobbes effectively transplants civilized man into a hypothetical context, which he calls nature, and in doing so

³⁵ Ibid., p. 111.

³⁶ Ibid., p. 189.

³⁷ Ibid., pp. 184-188.

³⁸ M. Myers, *The Soul of Modern Economic Man*, Chicago, University of Chicago Press, 1983, p. 30.

³⁹ Ibid., p. 30.

⁴⁰ C.B. Macpherson and F. Cunningham, *The Political Theory of Possessive Individualism: Hobbes to Locke*, Don Mills, Oxford University Press, 2011, p. 23.

⁴¹ Ibid., p. 24.

inadvertently ‘naturalizes’ civilized man. Coinciding with this is a condemnation of the state of nature as something to be escaped from. This absurdity, that civilized man could somehow be logically prior to society, was not lost on Rousseau, who argued that:

‘By reasoning on principles he established, Hobbes should have said that the state of nature ... was consequently the most suitable state for peace and the most appropriate for mankind. The reason that he says the complete opposite is because he included in savage man’s striving for his preservation the need to satisfy a multitude of passions that are the product of society.’⁴²

Macpherson argues that the state of nature must therefore be understood as ‘the hypothetical condition in which men as they now are ... would necessarily find themselves if there were no common power able to overawe them all.’⁴³ Though this state of nature is one based on abstraction rather than historical fact, the legacy of Hobbes’ state of nature has cast a long shadow in modern economics, both justifying and naturalizing the artificial and ultra-competitive mindset of *Homo economicus*. More immediately, however, it underpins Hobbes’ assumptions about power as the driving force of human beings.

According to Hobbes, humans are characterized by an insatiable desire for power. This ‘perpetuall and restless desire of Power after power’ is a ‘generall inclination of all mankind’ that ceases only in death.⁴⁴ What Hobbes describes as power is a man’s ‘present means ... [of obtaining] some future apparent good,’⁴⁵ with such a power either being ‘*Originall*,’ or ‘*Instrumentall*,’ power.⁴⁶ Original, or ‘*Naturall*,’ power is that which is inherent to the individual, such as strength of body, alacrity of mind, cunningness and so forth. *Instrumentall* powers consist of acquired powers, such as riches, reputation, and friends.⁴⁷ Hobbes considers power to be cumulative, arguing that ‘like the motion of heavy bodies, which the further they go, make still the more haste,’ it is the nature of power to increase itself.⁴⁸ According to Hobbes the value—or worth—of a man is ‘his price; that is to say, so much as he would be given for his use of power.’⁴⁹ There is an equivalence, then, between a man’s price and his power. Power is an end in itself, and conspicuous displays of power are virtuous. Dominion and victory over others is

⁴² J. Rousseau and L. Damrosch, *The Essential Writings of Jean-Jacques Rousseau*, trans. P. Constantine, London, Vintage Books, 2013, p. 38.

⁴³ Macpherson and Cunningham, pp. 18-19.

⁴⁴ Hobbes and Macpherson, p. 161.

⁴⁵ *Ibid.*, p. 150.

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*, p. 151.

considered honorable, because it is acquired by and displays power, while to be in servitude is dishonorable because it displays a lack of power.⁵⁰

From Hobbes we derive not only a mechanical worldview, but also a proto-utilitarian ethic of cost-benefit analysis. The agency of the Hobbesian machine exists outside of itself, residing in the external objects towards which the mechanical vessel is drawn. Ultimately, these are either objects of power or the means of achieving greater power, and it is through the use of power that one is able to buy, co-opt, and ensnare the power of others, thereby fulfilling the natural drive of power to increase itself. Hobbes' model of society thus anticipates a possessive market society⁵¹ in which there is an 'equal subordination of every individual to ... the competitive market for power.'⁵² Hobbes' *Leviathan* is therefore not a sovereign power in the mould of a monarch, but a sovereign power in the mould of the market, and it is in the marketplace of power relations that justice is dispensed and social order maintained.

ACCUMULATION AND (IN)EQUALITY IN LOCKE

Hobbes' model of society is picked up and refined by Locke. Like Hobbes, Locke posits his own state of nature as a state of perfect equality.⁵³ This equality gives rise to perfect freedom in which individuals are able 'to dispose of their possessions and persons ... without asking leave, or depending upon the will of any other man.'⁵⁴ Following on from the Baconian, Cartesian, and Hobbesian approach to nature, Locke argues that the earth 'is given to men for the support and comfort of their being,'⁵⁵ with 'the fruits it naturally produces ... [belonging] to mankind in common.'⁵⁶ No individual has 'private dominion, exclusive to the rest of mankind,'⁵⁷ and it is from this common right that men are able to appropriate nature through their labour and incorporate it into their own private property. However, Locke notes that while 'God gave the world to men in common ... it cannot be supposed that he meant it should always remain common and uncultivated.' Rather, Locke maintains that it was given for the use of the 'industrious and rational,'⁵⁸ arguing that 'he who appropriates land to himself by his labour, does not

⁵⁰ Ibid.

⁵¹ Ibid., p. 38.

⁵² Macpherson and Cunningham, p. 85.

⁵³ J. Locke, et al., *Two Treatises of Government and A Letter Concerning Toleration*, New Haven, Yale University Press, 2003, p. 101.

⁵⁴ Ibid.

⁵⁵ Ibid., p. 111.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid., p. 114.

lessen, but increase[s] the common stock of mankind.’⁵⁹ By taking a portion of land and cultivating it, the industrious man is able to improve the land and increase the net quantity of goods for all mankind.

However, what inhibits man’s propensity for unlimited accumulation of private property is the perishable nature of goods. Locke’s law of nature, which is reason, is based on utility—to take from nature more than one can use is quite literally useless. To hoard fruit in a state of nature beyond one’s own needs will eventually lead to its rotting and subsequent wastage, with spoilage imposing a temporal limit on accumulation. As with perishable goods, one cannot appropriate more land than one can physically cultivate, nor land which is geographically distant. Just as with food, land can spoil, remain uncultivated, and thus be wasted and unused. This presents a spatial limit to appropriation. However, for Locke, there is no *moral* limit to accumulation. The active appropriation of nature is to be encouraged so long as everything maintains its use-value and does not perish uselessly at the hands of the appropriator.⁶⁰ These limits to appropriation are purely technical and pragmatic, with Locke arguing that it is only through the introduction of money as an imperishable medium that these limits are transcended.⁶¹

Locke’s state of nature is thus composed of two stages. The first stage is that state of nature that exists prior to the introduction of money. In this stage the exchange of accidental surplus goods is encouraged so long as utility is maintained and nothing perishes. The introduction of an imperishable medium of exchange, or money, is what constitutes the second stage. This arises through what Locke calls the ‘tacit consent’ of individuals to attribute value to money,⁶² giving them ‘the opportunity to continue to enlarge’⁶³ their possessions beyond nature’s limits. Since money does not spoil—and therefore cannot be wasted—there is no reason why a man should not accumulate unlimited amounts of it.⁶⁴ It is because of money that the industrious and rational man can, for instance, enclose vast amounts of land by appropriating the labour power of others through wages. Locke’s state of nature, then, is a continuation and extension of Hobbes’, with money identified as the means through which unlimited amounts of power can be realized and accumulated. The introduction of money indicates a shift in the state of nature, whereby from an original doctrine of equality, Locke is able to justify,

⁵⁹ Ibid., p. 116.

⁶⁰ Macpherson and Cunningham, p. 201.

⁶¹ Ibid., p. 104.

⁶² Locke, et al., p. 121.

⁶³ Ibid., p. 120.

⁶⁴ Macpherson and Cunningham, p. 104.

like Hobbes, a naturalized state of inequality. This inequality is so self-evident, so common sense, that to even speak of it would be to risk tautology.

For Locke, man is an accumulating animal by nature and it is through the accumulation of property that we are able to extend the sum of our power. The lines between self and property are blurred; one possesses one's own body in the same sense that one possesses property. The self is considered the most private of properties while any acquired, conventional property becomes a logical extension of the self. The individual's own body then becomes a tool, a form of human capital, through which the rational accumulation of property can be realized. In Hobbesian terminology, the body serves as that original power through which instrumental powers are then accumulated. This blurring between possessions and persons speaks to what Macpherson calls the 'possessive individualism' present in both Hobbes and Locke. This consists of the notion that the individual is 'essentially the proprietor of his own person or capacities, owing nothing to society for them.'⁶⁵ However, the notion of possessing one's own body can be traced back further to Descartes, who effectively treats the body as the property of a rational mind.

Locke's political theory also corresponds to his natural philosophy, which is situated within the corpuscularian tradition. A form of mechanistic atomism, Locke's corpuscularianism holds that:

- I. All bodies are made up of extended solid substance.
- II. All bodies are either individual atoms or aggregates of atoms, with aggregates of atoms taking on 'textures' that result from the arrangement of their component atoms.
- III. All changes to the state of a body are due to a change in texture as the result of impact or contact with other bodies; that is, all causation is mechanical causation.⁶⁶

Deeply intertwined with Locke's political philosophy is his natural philosophy, which understands nature as a collection of atoms mechanically operating in void space. The natural capacities and tendencies of atoms are inherent and indivisible; it is only through combinations with one another that they receive 'textures' and take on extra qualities. The same can be said of humans and societies; man is born with innate faculties and powers that are indivisible, and it is by combining these faculties with nature that men are able to acquire and appropriate greater amounts of power.

⁶⁵ Macpherson and Cunningham, p. 3.

⁶⁶ E. McCann, 'Locke's philosophy of body', in V. Chappell (ed.), *The Cambridge Companion to Locke*, New York, Cambridge University Press, 1995, pp. 56-57.

Likewise, society is understood as no more than a collection of atomistic individuals. Given that Locke's natural philosophy describes the world as an aggregate sum of indivisible parts, it follows that Locke should also understand human beings and civil society as operating according to the same natural laws. If reality is composed of discrete and indivisible atoms, distinct from one another and operating in a passive 'void' of space, it is no surprise that in Locke's appeals to a state of nature he arrives at a theory of possessive individualism.

THE NEWTONIAN INDIFFERENCE

Consolidating these philosophies were the theoretical breakthroughs of Newton who was also working in the corpuscularian tradition of Locke.⁶⁷ In explaining the full range of natural phenomena using only a few simple laws,⁶⁸ Newton provided the means through which 'the physical order could be explained and exploited mechanically,'⁶⁹ thereby vindicating the mechanical views put forth by Descartes and Hobbes. Newton's laws of motion dictate that:

- I. Every body preserves in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed thereon.
- II. The alteration of motion is ever proportional to the motive force impressed; and is made in the direction of the right line in which that force is impressed.
- III. To every action there is always opposed an equal reaction: or the mutual bodies upon each other are always equal, and directed to contrary parts.⁷⁰

Newton's first law indicates that objects are passive, that once they are in motion, they will 'preserve' their motion until acted upon by some external power. The same is to be said of objects that are at rest. Unlike in the Scholastic tradition where bodies 'desire rest,' Newtonian bodies have neither a desire nor disdain for rest. Rather, they have 'an indifference to rest,' and will remain in that state until 'disturbed' by an external power.⁷¹ This tendency towards indifference is also found in motion, with bodies 'disposed to continue in absolute motion ... without increasing or diminishing their

⁶⁷ Ibid., p. 86.

⁶⁸ C.J. Berry, 'Smith and Science,' 'Smith and Science', in K. Haakonssen (ed.), *The Cambridge Companion to Smith*, New York, Cambridge University Press, 2006, p. 113.

⁶⁹ Jacob, p. 85.

⁷⁰ I. Newton and S. Hawking, *On The Shoulders of Giants: Principia*, Philadelphia, Running Press, 2002, pp. 11-12.

⁷¹ H. Pemberton and I.B. Cohen, *A View of Sir Isaac Newton's Philosophy*, New York, Johnson Reprint Corporation, 1972, p. 29.

velocity.⁷² The second law indicates that the alteration of the state of a body, whether at rest or in motion, is always proportional to the force applied; that is, the motion of a body is constituted by the sum of forces. As Newton notes: ‘double force will generate double the motion, triple force triple motion.’⁷³ A body at rest will ‘yield’ to an external power and move in the direction of that power.⁷⁴ For an object to stop, it must be met with a force equal to the force that initially moved it. To reverse it completely, it must be met with at least double the force. The third law indicates that there is an equilibrium of motion in the universe, and that ‘whatever draws or presses another is as much drawn or pressed’ by that other;⁷⁵ for every action there will be an equal reaction.

On this view, the human machine is matter in motion, operating in void space according to Newtonian principles; it is drawn towards external objects by appetites and repelled by aversions. Given that humans are understood to be no more than a complex assemblage of matter, it is conceivable that the Newtonian ‘indifference’ of matter towards rest or motion is an indifference that is imprinted into the psyche of *Homo economicus*. Hobbes’ claim that all matter is in motion, and that humans desire continued motion, is not inconsistent with the Newtonian passivity of matter. That the world is in motion is an arbitrary fact for both Hobbes and Newton. For Newton—having been set up and put in motion by God—our great clockwork universe constitutes an unfolding kinetic chain of causation. Were it not set in motion, the collective matter of the universe would, by default, desire rest. But because the world *has* been set in motion, otherwise static bodies must be seen as passively *waiting* for motion. They exist to be acted upon by outside forces and will preserve their motion until acted upon by another outside force. Since all actions will have equally opposing reactions, and motion will never exhaust itself, matter could not desire anything *but* motion; it could expect nothing but motion. So while matter may be ‘indifferent’ to both rest and motion, this is easily reconciled with the apparent Hobbesian desire for motion; matter is always acting and reacting in a deterministic fashion. *Homo economicus*, then, is compelled to continually bounce around, repelled and attracted by various forces.

ADAM SMITH AND THE MECHANIZATION OF LABOUR

These philosophies culminate in the political economy of Adam Smith, whose work provides the theoretical foundations for contemporary economics.⁷⁶ Building most

⁷² Ibid., p. 34.

⁷³ Newton and Hawking, p. 11.

⁷⁴ Pemberton and Cohen, p. 30.

⁷⁵ Newton and Hawking, p. 12.

⁷⁶ Berry, p. 135.

directly on the work of Hobbes and Locke, Smith developed a theory that places self-interest at the center of social relations.⁷⁷ For Smith, self-interest is the causal ingredient to the improvement of society⁷⁸ and it is self-interest that drives individuals to provide goods for one another. It is not, he says, ‘from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard to their own interest.’⁷⁹ He argues that it is through our tendency ‘to truck, barter, and exchange,’ that we enter into social relations⁸⁰ and that without this disposition, men would be stuck in a ‘rude’ state of nature, struggling to secure their own subsistence.⁸¹ Such a ‘rude’ state is that pre-civilized state otherwise known as the Hobbesian or Lockean state of nature that existed prior to the introduction of money. Following Locke, Smith argues that ‘in this state of things, the whole procedure of labour belongs to the labourer,’⁸² but money, the ‘universal instrument of commerce,’⁸³ is what facilitates the unlimited growth and accumulation of property. As with Locke, accumulation is an inherently good thing, with accumulation ‘naturally’ leading to improvement.⁸⁴

National wealth, for Smith, is derived from the summation of individual labor; if a nation is to prosper it must promote the specialization of its work force⁸⁵ through the division of labour. In the division of labour ‘the whole of every man’s attention ... [is] to be directed towards ... one very simple object.’⁸⁶ Smith notes that in every ‘improved’ society, the farmer will be nothing but a farmer, and the manufacturer nothing but a manufacturer.⁸⁷ Smith argues that by ‘reducing every man’s business to some simple operation, and ... making this operation the sole employment of his life,’⁸⁸ the division of labour will lead to a ‘proportional increase of the productive powers of labour.’⁸⁹ He identifies three benefits that arise from the division of labour. The first of these is an increase in ‘dexterity’ of each particular workman, the second is the saving of time, and the third is ‘the invention of a great number of machines ... to facilitate and abridge

⁷⁷ Myers, p. 95.

⁷⁸ *Ibid.*, p. 110.

⁷⁹ A. Smith and M.G. Spencer, *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, Wordsworth Classics, 2012, p. 19.

⁸⁰ *Ibid.*, p. 18.

⁸¹ *Ibid.*, p. 21.

⁸² *Ibid.*, p. 51.

⁸³ *Ibid.*, p. 32.

⁸⁴ *Ibid.*, p. 268

⁸⁵ Myers, p. 111.

⁸⁶ Smith and Spencer, p. 14.

⁸⁷ *Ibid.*, p. 11.

⁸⁸ *Ibid.*, p. 12.

⁸⁹ *Ibid.*, p. 10.

labour.⁹⁰ The mechanization of labour is thus central to the division of labour, with Smith even crediting the invention of industrial machines *to* the division of labour.⁹¹ He notes that in the industries where labour has been ‘most subdivided,’ there is a tendency for those who undertake simple tasks to invent machines to perform work for them. He gives the following example:

‘a boy was constantly employed to open and shut ... the communication between the boiler and the cylinder ... One of those boys, who loved to play with his companions, observed that, by tying a string from the handle of the valve which opened this communication to another part of the machine, the valve would open and shut without his assistance, and leave him at liberty to divert himself with his play fellows.’⁹²

While his language is less explicit than his predecessors, the assumption of man as machine is implicit in Smith’s division of labour. The ultimate goal of such division is the reduction of man to the simplest mechanical function, followed by the replacement of man by machine altogether. Furthermore, in dividing the stock of nations, Smith even places individuals within the category of fixed capital, alongside so-called ‘useful machines’ that abridge labour.⁹³ The goal of the division of labour, then, is the reduction, division and extinction of human labour.

As with individuals, Smith understands society in terms of a machine composed of both fixed and moving parts. One portion is fixed capital, which is the infrastructure of a nation that includes useful machines as well the members of the society, the other portion is circulating capital ‘which affords a revenue only by circulating or changing masters,’⁹⁴ and it is this circulating capital—in particular money—that Smith argues ‘furnishes the ... wages of labour, and puts industry into motion.’⁹⁵

In his attempt to understand society mechanically, Smith must also be understood to be working within the mechanistic tradition of Newton. While not explicit in linking his own work to Newton’s, Smith’s early followers had little difficulty declaring him ‘the Newton of political economy,’ based on his discovery of the ‘first laws of commerce.’⁹⁶ The influence of Newton’s laws is evident in his discussion of the price of commodities, which he argues will ‘gravitate’ towards a ‘natural’ price.⁹⁷ Coinciding with this is his

⁹⁰ Ibid., p. 12.

⁹¹ Ibid.

⁹² Ibid., p. 14.

⁹³ Ibid., pp. 273-274.

⁹⁴ Ibid.

⁹⁵ Ibid., p. 285.

⁹⁶ Berry, p. 125.

⁹⁷ Smith, p. 62.

description of circulating capital as the active force that sets the passive machinery of fixed capital, including individuals, in motion. From Smith we are provided with an account of economics that is akin to Newton's natural laws of matter, motion and gravitation—unsurprising given the unprecedented influence that Newton had on the natural sciences and philosophy.

While the lineage between Smith, Hobbes and Locke is obvious, less clear are the continuities between Smith and Descartes. There is, of course, a continuation carried through Hobbes' philosophy of body, but a more direct link lies in Smith's tendency to divide; Smith's division of labour is the Cartesian method *par excellence*. Hobbes thus serves as the lynchpin between Descartes and Locke. He transforms the Cartesian philosophy of body into a political theory that is fertile ground for the development of market societies. His brute conclusions, along with their implicit assumptions, are taken forward and refined by Locke, a giant of classic liberalism who extends Hobbes' philosophy through his theorization of unlimited accumulation. The laws of motion and gravitation provided by Newton consolidate the mechanical worldview and it is on this solid bedrock of early modern science that Adam Smith is able to develop his political economy as something akin to natural law.

HOMO ECONOMICUS: AGENT OF CAPITAL

It is in these philosophies that we get a clear characterization of human beings as isolated, self-serving, rationally calculating machines so evidently expressed in the modern conception of *Homo economicus*. However, unlike *Homo economicus*, the human beings described by these early modern philosophers are not abstractions, but real flesh and blood machines. It is the instrumental rationality so characteristic of modernity that governs *Homo economicus*.⁹⁸ Bound up with ideas of utility, objectivity and efficiency is a cold, mechanical and rational indifference expressed through the sociopathic drive for accumulation. Important here is the word sociopathic, with the concept of *Homo economicus* making some key assumptions about the relationship between individuals and society. The model of *Homo economicus* I have traced here from Descartes to Smith is seen to exist outside of, and prior to, society, with society understood as no more than the summation of atomic individuals.

Despite the individualism inherent in these philosophies, it is ultimately a hollow individualism. Given that capitalism is 'a growth-oriented processes ... driven by the constant need to realize more value,'⁹⁹ the growth of capital—not the benefit of

⁹⁸ Jung, pp. 89-90.

⁹⁹ J. Wainwright, 'Climate Change, Capitalism, and the Challenge of Transdisciplinarity', *Annals of the Association of American Geographers*, vol. 100, no. 4, 2010, p. 988.

individuals—needs to be understood as the ends of capitalist societies. Furthermore, economics, which presents itself as an objective science, does not exist to merely describe capital flows, but to actively serve capital.¹⁰⁰ Therefore, the expansion of markets and the growth of capital needs to be understood as the normative pursuit of economics, while the long-term prospect put forward by the advancement of capitalist societies is exactly that: the advancement of capital. While in the short term, the pursuits of *Homo economicus* might be veiled in self-interest, the enduring benefit is the increased quantity and mobility of capital. The agency of *Homo economicus*, then, must be seen to exist outside of itself; agency is deferred to that elusive, shape-shifting and ambiguous power distilled as ‘capital’, and it is the accumulation and expansion of this medium that the mechanical apparatus of *Homo economicus* works towards realizing. *Homo economicus* can thus be understood as Marcuse’s *One Dimensional Man*. As Kellner argues, one dimensional man:

‘does not know its own needs because its needs are not its own—they are administered, superimposed and heteronomous; it is not able to resist domination, nor to act autonomously ... Lacking the power of authentic self-activity, one-dimensional man submits to increasing domination.’¹⁰¹

However, this is just one narrative, one account of human nature in regards to economic activity. It just so happens that this is the dominant account that has so clearly influenced the development of contemporary economics. Addressing this will require wresting back agency from the ends of capital and rediscovering properly human ends. Insights to how this might be achieved can be gained from Ancient Greek philosophers Aristotle and Xenophon.

OIKONOMIA, CHREMATISTICS AND EUDAIMONIA

The Ancient Greeks would not consider the political economy described above as ‘economics,’ but as chrematistics. The goal of chrematistics is unlimited accumulation through ‘the manipulation of property and wealth so as to maximize short-term monetary exchange value.’¹⁰² In contrast to this is *Oikonomia*, the etymological root for the English word economics. This is derived from the Greek word ‘*oikos*’, meaning ‘house’, with an *oikos* encompassing all the people and things that constitute a household

¹⁰⁰ C. Bulbeck, ‘Economists as Midwives of Capitalist Ideology’, in E.L. Wheelwright and K. Buckley (eds.), *Essays in the Political Economy of Australian Capitalism*, vol. 5, Sydney, Australia and New Zealand Book Co., 1983, p. 101.

¹⁰¹ H. Marcuse and D. Kellner, *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*, New York, Routledge, 2002, p. xxviii.

¹⁰² Daly and Cobb, pp. 138-139.

or an estate.¹⁰³ *Oikonomia* is the art of household management, with an *'oikonomikos'* being someone who is skilled at managing a household. For an *oikonomikos*, whatever benefits the household is considered wealth, and what constitutes the wealth in material things is in knowing how to make use of them.¹⁰⁴ As Xenophon's Socrates argues, one can possess many enemies but it is not a good idea to simply increase the quantity of enemies one possesses. That is, he qualifies, unless one knows how to make use of them.¹⁰⁵ The same is said of money: 'if one doesn't know how to make use of it ... then money must be kept at such a distance that it isn't even included among one's assets.'¹⁰⁶ Unlike in Locke, in both Xenophon and Aristotle there *is* a moral limit to accumulation, with excess considered just as bad, if not worse, than too little.¹⁰⁷ Therefore, the wealth of a household is understood not in regards to its quantity of 'possessions' but in regards to its 'usefulness.'¹⁰⁸

This approach to utility can be understood when situated within Aristotle's four causes. These are: the material cause, the efficient cause, the formal cause, and the final cause. The material cause is the physical material from which something is made. For example stone would be the material cause in a statue. The efficient cause is that which produces change, which would be the actions of the stonemason as 'the cause of action.' The formal cause is the form aimed at—it is the *idea* of the statue that enables the stonemason to transform the stone into something else. The final cause is the purpose of action; *why* is a statue being constructed? What are the desired ends?¹⁰⁹ It is the final cause that gives action meaning, and without it we are left merely acting incoherently without ends. Central to Aristotle's idea of household management is a teleological concept of well-being that defines the desired ends of the estate. Secondary to this is recognition of the means required for attaining those ends.¹¹⁰ So while chrematistics is 'part' of household management, it alone does not constitute true 'wealth.'¹¹¹ The true wealth of a household lies in achieving well-defined ends. So what are the ends of

¹⁰³ Xenophon and R. Waterfield, *Conversations of Socrates*, trans. H. Tredennick and R. Waterfield, London, Penguin Books, 1990, p. 271.

¹⁰⁴ D. Wilson and W. Dixon, *A History of Homo Economicus: The Nature of the Moral in Economic Theory*, London, Routledge, 2012, p. 12.

¹⁰⁵ Xenophon and Waterfield, p. 290.

¹⁰⁶ *Ibid.*, p. 291.

¹⁰⁷ C. Dierksmeier and M. Pirson, 'Oikonomia Versus Chrematistike: Learning from Aristotle About the Future Orientation of Business Management', *Journal of Business Ethics*, 2009, vol. 88, p. 421.

¹⁰⁸ L. Strauss, *Xenophon's Socratic Discourse: An Interpretation of the Oeconomicus*, Indiana, St. Augustine's Press, 1998, p. 95.

¹⁰⁹ Aristotle and H. Lawson-Tancred, *The Metaphysics*, London, Penguin Books, 2004, p. 115.

¹¹⁰ Dierksmeier and Pirson, p. 419.

¹¹¹ Aristotle, T.A. Sinclair and T.J. Saunders, *The Politics*, London, Penguin Books, 1992, p. 79.

household management? For both Xenophon and Aristotle, it is the flourishing of the *polis* and the attainment of a good life.

The concept of the household is thus extended outwards to the *polis* as a household of households. For Aristotle, the state is seen to have a natural priority over households and individuals, with society considered ontologically prior to the sum of its parts.¹¹² Aristotle likens an individual without a *polis* to ‘an isolated piece in a game of draughts.’¹¹³ Such an individual cannot be made sense of and cannot exist without the contextual environment of the board and other pieces. It is through this context that it takes on its identity and meaning as a draught piece. Contrary to the liberal tradition, individuals and households are not considered to be ‘atomistic entities’ first that ‘incidentally’ engage in social relations later. Rather, households and individuals are only able to exist *because* of their social, cultural and political contexts.¹¹⁴ The *polis*, then, is the locus, origin and ends of all human activity and it is only through the flourishing of the *polis* that individuals are able to secure a good life.¹¹⁵ However, such a ‘good’ life is not to be confused with Hobbes’ conception of commodious living; rather, it is a life defined by purpose, meaning, self-discipline and virtue.

Aristotle maintains that the universally sought end of all men is *eudaimonia*, or happiness.¹¹⁶ This consists of ‘a well-ordered state of affairs’ attained by ‘rational activity.’¹¹⁷ According to this principle, individuals are considered ‘happy’ when they ‘rationally harmonize their outer and inner world so as to live self-sufficiently.’¹¹⁸ This desire for order must not be confused with the desire to control or dominate one’s surroundings, but rather to augment and *harmonize* with one’s surroundings. Unlike the passive, reactionary rationality of *homo economicus* there is an active component to achieving *eudaimonia* that requires conceiving a purposeful activity in life. Such an act relies on final causes, that is, a question of *why*; for what end, for what good? Thus the Ancient Greek *oikonomikos* is governed by a completely different kind of rationality to its modern counterpart. It is an active rationality focused on human ends and the quality of life lived. According to Aristotle, such a quality is determined by activities,¹¹⁹ and it is through our intentional activity that we are individuated and formed as subjects within the *polis*. As Aristotle notes:

¹¹² Ibid., p. 60.

¹¹³ Ibid.

¹¹⁴ Dierksmeier and Pirson, p. 424.

¹¹⁵ Aristotle, Sinclair and Saunders, p. 59.

¹¹⁶ Dierksmeier and Pirson, p. 420.

¹¹⁷ Ibid.

¹¹⁸ Ibid.

¹¹⁹ Aristotle et al., *The Nicomachean Ethics*, trans. J.A.K. Thomson, London, Penguin Books, 2004, p. 24.

‘we exist through activity ... and the maker of the work exists ... through his activity. Therefore the maker loves his work because he loves existence ... for the work reveals in actuality what [is] only potentiality.’¹²⁰

There is a dialectical relationship between the worker and his product, whereby the worker forms his product, and his product, in turn, forms him. As an elaboration of the self and society, economic behaviour is formative; we are formed by the kind of work that we do and the way that we do it.¹²¹ Economic activity thus ‘produces people as well as material products.’¹²² Accordingly, a good craftsman will work ‘with the mean in view.’¹²³ That is, he will seek to perform his function ‘well and rightly,’ in accordance with a ‘rational principle.’¹²⁴ This rational principle, virtue, is defined as ‘the rational pursuit of a mean between harmful extremes.’¹²⁵

Unlike in Smith, where the farmer is only the farmer, in Xenophon, the farmer is a multi-dimensional figure. The farmer is not just a farmer, not just a manager of an estate, but a citizen and a soldier. It is through his work that he takes on the attributes and abilities that are required to lead a full civic life. Agriculture is the means through which the *oikonomikos* not only increases his estate, but also trains his body ‘to do everything that a free man ought to be able to do.’¹²⁶ Xenophon holds agriculture in the highest esteem because it trains people in co-operation,¹²⁷ physically exercises them, and develops in them the principles of self-management and self-discipline that are required to participate in democratic life.¹²⁸ In doing so, agriculture is seen to cultivate more than just crops. It creates ‘ideal citizens, who are extremely loyal towards the community.’¹²⁹ Contrary to this is a resistance in both Xenophon and Aristotle to work that is considered de-formative. This is found in their disdain towards the mechanical arts, which Xenophon argues ‘ruins’ bodies and ‘diseases’ souls.¹³⁰ Such mechanical arts are understood as the manual crafts in which individuals ‘are forced to be sedentary and spend their time out of the sunlight.’¹³¹ This work is considered unsociable and de-

¹²⁰ Ibid., pp. 241-242.

¹²¹ Wilson and Dixon, p. 24.

¹²² Ibid., p. 16.

¹²³ Aristotle et al., p. 41.

¹²⁴ Ibid., p. 16.

¹²⁵ Dierksmeier and Pirson, p. 421.

¹²⁶ Xenophon and Waterfield, p. 305.

¹²⁷ Ibid.

¹²⁸ Ibid., p. 277.

¹²⁹ Ibid., p. 309.

¹³⁰ Strauss, p. 17.

¹³¹ Xenophon and Waterfield, p. 301.

formative because it gives people ‘no time to bother with their friends or country,’¹³² thereby rendering individuals ‘unsuitable for political life.’¹³³ As Wilson and Dixon note, the ultimate responsibility of the *oikonomikos* is ‘to take his place as Aristotle’s political animal,’¹³⁴ and this relies on a holistic approach to work that imbues members of the *polis* with the capacity to participate fully in social and democratic life. In this regard, Athenian life needs to be understood as a life lived *aesthetically*.¹³⁵ That is to say, it is a life full of meaning whereby the *oikonomikos* ‘sees himself as engendered by and ... partaking ... [in] a larger form of life.’¹³⁶

The good life is not measured by the quantity of material goods one can produce, but by the quality of a life lived fully and aesthetically. Living ‘well’ is not equated with hedonistic pleasure, decadence, or a life of leisure, but is achieved through self-discipline, self-management, and, ultimately, self-creation. Such an aesthetic approach to work is clearly lacking in Smith, whose ideal conception of work is not in its meaningful and transformative qualities, but in its sheer volume of output. The division of labour is thus contrary to the purposes of work as an act of self-creation. If work is formative of the individual, and work itself is fragmented, then the individual labourer is also fragmented. If we are not undertaking work in its fullest, most holistic sense—if we are dividing it into extremes, into simple and quite literally de-meaning parts—then we are not, according to Aristotle, being fully formed as individuals.

This chrematistic tendency towards de-formation was not lost on Marx, whose works provide a humanistic antidote to the political economy of Adam Smith. This is particularly evident in his *Economic and Philosophic Manuscripts of 1844*, where he provides what can be read as a doctrine of neo-*oikonomia*. In the manuscripts, Marx eschews the Hobbesian and Lockean state of nature that Smith’s political economy takes for granted,¹³⁷ while recognizing the vital role that work plays in the self-formation of individuals.

For Marx, the problem with the mechanization of labour is not only that it physically replaces the worker, but that it also implies a prior reduction of the worker to the status

¹³² Ibid.

¹³³ Wilson and Dixon, p. 16.

¹³⁴ Ibid., p. 15.

¹³⁵ Ibid., p. 24.

¹³⁶ Ibid., pp. 15-16.

¹³⁷ ‘Do not let us go back to a fictitious primordial condition as the political economist does ... Such a primordial condition explains nothing.’ K. Marx and M. Milligan, *Economic and Philosophic Manuscripts of 1844*, New York, Dover Publications, 2007, p. 68.

of machine.¹³⁸ Importantly, this reduction of worker to machine must *precede* and *facilitate* their absolute replacement. It thus requires a movement in which the worker is twice removed—alienated—from their work; first—and most devastatingly—this entails the social and emotional detachment from one’s work, and it is this alienation that then enables the actual, physical removal of the worker from the process altogether. As Marx argues, this alienation of labour begins with the *externalization* of labour, whereby the worker ‘does not affirm himself but denies himself ... does not develop freely his physical and mental energy but mortifies his body and ruins his mind.’¹³⁹ This echoes Xenophon’s mistrust of the mechanical and manual crafts, which are said to ‘ruin’ bodies and ‘disease’ souls. Though Xenophon was not writing in the age of industrialization as Marx was, what this shared suspicion of ‘mechanical’ labour indicates is a deeper, more fundamental sense of alienation that underlies the mechanization of labour in its more literal sense. The mechanization of labour cannot simply be regarded as the inevitable outcome of technological advancement; it occurred prior to the invention of pistons, steam engines and algorithms capable of replicating ‘human’ movements. Rather, it speaks to a more fundamental way of thinking, being-in and doing the world. The point to be made is that these movements are no longer ‘human’, since they are not whole movements that are undertaken to achieve the properly human ends of self-creation.¹⁴⁰ What this reflects is a shared concern about the reduction of wholes to parts, along with the atomization of the self that occurs when we undertake work that is no longer meaningful or self-creative. Meaningless work is therefore identified by the pursuit of exchange values as ends in themselves, and from this we can see that the implicit *oikonomia* of Marx’s earlier, humanistic thought carries through to his ‘post-humanistic’ works. For instance, the very foundations of *Capital* are indebted to Aristotle, whose concepts of use and exchange value are adopted by Marx in the opening pages. For Marx, as with Aristotle, it is use-value that ‘constitute[s] the substance of all wealth.’¹⁴¹ From this, Marx offers descriptions of the two basic forms of exchange circuit, in which he essentially identifies the difference between *oikonomia* and chrematistics:

‘The circuit C—M—C starts with one commodity, and finishes with another, which falls out of circulation and into consumption ... use-value, is its end and aim

¹³⁸ ‘[Labour] produces beauty—but for the worker, deformity. [Political economy] replaces labour by machines—but some of the workers it throws back to a barbarous type of labour, and the other workers it turns into machines,’ *ibid.*, p. 71.

¹³⁹ *Ibid.*, p. 72.

¹⁴⁰ Which is partially explained by the Athenian emphasis on a life lived *aesthetically*.

¹⁴¹ K. Marx et al., *Capital*, Hertfordshire, Wordsworth Editions, 2013, p. 18.

... M—C—M, on the contrary, commences with money and ends in money, its leading motive, and the goal that attracts it, is therefore mere exchange value.¹⁴²

Given that, for Marx, use-value tends to constitute all that is wealth, wealth can be said to consist of the harmonization and maximization of use-value. This is in accordance with Aristotle, Xenophon and the concept of *oikonomia*, where use-value is that which contributes to a household's wealth.¹⁴³ Conversely, the over-abundance of goods and exchange values lead to the cluttering, disorganization and decay of the household.¹⁴⁴ Unsurprisingly, the socialism that we derive from Marx finds a precedent in Aristotle, whereby the household, or *polis*, is seen to exist *prior* to its parts and to have ends beyond these parts.¹⁴⁵ That is, there are ends for society that go beyond the accumulation of exchange-values, with these ends characterized instead by the maximization of use-value *vis a vis* the flourishing of society through the pursuit of purposeful activity.

Therefore, a distinction needs to be drawn between market economies and market societies. In market societies, the whole ends of society are geared towards chrematistics; as Treanor notes, in neoliberal societies humans exist for the market and not the other way around.¹⁴⁶ A market economy, on the other hand, is understood to be subordinate to society. In this case, the market exists to serve society through the efficient distribution of goods, but only to the extent that this does not come into conflict with societal ends. This is true *oikonomia*. The ends, then, of economics should be ensuring the overall good of the *polis*, which provides the conditions for citizens to maximize their creative potential through the pursuit of meaningful activities. Accordingly, the 'wealth of nations' is not the aggregate sum of property achieved through the division of labour, but the cultivation of citizens who are fully formed and involved in civic life, who are able to define themselves and their environment through purposeful activity. When labor is divided in the extreme, when human activity is atomized, reduced, and ultimately outsourced to machines, such a flourishing of human society cannot be achieved.

¹⁴²Ibid., p. 101.

¹⁴³ Extended to the wealth of the *polis* as a household of households.

¹⁴⁴ Even if, contra Locke, this takes on an imperishable, monetary form.

¹⁴⁵ This is in stark contrast to the classic liberal notion that society is merely the sum of individuals.

¹⁴⁶ P. Treanor, 'Neoliberalism: Origins, Theory, Definition', <http://web.inter.nl.net/users/Paul.Treanor/neoliberalism.html>, (accessed 26May 2016).

CONCLUSION: MECHANISATION OF LABOUR

We may say, then, that technologies aimed at replacing human labour are purposeless, since they subvert the aspect of work that is formative of the individual. In outsourcing human activity to technologies, we also outsource an important aspect of self-creation. Though the mechanization of labour, which begins with the division of labour, may fulfill a crude *quantity* of need, it strips us of the *qualitative* need of self-creation. Some may argue enthusiastically that the mechanization of physical labour will facilitate the dawn of an epoch of leisurely contemplation. However, along with the division of physical labour, Smith also advocates the division of intellectual labour. He notes that:

‘Like every other employment ... [philosophy] is subdivided into a great number of different branches, each of which affords occupation to a peculiar tribe or class of philosophers ... this subdivision of employment in philosophy ... improves dexterity, and saves time. Each individual becomes more expert in his own peculiar branch, more work is done upon the whole, and the quantity of science is considerably increased by it.’¹⁴⁷

It is clear that such an approach to knowledge has no place for true wisdom. Fittingly, in Smith we get a return to Bacon. We can only assume that this division of intellectual labour, along with a reduction of what constitutes ‘knowledge’, must provide a great deal of excitement for those who would like to see human activity outsourced to machines altogether. A world in which algorithmic chains of knowledge, embedded in code, can be compiled, sifted and refined autonomously without erroneous human intervention. But to what ends? What is the point? If the ends of capitalist society is the advancement and increase of capital, and *homo economicus* is just a crude information-processing machine geared towards this outcome, then human beings must be considered indifferent and secondary to the process of accumulation; as the means and not the ends. On this thinking, it is conceivable that all human activity will eventually be outsourced to new technologies that are capable of achieving the ends of capital more efficiently.

The question of whether technology will render humans obsolete comes down to the degree to which we accept human beings as machines already. If we accept humans as machines, then work has already been mechanized *en masse* since the time of Adam Smith at least. In this case, the outsourcing to more advanced technologies should neither be a surprise to us, nor a concern. If, however, we accept that human beings are something more than machines, that we do have ends in life beyond realizing the accumulation of exchange values, then we ought to be gravely concerned. We ought to

¹⁴⁷ Smith and Spencer, p. 15.

be concerned not about what has happened to human labour, but of what has happened to meaningful work. Are humans obsolete? Only if we stop acting out, in the fullest sense possible, what it means to be human.

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