

# **HACKING THE ECONOMY AND THE STATE: TOWARDS AN EGALITARIAN AND PARTICIPATORY CONCEPTION OF PRODUCTION AND ALLOCATION**

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## **Abstract**

This research starts with hackers' communities, focusing on open processes as the key to volunteer driven cooperation. While theoretically hackers' communities allow contributions "from each according to their ability", I argue the inequalities continuously reproduced by capitalism hinder developments towards such production by placing socially created limits on allocation, understood as "to everyone according to their needs". My thesis is the following: workers' struggles and political organizations have made decisive contributions to the construction of another form of wealth creation. We can see examples of this in socialist states and in the public sector in capitalist states, where production and allocated occurs primarily to meet needs. I call this the egalitarian mode of production. Two modes, two standpoints – the capitalist and the egalitarian one – struggle to expand against each other: while the public sector introduces products to meet needs directly, capital strives to privatize everything it can – using commodities and markets. For capital, commodities are necessary for the realization of surplus value. For workers, it is provision according to needs, the outcomes, and the growth of equality, where wealth is realized. Aiming towards the full development of human capacities of all, from this developmental-egalitarian perspective, I propose to broaden the category of those who work to include: future workers (children, youth, students), former workers (pensioners, the elderly), the informal (household labourers, care workers), formal unwaged workers (interns, volunteers) and those deprived of an opportunity to work (the disabled, unemployed, and undocumented migrants). Building on the work of Michael Lebowitz and engaging with national accounting, instead of a narrow focus on commodities allocated via markets and according to an individual's ability to pay, my field of study includes a wide variety of products that workers consume.

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## Introduction

The initial aim of this research project was to investigate the history of hacking and free software. A hack repurposes an object. It changes its function, often in unexpected and counterintuitive ways. Putting concrete labour processes and communities that I was familiar with – through ten years of work as a software and network engineer and through use of technology in activist groups – in a broader context of egalitarian principles and practices, and human development, was the first step. Reading histories of hacker communities and their major ideological turns provided an opportunity to improve the understanding of hacking both as a method in a social setting and of the impossibility of political and economic standpoints existing without ethics and ideology. This was important as it was precisely claims of ideological neutrality that enabled the foundation of open source and the immense speeding up of the importing of the capitalist mode of production into the production of software. The theoretical framework of this research is Marxist. It takes the antagonism between labour and capital as a given, crucial aspect of social relations. When the open source founders facilitated enormous investments in free software and other hackers' projects, their main task was to make free software and hackers look politically benign and manager friendly. To start with, they had to understand what prevented businesses from seeing free software and hackers as investment-friendly. Although for decades their activity had not been integrated into the capitalist mode of production, it does not mean that by default their methods are desirable or usable from an egalitarian standpoint. The concept that is potentially most useful is that hackers cooperate through open processes. If software and network communities can be productive in volunteer and self-managed cooperation through the extreme levels of openness within their labour processes, it raises the question of why that cannot be applied more widely. In the last step of the initial plan for the thesis, its findings were to be used to propose new forms of production, consumption and political institutions, based on open processes and hacking as methods. Two major challenges became clear in the course of the research. First, any possible restructuring of political institutions is highly dependent on the social relations continuously reproduced in the productive sphere. Second, it is impossible to speak of new forms of production without being able to specify qualitatively and quantitatively what is being produced, what the relation between the outputs (software, networks) is, and why it is a distinct form of production. This meant that I needed to develop a conceptual understanding of

what wealth would mean from the perspective of both hackers and egalitarian production, as well as how the two are related. The task became too large and had to be scaled down in scope. Early into the second stage of the research, it transpired that what was taken as implicit – the egalitarian character of the new forms of production and consumption – had to be made explicit. Reading economics and classical political economy with that in mind, it soon also became clear that what I was looking for would not be found within those disciplines alone. Furthermore, constructed as a critique of economics of those times (political economy), Marx's work and subsequent Marxists' critiques, did not offer a straightforward solution either, leaving theorists in socialist states without much guidance and with an understandable contempt for economics (Csikós-Nagy & Boros-Kazai, 1984). A solution came about through reading of Michael Lebowitz's work. The research question was reformulated through a number of steps and couple of major shifts of the perspective.

Initially, Lebowitz's close reading of Marx's critique of political economy showed how Marx's key work, *Capital*, an analysis firmly focused on the capitalist mode of production, contains very little from the perspective of the activities of workers. There are only a few references in the three volumes of *Capital* on what the workers want, what they strive for, what they struggle for and why. This is where my first shift in perspective occurred: following Lebowitz I began to understand the importance of this missing perspective of workers. The logic of this move followed from the end goal of our initial research plan to propose new, at this point defined as explicitly egalitarian, forms of production and consumption. This did not mean rejecting the categories that Marx developed in *Capital*. Quite the contrary, Marx's categories and his central methodological commitments – the emphasis on the whole, how elements of society are defined in relation to others and the whole, with concrete totality being the driver of the changes in the analysis – were taken as starting points. Following Marx's insight that social relations most crucially depend on the sphere of production, rethinking political institutions from the central research question was relegated to a secondary issue. However, the change of perspective from capital to workers had an important consequence: the vast majority of Marxist economics and works of a similar egalitarian spirit suddenly appeared less useful than they had been at the start of our research. Largely following Marx's footsteps, such works inherited the perspective of capital for developing critical understandings of capitalism. The exceptions to an extent seem to be the works of theorists in some socialist states, but surveying those debates in detail was outside of the scope of this thesis – that work will have to be done at a later stage. Considering the goals of this thesis,

critiques of capitalism and its mode of production – though necessary as long as the capitalist mode of production is not only dominant, but also widespread – are on their own not enough to understand egalitarian forms of production and consumption.

To be able to conceptualize categories, their relations and concrete application, we need to know the aims of productive activities. Thanks to Marx, we know that capital strives for self-expansion through profit, and that it operates with value measured in purely monetary terms. To figure out what egalitarian forms of production and distribution should strive for, I turned to the reading of histories of worker struggles, both their proclaimed goals, actual practices and the internal logic that drove those practices. This is where the second shift in perspective occurred. From friendly societies to workers' political parties and socialist states, workers struggled over time to pool resources and allocate according to needs. The creation of the UK's National Health Service is a shining example of such a principle elevated to the level of the entire society, modelled on the Tredegar Medical Aid Society of Welsh miners.

This brings us to the most important thesis to put forward: when resources are pooled and allocated according to needs on the level of large communities, we can speak of an egalitarian mode of production. We find this egalitarian mode of production occupying significantly large parts of the overall production in the advanced economies in the form of public services (health, education, care, housing, pensions and transport to an extent), and in the socialist states. Furthermore, the production of free software, also an egalitarian form of production, has been playing an increasingly important role as the volume and use of software grows. In all of these cases, the two modes of production co-exist. Contrary to the egalitarian mode, in the capitalist mode of production, the more the distribution of outputs occurs via commodities and markets, the better. Unlike production and allocation designed and planned to meet needs directly, capitalist production and distribution leaves the satisfaction of needs to proxies: commodities, markets and individual wealth. While in the egalitarian mode of production deliberation and planning are required to allocate outputs according to pre-conceived notions of needs, in the capitalist mode it is growth of capitalist markets, commodities and private wealth that are the targets of planning and deliberation.

Several important changes resulted out of this shift in perspective. First, again inspired by Michael Lebowitz's work, especially his *The Socialist Alternative*, the goals were formulated, defining the aim of productive activities as the full development of human capacities of all. In addition, "from each according to their ability, to each according to their needs", an old socialist

motto, later adopted by communists, captured the aim of workers' struggles so well that I have placed it as the immediate aim and principle of the research. The three forms of what I have named the *developmental-egalitarian aims and principles*: 0. full development of human capacities of all; 1. to each according to their needs; 2. from each according to their ability. Secondly, our understanding of class has changed according to those aims and the above-mentioned histories of workers' struggles. The category of workers is expanded beyond wage labour to include all those who contribute to the developmental-egalitarian aims and principles: the future workforce (babies, children, youth, students), the former workforce (pensioners, elderly), the informal workforce (household labour, care), the formal unwaged workforce (interns, volunteers) and those deprived of an opportunity to work (disabled, unemployed, undocumented migrants). Third, once the above points were defined – the aims of productive activities; the perspective and its subject — a whole set of derived research questions came in focus. The key ones are as follows: from our shifted perspective, which problems do we see with economics? How do we conceptualize value and wealth? What kind of egalitarian categories and measurements can be introduced to capture the results of the egalitarian mode of production? What are the sources of value and wealth and which activities should be considered productive?

At this point, the concept of open processes, formulated in the chapters reading the history of hacker communities, gains more prominence. In the capitalist mode of production, the final results of the production take the form of commodities: productive entities compete, many of their specificities are closed, secretive, and seen as sources of competitive advantage. In the egalitarian mode of production, outputs get allocated according to needs: productive entities do not compete, and it is in the interest of producers to cooperate as directly as possible. Hence, abolishing commercial secrecy, as Vladimir Ilyich Lenin wrote in 1917,<sup>1</sup> was only a logical suggestion in the light of planning, allocation and cooperation that were the hallmarks of the socialist states. Even more so, the opening of the accounting books for the workers to have the insight into how firms operate, as Ernest Mandel and Branko Horvat argued in the 1970s, was essential both for workers' participation in management and for the development of their capabilities. In other words, the openness of the labour processes, the documents and the data accompanying them is a logical and important step for production and allocation in the egalitarian mode of production, both for coordinated cooperative production, and for the development of

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<sup>1</sup> See 'Abolition of Commercial Secrecy' (Lenin, 1964).

human capabilities through practice. In the capitalist mode of production – as can be seen from numerous open source inspired examples like open government, open data, open access – striving for openness is reserved only for selected political processes, while at the level of production and distribution, processes and distributed outputs remain closed, privately owned, with the overall aim being the increase of private wealth. We counter-pose to this use of openness the concept of open processes. The name ‘open processes’ can be counter-intuitive. Given that I am critical of open source pro-capitalist movements, and of the proliferation of open source inspired concepts of openness, and given that I am using core aspects of free software and hackers’ communities as positive elements to enrich egalitarian theories, why not name the concept with something starting with the word ‘free’, to signify its origins in free software?

The reasons for using the term *open processes* to signify the extreme openness of hackers’ labour processes, instead of using the word “free” in some form, are to be found in the core concerns of this thesis, which are to provide arguments for an egalitarian and participatory conception of production and allocation. Throughout historical struggles for egalitarian production – for direct allocation according to needs that would bypass markets and outputs/products taking the commodity form – many attempts have been made to implement the first part of the socialist motto, ‘to each according to their needs’. We see this both in socialist states and in large sections of public sector production in advanced capitalist states. Not surprisingly, explicit calls for certain forms of openness of information in production were not very common in egalitarian projects and theories, since economic planning, a hallmark of socialist projects, already implies a high level of openness and coordination. We do know of a number of instances where the importance of openness was emphasised: Lenin spoke about abolishing commercial secrecy in the Soviet Union, and it was put in practice in the 1919-1924 period (Hutchings, 1988, pp. 61–63); the Cybersyn project in the socialist Chile was designed to enable direct coordination of production (Medina, 2011), while in Ernest Mandel’s work we can note how the opening of the accounting books is highlighted as a key issue for workers. In all of these cases, it was the information about production, derived through open accounts and open data, as we might call them, that was seen as important. However, apart from a limited experience of Yugoslavian self-management, there was very little throughout the history of egalitarian production that placed emphasis on the openness of labour processes. Yet, the openness of the labour processes is an essential, although not the only, condition without which the second part of the socialist motto, from everyone according to their abilities, cannot be implemented: as

Lebowitz notes, often forgotten in socialist states and egalitarian movements, this latter element has proven to be a lot harder to achieve (2010b, pp. 78–81). To a large extent, whether egalitarian production becomes developmental-egalitarian, whether it implements features that enable progress towards the full development of human capacities of all, with the emphasis on the development of workers' capacities to choose their participation in production – a free association of producers as Marx called it<sup>2</sup> – depends, crucially, on the openness of labour processes. Hence, the importance of naming the extreme openness of hacker production to the participation of anyone with enough skills and wealth with the term *open process*. Given the lack of focus on open processes throughout the history of egalitarian production, hackers' practices play an especially important role in the development of this egalitarian and participatory understanding of production and allocation.

I will now briefly outline the structure of the thesis. In parts I and II, I discuss examples of egalitarian production. Both free software and many public sector outputs are allocated to meet needs directly, without markets and commodities as proxies, thus without private wealth accumulating in the process of their production. In the first part, I provide a reading of the history of hackers' communities, focusing on the construction of the open source movement. There it is shown that even within hacker communities, hacking is not confined to technical objects alone. I argue that an ideological re-casting took place in the name of facilitating the spreading of the capitalist mode of production. Instead of a mandatory following of the set of ethical demands for sharing imposed by free software licences, open source licenses allowed sharing to become optional – I call this capitalist ethical cleansing. Thus in the first part of the thesis I hope to demonstrate that acts of hacking are not confined to software, rather that we are dealing with a generic procedure that shows the extent of its power when it is applied at the level of entire large-scale communities, their histories and social relations. One of the main findings of that research – it is open labour processes, and not just openness of the final products, that are key to hacker communities – is developed into a case study, discussing how opening of the labour processes may benefit academic publishing. Before the second part of the thesis readers will find an intermezzo that discusses the importance of the study of hackers and free software for the second part of the thesis.

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<sup>2</sup> See Hudis (2013) for a very useful treatment of free association in Marx's work.



The second part starts with the third chapter, *Problems with economics*, where I focussed on aspects of economics that reveal its class standpoint, its political biases and goals. I argue that, against the claims and goals of many key founders of economics, especially its neoclassical school which took over economics as a whole and became its mainstream, the extensive use of mathematics and attempts to mimic physics does not make economics an objective science. To demonstrate the political commitments of economists, I have used extensively the concept of *hacking as a method*. I argue that economists assisted reshaping the future of entire societies by *hacking* political economy and creating a new set of beliefs under the cloak of science. Many of them did so in order to antagonise their egalitarian enemies, Karl Marx and his political and theoretical followers, and for the benefit of increasing the domination of the capitalist mode of production over other forms of production. Therefore, I conclude that since economics appears to be a theoretical discipline for justifying and developing the capitalist mode of production, work on constructing an egalitarian analytical framework cannot start from economics.

In chapters four and five, I develop a basic framework of concepts and relations for understanding productive activities. Michael Lebowitz's reading of Marx's work provides us with the foundation for an understanding of the capitalist mode of production from my egalitarian and human-development-of-all perspective. Although Lebowitz's close reading sticks to Marx's methods and analytical framework, he shows extensively how in *Capital* Marx focused on the analysis from the standpoint of capital.<sup>3</sup> In the struggle between labour and capital, there is very little in *Capital* that looks at what workers want, what they aspire to, what they struggle for. However, not only does Lebowitz's extensive reading of Marx's work as a whole provide a platform packed with egalitarian ideas useful for the development of our concepts, Marx's circuits of reproduction are found to be the best available method for understanding economic activities.

In chapter five, I develop Marx's circuits of reproduction by assessing social reproduction from the egalitarian perspective of workers and their development. I do so not only from the standpoint of workers as labour power in the circuit of capital, as an element in the capitalist

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<sup>3</sup> The question of standpoint was one of the central methodological concerns of Marx: "From the standpoint he adopts, that of juridical illusion, he does not regard the law as a product of the material relations of production, but rather the reverse: he sees the relations of production as products of the law." (1990, p. 766) Discussing how economists naturalize the capitalist mode of production, how they make work in capitalism appear as an eternal feature that is not socially determined, nor historically specific, Marx commented: "We shall see below that these illusions only last as long as the classical economists look at the process of capitalist production exclusively from the standpoint of the labour process [...] Hence the universal features of the labour process are independent of every specific social development." (ibid., p. 998)

mode of production, but as workers *for* themselves, starting from *their own* aims. Added to Marx's circuits is the state, with its main functions, and workers' needs, those necessary for their development. My arguments centre on the thesis that once we shift our perspective, we can read the history and the present not only as the struggle between classes, but also as the struggle of two modes of production. The egalitarian mode of production, as I call it, is a form of production whose goal is meeting needs directly and enabling the development of the full human capabilities of all. This is opposed to the capitalist mode of production, whose goal is making profits, and meeting needs relegated to a by-product, achieved through commodities, markets and private wealth as proxies. Both the capitalist and the egalitarian modes of production are highly socialized, they rely on the division and specialization of labour, and on commensurability of outputs enabled by money and currencies. The form of egalitarian production I focus on in the second part of the thesis is public services and their allocation "to each according to their needs". This egalitarian allocation, I argue, has its roots in workers' movements and organizations: burial societies, friendly and mutual aid societies and later, political parties. They developed over centuries as ways of meeting needs out of collectively paid for funds and services.<sup>4</sup> It is here that the *developmental-egalitarian aims and principles* that are central to my assessment of productive activities and theoretical categories in the rest of the thesis are formulated.

In the last two chapters I look at the existing national accounts data from the developmental-egalitarian perspective, with the goal of providing starting points for developing macroeconomic-like categories and measures of the egalitarian mode of production. An example of this is a study of the history of worker-centric categories (health, education, housing, welfare, pensions) of public investment in the UK as a percentage of total public expenditure. There we observe the following: that the portion of worker-centric spending has grown steadily throughout the last two hundred years, recently standing at 28% of UK GDP. A similar situation is found in the 15 EU countries, where using the Eurostat data we can observe that 35% of the countries' GDP is spent on worker-centric categories. To demonstrate another key aspect of the egalitarian mode of production, I look at the last forty years of public housing in the UK. Accounting for 23% of the monthly gross adjusted household disposable income in 2012, housing is the largest single

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<sup>4</sup> As was already mentioned, the creation of the UK's National Health Service was inspired by and to a significant extent based on the Tredegar Medical Aid Society, founded by Welsh miners. This, I argue, was one of the most prominent examples of where two histories, two generations of workers organization, friendly societies and political parties, met.

expense among for households in the UK. In the early 1970s, nearly one in three of all dwellings in the UK were rented from local authorities. Since then, a huge shift of the housing stock from local authorities to housing cooperatives and private owners resulted in the overall cost renting accommodation drastically rising. While public housing still constitutes a significant portion of rented dwellings, the average cost of a single unit has drastically risen due to a large section of publicly allocated housing funds paying the rents of privately owned dwellings. As commodities and the profit seeking logic entered the chain of public provision according to needs, the capitalist mode of production inserted itself as an element within public provision. A massive reduction in publicly owned housing stock was the key prerequisite for this swing towards the capitalist mode of production. In 2009, this amounted to doubling the cost of rented dwellings in England on average, edging towards tripling the cost in London.

I conclude the thesis with a consideration of economics categories of value, wealth productive labour and national accounting from the developmental-egalitarian perspective. Household labour, without doubt productive from the perspective of workers, proved to be the most difficult type of labour to bring under a single macroeconomic-like framework – at this stage, I only provide a brief overview of some of the feminist and Marxist debates. Finally, I review some of the earliest discussions on national accounts. The work of Simon Kuznets, the father of modern national income and product accounts, provides many helpful insights. The most important one being that national accounts, the accounting of flows of final goods and services on the level of a single nation, cannot be meaningfully understood without the explicit definition of the purpose of economic activity. While this thesis develops arguments towards a definition of economic activity by focusing on meetings needs directly and on enabling development of full human capacities of all, economics has been trying to get away from any explicit definitions, with markets, prices and profits serving as proxies standing in for this missing definition since its earliest political economy days.

## **PART I – HACKING & OPEN PROCESS**

# 1. Towards open processes: what's hacking got to do with it?

## 1.1 Introduction

In the following two chapters I look at the history of hacker communities, reading them with the intention of grasping what is it in their practices and underlying principles that might be relevant for the egalitarian mode of production and developmental-egalitarian aims and principles. It will also help sharpen our understanding of hacking as a social practice and of the link between ethics and ideology.

The meaning of hacking changed since the term was coined around the years 1958 to 1959 at the Massachusetts Institute of Technology (MIT). Hacking culture, hacker principles, hacker ethic, meant different things at different times to different social groups. The three most important incarnations of the hacking spirit I am concerned with here are: free software (FS, since the mid 1980s), open source (OS, 1998) and Internet Engineering Task Force (IETF, mid 1980s, in existence informally since 1969). In the following chapters I will draw out some of the key moments in the development of these often overlapping communities, demonstrating their ideological distinctiveness and its importance for the overall research aims. I will demonstrate how open source limits reuse and adoption of some aspects of hacker ethics and culture and of new forms of cooperation in spheres other than the capitalist economy, removing and suppressing egalitarian aspects of the process. More importantly, I will argue that a new concept, open process, has the potential to remove those limits and open up the possibilities for the reuse and further development of hacker ethics in ways antagonistic to capital and productive for developing the egalitarian mode of production. Since production cannot be conceptualized without the concept of wealth, nor perhaps without the concept of value, I will discuss what wealth and value might mean for hackers: how hackers measure their outputs and how this might impact our concepts of wealth and value from the egalitarian standpoint. It is important to note that this is not an attempt to discover a true, historically correct, hacker ethic or spirit. Rather, it is an attempt to observe the ideological commitments of hackers' as they changed in the last fifty years in various guises, to point out their contradictions, and to draw out those elements, perhaps

pushed aside or not well understood, that could be useful for engineering a new egalitarian, post-capitalist society.<sup>5</sup>

### 1.1.1 The hacker ethic

The earliest known appearance of the term ‘hacker’ was in 1958 at the Tech Model Railroad Club, at the MIT. The earliest trait of hackers was high productivity: “The most productive people working on Signals and Power called themselves hackers.” (Levy, 1984, p. 23) Another early trait was extreme meritocracy, a fourteen year old kid, a child of one of MIT researchers, was accepted as part of the group, thanks to a demonstrated ability to rapidly develop formidable computer programming skills: “Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position” (ibid., p. 30, 43). Devotion to learning and working on computers amongst hackers was “rarely seen outside monasteries” (ibid., p. 38). A prerequisite was access to both information and computers. In hackers’ own words: “Access to computers – and anything which might teach you something about the way the world works – should be unlimited and total. Always yield to the Hands-On Imperative!” (ibid., p. 40) Disrespect for private property that stands in the way of learning and hacking derives from this principle. Famously, when there were physical barriers to access, hackers resorted to analysing locks during night time incursions into offices. They would climb through ceiling structures, create blank and master keys, and gain access to whatever they needed: they “did not bother with such ridiculous concepts such as property rights”, and they did not steal nor injure anyone in the process (ibid., pp. 102-7). Mischief was prevented through social pressures that enforced an ethic of improvement and not damage (ibid., p. 63). This spirit is still present at hacker gatherings, amongst other things in the form of *The Open Organization of Lockpickers* who can be regularly found at such events (TOOOL, 2010).

Levy first formulated the main points of hackers ethics<sup>6</sup> as: a) access to computers (and anything which might teach you something about the way the world works) should be unlimited and a total, hands-on approach is imperative; b) all information should be free; c) mistrust authority and promote decentralization; d) hackers should be judged by their hacking, not bogus

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<sup>5</sup> For a different approach which theorizes hackers as a “liberal critique within liberalism”, see Gabriella Coleman’s work which is packed with useful insights that come from well over a decade of ethnographic work amongst hacker communities (Coleman, 2004, 2012).

<sup>6</sup> For a comparison of hacker ethics with the Protestant ethic and a critique of the superficial and incorrect use of Weber’s notion of Protestant ethics to draw comparisons, see my BA dissertation on Free Software (Prug, 2007).

criteria such as degrees, age, race or position; e) you can create art and beauty on a computer; f) computers can change your life for the better (1984). In the 1980s, two more principles were added by probably the most important hacker club in the world: g) Don't litter other people's data; h) Make public data available, protect private data (Chaos Computer Club, 2002).

The history of hacking is packed with contradictions. With all its disrespect for private property standing in its way, with its radical direct democracy at workplace, decentralization and radical meritocracy, the hacking that was developed at MIT's Artificial Intelligence Lab in 1960s and 1970s had its entire funding come from the Department of Defence budget. During the anti-Vietnam war protests in 1969, protesters once targeted the AI lab because of its military funding, resulting in hackers having to resort to protect themselves: "While they had created a lock-less, democratic system within the lab, the hackers were so alienated from the outside world that they had to use those same hated locks, barricades, and bureaucrat-compiled lists to control access to this idealistic environment." (Levy, 2010b, pp. 125–8) Hacking spread to several other computer labs as MIT staff moved along, most notably to Stanford AI Lab, founded by John McCarthy (inventor of Lisp programming language) in 1962, but the spirit of it was different, less utopian (ibid., pp. 133-9). Homebrew Computer Club was a short lived but famous informal Cupertino/California group of hobbyists and computer enthusiasts where the hacking ethic was both developed and subsequently challenged. It was here that the idea of personal computers developed, kits and schemes for building them were shared, and Steve Wozniak, the designer of the Apple, was actively part of this hacker community. True to the hacker ethic, Wozniak distributed everything about the Apple computer's hardware and software design to anyone interested in seeing it (ibid., p. 266). Not everyone shared this enthusiasm. In April 1976 Bill Gates famously attacked hobbyist sharing, stating that if his freshly written BASIC software was copied without paying for it, it equated to stealing, and reduced the amount of programmers Microsoft could employ. It was a general attack on the hacker ethic and initial reactions were with few exceptions negative (ibid., p. 233). Yet, within a year or two, although Homebrew meetings drew in hundreds, many hackers got involved in new technology companies and secrecy crept in (ibid., p. 276). Within five years, Apple was a billion dollar company (ibid., p. 278). While the early generation of hackers often found business to be the main corrupting element of the hacker ethic (ibid., p. 471), and this spirit is still present in the form of free software, many subsequent generations made a business model out of it (ibid., p. 474), preferring the open-source capitalist-centric way of thinking.

### 1.1.2 Free software

Richard Stallman, the founder of the free software movement, confesses to be an incredibly stubborn man. He was a graduate student at MIT, where he became part of the hacker community at the AI Lab in the mid-1970s. As software became more widely commodified, the hacker ethic was harder to maintain. Companies started denying hackers access to source code and documentation. In one instance, when he was denied access to the information he required to fix the printer, Richard Stallman decided he had enough. He decided to take on the entire corporate software world, on his own to start with. UNIX was the dominant operating system at the time, and the main platform on which hackers worked on. It was tightly controlled by corporations, there were no free versions. Stallman decided to change all of this in 1982, by deciding to write the *Gnu Is Not Unix* operating system (GNU), a free system fully compatible with Unix (2010b, p. 450). It was an unimaginable task, but Stallman achieved it with the wider help of hacker communities who participated in this cooperative effort. Stallman's message was clear: the hacker ethic would not only be defended from corporate attacks to commodify software, it would go on the offensive, creating what many corporations survived on, a Unix compatible operating system, for free. "All software should be free, and a prospect of charging money for it was a crime against humanity" (S. Williams, 2002, p. 85) – the message was clear. Apart from his immense contributions to software, Stallman's biggest invention (his greatest hack) of all was the creation of a General Public License (GPL) in 1989, which became the most frequently used license for free software. At the time, Stallman saw it as: "a form of intellectual jujitsu, using the legal system that software hoarders set up against them" (ibid., p. 127). GPL states that all improvements to already GPL licensed code must be released publicly, once software is distributed. In other words, companies using GPL software to create commodities – in Marx's sense, things produced to be exchanged by others (1990, p. 131) – for their businesses, must give back for free the improvements they add. Nothing stops them from selling software and services, but sharing is not a recommendation: it is a legal obligation enforced by the GPL license<sup>7</sup>. GPL is a *hack* because it uses law designed to create and protect private property out of (software) ideas for achieving the opposite effect, to legally mandate sharing. It turns the purpose of the copyright

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<sup>7</sup> There are dozens of licenses which the Free Software Foundation recognizes as Free Software, with many complex differences and nuances. See comparative table: [http://en.wikipedia.org/wiki/Comparison\\_of\\_free\\_software\\_licenses](http://en.wikipedia.org/wiki/Comparison_of_free_software_licenses) and FSF comments: <http://www.gnu.org/licenses/license-list.html>



legal mechanism against what it was designed for. This mechanism was named copyleft (Free Software Foundation, 2010). Berkeley Unix Distribution (BSD) was another freely available Unix implementation with its own license. Although developed by people often perceived to be close to MIT hacker communities, and with partial openness of the source code,<sup>8</sup> the BSD license did not mandate sharing of improvements. Instead, it created a fertile ground for companies to take the BSD licensed software and develop commodities with closed source code out of it. Although “by 1990 Free Software Foundation supplied almost all the other difficult parts of a Unix-like operating system” (E. S. Raymond, 2001a, p. 14), Stallman’s system, GNU, was until 1992 missing the key component, the kernel – the heart of the system that manages everything. This is what Linus Torvalds, creator of the Linux kernel, created with a vast cooperative network of hackers which sprung up in reaction to Linus releasing his source code frequently under GPL. Once the Linux kernel became usable, Stallman’s GNU project became truly alive. What is widely known today as the operating system Linux, is a GNU operating system plus the Linux kernel, it’s a GNU/Linux system (Stallman, 2000). The majority of the world’s computer servers run some version of Linux today.<sup>9</sup> The explosion of email and the World Wide Web has also been serviced to a large extent by free software. Thus Linux and free software became of interest to large computing businesses by both taking the market share from them (without having large businesses’ backing) and their unorthodox cooperation model coming from hacker ethic. A part of the hacker community saw free software ethical axioms and unconditional sharing enforced by GPL as an obstacle to large corporate investments. They created open source in 1998 to change this. This is where the clash of different concepts of freedom is visible. For free software hackers, freedom means software producers and users having the freedom to cooperate, form communities, share and help each other – copyleft achieves this by “requiring all modified and extended versions of the program to be free as well”. For BSD and open source followers, freedom means the permissiveness of BSD and similar licenses to take available source code and create out of it closed proprietary products. The uneasy presence of free software in a capitalist economy comes from freedoms being defined prior to commodification, prior to the inclusion of labour and products in commodity exchange. Open source changed this by utilizing the BSD

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<sup>8</sup> See comparative graph of openness of the source of Unix and GNU/Linux versions:  
[http://en.wikipedia.org/wiki/File:Unix\\_history-simple.svg](http://en.wikipedia.org/wiki/File:Unix_history-simple.svg) and Unix history chart:  
[http://en.wikipedia.org/wiki/File:Unix\\_history.svg](http://en.wikipedia.org/wiki/File:Unix_history.svg)

<sup>9</sup> For the share of Free Software, both software and servers, see <http://news.netcraft.com/>

approach, affirming freedom as being free to create new forms of private property created for the purpose of commodity exchange.

### 1.1.3 Open source

The open source movement was established to make all available software and networking contributions (free software, BSD, etc.) acceptable to capital:

“Our success after would depend on replacing the negative Free Software Foundation stereotypes with positive stereotypes of our own pragmatic tales, sweet to managers’ and investors’ ears, of higher reliability and lower cost and better features. [...] our job was to rebrand the product, and build its reputation into one the corporate world would hasten to buy.” (E. S. Raymond, 2001a, p. 176)

In the book collecting Raymond’s most important texts from the founding days of the open source movement, there is a foreword by the founder of Red Hat company (the first company to create a large successful business by utilizing free software) that, unsurprisingly, discussing freedom for business:

“Freedom is not an abstract concept in business. The success of any industry is almost directly related to the degree of freedom the suppliers and the customers of that industry enjoy. [...] Legally restricting access to knowledge of the infrastructure that our society increasingly relies on (via the proprietary binary-only software licenses our industry historically has used) results in less freedom and slower innovation.” (Young, 2001)

Supposedly championing free software supporters’ insistence that software improvements must be contributed freely back (against proprietary binary-only software) for the purpose of more freedom for business and faster innovation, Young’s foreword hides the real intentions behind open source. It was created precisely so that corporations could restrict access to knowledge of software and networking (infrastructure) through commodification, through enclosure of software without being forced (as they are under GPL) to reveal and share improvements.<sup>10</sup> In the early days of open source, its founders had to appropriate free software, which resulted in a

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<sup>10</sup> Young’s position is not surprising. Although his company was created on GPL Free Software (Red Hat is a version/distribution of GNU/Linux) and not on the permissive BSD (unlike SUN Computers), his growth depended on the growth of the entire sector GNU/Linux sector. Hence, it was strongly in his interest that Free Software was not seen as business unfriendly and that the entirely opposite message was created.

highly contradictory discourse, an attempt at the parallel embracement of freedoms difficult to reconcile (FS and capital).

Often seen as a radical change of direction which imposed itself on free software, open source is rather a continuation of the USA's strategy of largely state funded academic research benefiting private companies, whose task is to turn research outputs into successful businesses. Free software was also the product of academic state funded research, but its hacker ethic, axiomatic sharing and its treatment of software as a form of wealth available to everyone according to their needs, as opposed to the capitalist way of treating everything as a commodity, made early business involvement unlikely. The extent to which capitalists saw free software as a huge potential area to be exploited for new business was visible from the media reactions to the creation of open source. Within months of the first open source press conference, key individuals found themselves in large articles in high profile media such as the New York Times, the Wall Street Journal, and including the front page of Forbes (S. Williams, 2002, p. 164). By stripping free software of attributes that did not fit capitalism, primarily its ethical commitment to mandatory sharing of improvements, open source presented itself as a business friendly platform that would enable the integration of hackers' achievements into business practice. Here a path for the capitalist mode of production to assert itself over the egalitarian aspects of hacker communities was created. The most prized asset seem to be the inclusion of external volunteer creative labour, now widely theorized in management studies under the term 'open innovation' as an important general addition to both high tech and to mature and traditional industries (Chesbrough & Crowther, 2006). Free software did not fit, since it would legally bind corporations to disclose publicly all improvements to software, thus effectively blocking the possibilities of turning outputs into commodities.

Two of the biggest claims used to differentiate open source rest on Raymond's arguments. He claimed that while free software development was mostly a cathedral-building style, slower and centralized, Linux kernel development was like a bazaar, decentralized and faster. This claim of there being a new method was very weak (Johan Söderberg, 2002), and a close reading of Raymond's texts (presented below) is shown even by his own words to be incorrect. The second key claim was that among hacker communities there were many who were unhappy with the free software ethical stance. As events unfolded, this proved to be true. Many rallied behind Raymond's and Tim O'Reilly's calls for a new term and a capitalist-friendly ideology. Facebook is a good example of the recent generation of a pragmatic open source company. Its founder Mark

Zuckerberg takes everything he likes from hackers, without returning anything back: Facebook is infamous for refusing “to allow other sites to access the information that Facebook users contribute”, and for not releasing their source code. As Levy points out, not only does the Facebook owner recognize the value of hackers – “One good hacker can be as good as ten or twenty engineers, and we try to embrace that. We try to be the place where the best hackers want to work” – he makes the high productivity of hacking and hackers the central mechanism by which applications are developed for Facebook:

Our whole culture is we want to build something quickly.” Every six to eight weeks, Facebook conducts “hackathons” where people have one night to dream up and complete a project. “The idea is you can build something really good in a night,” says Zuckerberg. “The world was becoming more open and more access to information was really good. From everything I read, that’s a very core part of hacker culture. Like ‘Information wants to be free’ and all that. (Levy, 2010a, p. 476)

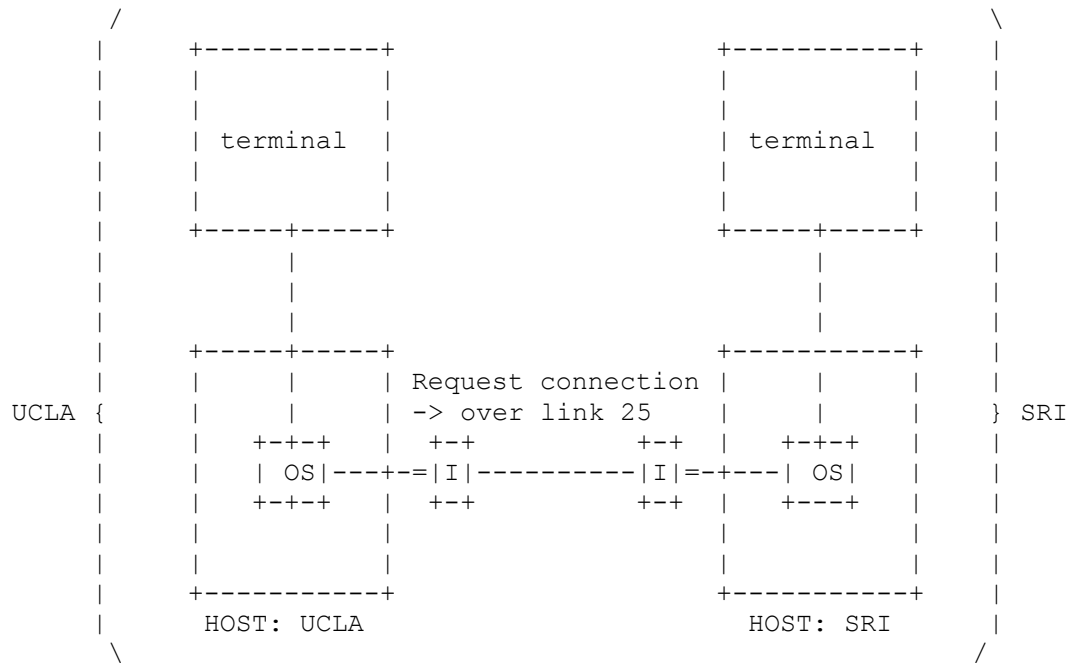
Given Facebook’s record of behaviour, to many this may appear to be utterly cynical. Amazon and Google are two other examples of a previous generation of companies that take advantage of both free software and the hacker ethic (Google entirely depends on it). Not only are Amazon and Google not giving back (open source licenses present them with the option), but they experimented with sabotaging hackers’ commitments by finding new ways to use GPL software whilst evading their obligation to give improvements back.

#### **1.1.4 IETF (Internet Engineering Task Force)**

The predecessor of the Internet Engineering Task Force, the Network Working Group, goes back to 1968, when a group of researchers, mostly graduate students, working at the USA Department of Defense’s Advanced Research Projects Agency (ARPA) started writing documents to agree on technical standards for networking.<sup>11</sup> They called them Requests For Comments, known as RFCs. The first RFC published, RFC1, describes a protocol for communication between hosts on the network (Crocker, McMaster, & McCloghrie, 1969). Diagrams showing the architecture were done with ASCII drawings, still popular to this day in networking and software circles. Here is an example from RFC1, “A. Before Link Establishment”:

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<sup>11</sup> Historic accounts are in RFC1000 (Postel & Reynolds, 1987), RFC2555 (RFC Editor et al, 1999) and RFC1336 (G. Malkin, 1992).



What became one of the hallmarks of the IETF was already presented in RFC3, titled ‘Document Conventions’ (S. D. Crocker, 1969): the focus was both on extensive documentation and on precision of the language used.<sup>12</sup> The design of the system that later developed into the Internet was driven by the two key principles. First, the architecture was an open network (Leiner et al., 1997, 2009), based on multiple layers of protocol, thus enabling a smooth continual process of development. Second, although the documentation was extensive and precise, the group was informal and membership was open to anyone interested (RFC Editor et al, 1999, pp. 3–4). This second principle was the foundation of the organizational principle: IETF operates through open processes. Another key principle IETF introduced is “rough consensus and running code” (IETF, 2004). It is a principle so widely accepted and used among hacker communities, that it could be considered as an addition to the hacker ethic. Eben Moglen, an early close collaborator with Richard Stallman, co-writer of GPL and the main legal person in the FSF, combined these two principles to explain why free software freedoms work: “The reason why our plans for freedom work better than other peoples’ is that they include a sequence of activities: proof of concept, running code and the solicitation of partnership. First you make it, then it works, then you invite people to make it better” (Moglen, 2006). These principles are still upheld today in IETF. They meet three times a year, with over one thousand participants in five day long conferences, the

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<sup>12</sup> For example, the use of imperative in RFCs is defined within a separate RFC2119, defining the meaning of key words like “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” (Bradner, 1997).

location moving between USA, Europe and Asia. Although the participants are, with rare exceptions, employees of companies and academia and thus fully funded, they choose the work they do: the work of IETF is self-selecting, self-managed and to a large extent task based. Organizations paying participants' salaries rarely command (if ever directly) what do their employees do in IETF, when, or how they do it. Such labour is outside of the direct control of capital, yet successfully utilized by it. I believe we can learn from these forms of cooperation and reapply their attributes onto new forms of egalitarian production. This kind of cooperation on the global scale was made possible due to the software and networking revolution of the last fifty years (organizing it in this manner would have been impossible earlier), and due to the hacker ethic. Such open-to-participation and self-organized forms of labour resonate with the key developmental-egalitarian principle of "from each according to their ability". However, it is a very limited application of the principle, since only a relatively small portion of humanity is in a position to be educated to the level required for participation. Although not driven by capital directly, judging by the economic categories, the results of such labour are turned into new wealth exclusively through the capitalist mode of production, by capitalist firms making profits. However, protocols defined by the IETF are used extensively not only by capitalists, but by governments and people as end users. Yet economics only captures this additional wealth when it creates new value through commodities. What interests me here is how this kind of contribution can be understood as new wealth without necessarily taking the form of commodities, being distributed through markets, and ultimately measured by money.

## **1.2 Open Process, lost in translation**

For the last fifteen years, we have been misled. We were lead to believe that the key attribute of cooperation amongst networking and software communities since late 1950s has been that the source code is open. The term to describe it, open source, has become synonymous with this idea. The name, and the concept behind it, has captured the imagination in many areas ("Category:Open - P2P Foundation," 2010). To name just a couple of larger, more influential examples in academia, and politics: Open Access, Open Science, Open Data, and the US government pledge for Open Government (Obama, 2009). Focusing on the openness of the source describes only one small aspect of hackers' practice in software and networking communities. To give that production a more descriptive, far broader and fitting name, I put forward the following thesis: significantly different to the openness of the end product alone, of

the source code in the case of software, the key attribute of software and networking communities and their inventions was openness of the processes of cooperation. Hence my proposal to call it an *open process*.

Yet, regardless of its narrow focus, the concept of open source caught the imagination of many and its principles were reapplied by a variety of groups, mostly through two features. Reapplications primarily consist in asserting that the final product has to be open – open access in academia is one such example. In some cases, this first feature accompanies the second one, a commitment to transparency and participation – open government puts emphasis on this second aspect. There are no reapplications of the key features of the open source paradigm that mention in more detail how the second aspect, commitment to transparency in labour process and open participation, is going to be achieved i.e. what its principles, mechanism, processes and safeguards are.

This is no coincidence. Beyond its founding analysis, open source never defined itself through a set of principles that would ensure cooperation and production based on open processes. Instead, it is a narrow, business-for-profit focused subset of the volunteer driven cooperative model of production that gave us hacking, free software, open protocols, the Internet and the Web. It is for this reason that modelling other open systems and concepts within society on open source principles results in missing the most important aspects of the model, the openness of its labour processes. As I demonstrate later in this thesis, the Open Source Initiative's founders falsely claimed that it is precisely the method of working that differentiates their movement from free software. In fact Richard Stallman concedes that open source is a development methodology, while free software is a social movement with four essential freedoms (Stallman, 2002a, p. 57). It seems to me that he made this concession under the huge pressure coming from the Open Source Initiative. This, I claim, was a big strategic mistake on Stallman's part. It gave open source an advantage, through a false claim of uniqueness that even for Eric Raymond, if one reads his texts closely, belonged at least as much to Stallman and older free software communities, as it did to a newer generations of hackers.

In this thesis it is argued that ethics, a set of principles underlying action, in free software (FS), and a set of defined and respected open processes, in the Internet Engineering Task Force (IETF), that were at the centre of those communities and their inventions. To benefit from the ground-breaking cooperative methodology of software and networking communities, I argue that we need to think about them and their contributions in a new way – a way that is not be

composed of a selective choice according to what suits capitalism and private interests, as was the case with the creation of open source. On the contrary, I argue for a re-reading and re-thinking that will show how the open process volunteer cooperation that has developed despite the capitalist mode of production, as a concept useful to rethink some key economic and political questions from an egalitarian standpoint.

The links with the egalitarian mode of production seem strong. Hacker cooperation implements to a significant degree the old egalitarian, socialist and communist saying “from each according to their abilities, to each according to their needs”, one that I took as a basis of what I called the developmental-egalitarian aims and principles. First, thanks to their long-standing dedication to the sharing of their work, most software produced by hacker communities can be obtained and used free of charge, with modifications allowed and encouraged, thus putting in practice in the software domain our first developmental-egalitarian principle of “to each according to their needs”. Second, thanks to the open-process labour in software and networking communities, individuals can contribute to the production according to their abilities, thus putting into practice our second developmental-egalitarian principle of “from each according to their ability”.

To assist comparisons made throughout this text, here are two tables essential for mapping what is discussed here: Table 1 illustrates the gap between the capitalist mode of production and hacker cooperation; Table 2 maps significant similarities and ideological differences between free software and open source.

### 1.2.1 Table 1. Comparison of cooperation: capitalism - hackers

Issue	<b>CAPITALISM</b>	<b>HACKERS (early + FS)</b>
Main form	Time based wage labour	Task based volunteer cooperation
Management	Hierarchical management with no say in it for those who do the implementation work. Capitalism is trying to incorporate horizontal elements while preserving the top-down obedience.	Mixture of meritocratic hierarchy and horizontal worker decision making.
Teams	Preselected by management.	Almost entirely self-selected.
Decision making	Management.	Workers (not all, and not in ways democratically decided on).



Ownership of products of work and of key business aspects	Closely guarded information, trade secrets, copyright, and patents.	Openness of information, sharing of all outputs of work.
Cooperation	Enforced cooperation (wage labour) through closed processes.	Volunteer cooperation through open processes.
Motivation	Wage (primary).	Job satisfaction (primary). Wage (secondary).
Contradiction in the form of cooperation	Clash of internal limited open processes and cooperation (employees have to cooperate within the departments they work in) with overall closed processes and for-profit motivation.	Clash of radical openness (hacking) with conditions imposed by wage work (capitalist firm).
How it affects external world	Active prevention of sharing of what could be shared in the name of private profits. Formulas to produce drugs for life threatening diseases are being denied to poorer states. Seeds denied to farmers.	Sharing of all: products, documentation, hacking culture. If reapplied to health, drugs formulas would be free to anyone. Seeds would not be patentable.
Use of technology	Advancements in technology benefit customers (private property). Technology increases working hours, work-home boundary disappearing. Increased surveillance.	Advancements in technology benefit all due to free availability of outputs. Active fight against surveillance and for privacy. Work-home boundary disappearing.
Private property	Sacred position and constant increase in forms of private property.	No ownership. Denial of private property for outputs that can be shared in digital form.
Product problems	Hide at all cost. When exposed, user mass legal suit might ensue, ending up costing company vast sums.	Expose them publicly so that: someone might fix; users know what to expect and will not report noted problems repeatedly; problems are not forgotten.
Product licence	Firm gives assurances and takes all responsibility legally.	No assurances/guarantees given, user takes responsibility. This model seems impossible with vehicles, infrastructure,

		medicine, etc. where quality of the work done and assurances are a matter of life and death.
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### 1.2.2 Table 2 Comparison: free software - open source

Issue	FREE SOFTWARE (FS)	OPEN SOURCE (OS)
Ethics	Ethics through freedoms: 0. run program for any purpose; 1. study how program works, change it; 2. distribute it to help your neighbour; 3. distribute modified versions to whole community. FS licenses enforce it.	No explicitly defined ethics. Accepts licences that allow FS ethical demands as optional, which give corporations freedom to improve and foreclose improvements as commodities. Ethics of profit inherited from capitalism.
Discussion	The OS movement claimed: ethics do not matter; we are pragmatic, not ideological. Stallman made a mistake to accept this. No one can be free of ethics or ideology. OS embraces the capitalist mode of production and its ideology. FS ethics have anti-capitalist and pro-commons aspects: against software-as-property; production not dictated only by capital; enlargement of commons of software (which is an important means of production).	
Product licence	Mandates release of modifications as soon as software is distributed in any form. FS maintains the official list of free software licences.	Includes licenses that do not enforce release of modifications, allowing companies to modify software and keep the new, modified version, closed, as a commercial advantage.
Discussion	Companies like Amazon and Google have exploited a loophole in GPL (the main FS licence). They built large parts of their business infrastructure on internally modified GPL software without releasing modifications, because GPL is triggered by software being distributed. Since their businesses are based on web services (no distribution of software), they can abuse the GPL. Affero GPL (AGPL) was created to prevent this, to force distribution under any circumstances. This demonstrates the battle between corporations over the enclosure of software into private property, their resistance to it, and the FS community's fight to ensure that freely available software is enlarged and	

	not abused commercially.	
Contributing patches size (emacs-linux)	Small patches preferred by main Emacs maintainer Richard Stallman.	Identical. Small patches preferred by main Linux kernel maintainer Linus Torvalds.
Distributed peer review	Yes. Bug reporting systems, email lists, chat channels, web systems.	Identical.
Decision making on including contributions	Centralized and distributed. Main software maintainer (or group) makes it. Unhappy contributors can fork (create a new project by copying and renaming an existing one). Scrutiny is widely done openly on the Internet. Key decisions are fervently debated.	Identical.
Release early, release often	Yes. Raymond claimed that the Linux kernel is an example of open source methodology, emphasising its speed of patch integration and releases. Although Linus Torvalds expressed his preference for open source ideological positions, he started Linux inspired by Stallman, used GPL and never switched from it. The practice of Linux kernel is GPL, i.e. free software.	Almost identical. Raymond claimed this was unique to some projects, which he named open source. This is not true, as sources from our research demonstrate. However, Linus Torvalds did increase the frequency of new version releases, thus awarding contributors quickly. This practice has been widely accepted since and should be considered part of both OS and FS.
Discussion	“as a development approach, the two F/OSS (Free and Open Source Software) movements are indistinguishable” (Dedrick & West, 2008, p. 436). Raymond’s case for a different movement based on methodology collapses into selling FS to corporate managers cleansed from ethics (ethical cleansing) – as he initially, along with Tim O’Reilly, declared to be their goal.	

### 1.3 Back to the roots: no hidden status, open process computing and politics

From its earliest days in 1959 to the recent generation of hackers (Lakhani & Wolf, 2003), hacking has meant to pick your own tasks and enjoy the work (Levy, 1984, p. 23). Hackers had to know

how something works, so that it can be taken apart, improved on and reassembled in new ways. Any obstacle to this procedure of learning and creation was undesirable (ibid., p. 40). For these early hackers, bureaucracies of any kind – corporate, government or university – were seen as the worst enemy to their desire to have immediate access to all information they might need in order to hack. With access controlled by software and computers, hackers believed that rules would be consistent. They saw human organizational bureaucracy as an opposing model in which rules were invoked inconsistently to preserve power – in total contrast to the world hackers were building (ibid., p. 41). The particular case Levy commented on in respect to the construction of this anti-bureaucratic ethic amongst early hackers was IBM and their approach to computers, run by punch cards at the time. What drove hackers crazy was conservative approach of IBM towards their computing products, so much so that hackers called IBM employees “batch-processed” people (ibid., p. 42). Hackers wanted fewer obstacles to experimentation and innovation and an entirely different, more decentralized and less procedure ridden (filling forms) approach to computing work than IBM had at the time. The world would be a better place if others approached it “with the same inquisitive intensity, scepticism toward bureaucracy, openness to creativity, unselfishness in sharing accomplishments, urge to make improvements” (Levy, 1984, p. 48). Writing a program was “building a community, not churning out a product” (ibid., p. 56). However, given the changes in corporate behaviour,<sup>13</sup> and a younger generation of hackers happily combining business, communities and hacking (Levy, 2010a, p. 474), it is questionable to what extent this anti-bureaucratic ethic – now also integrated into some corporations – is any longer antagonistic to the business sphere.<sup>14</sup>

It is a striking parallel that around the time of the birth of hacking probably the most innovative and the most important programming language was also born. Lisp<sup>15</sup> was first implemented between 1958 and 1962. Some of its key unique properties were recursion and function type.<sup>16</sup> Recursion is not just a feature of language and programming technique, but a fundamental way of thinking for Lisp programmers:

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<sup>13</sup> Investment and research in open innovation – in order to tap into external productivity (to a large extent inspired and driven by elements of the early hacker ethic) and utilize it as added value where external labour is not paid for by the corporations that utilize it – disrupts bureaucratic structures.

<sup>14</sup> See the extreme example of Wordpress where everyone works from home (Mullenweg, 2009)

<sup>15</sup> See the technical appendix on Lisp which explains referential transparency (Hoyte, 2008, p. 49), macros, full functional notation (X. Lee, 2006), Lisp’s use of specific functions (Hoyte, 2008, p. 107), and other key features.

<sup>16</sup> Functions can be stored as variables, and passed as arguments.

Recursion is the act of defining an object or solving a problem in terms of recursion. A careless recursion can lead to an infinite regress. We avoid the bottomless circularity inherent in this tactic [...] by providing the definition or solution of some trivial base case. Properly used, recursion is powerful problem solving technique, both in artificial domains like mathematics and programming, and in real life. The goal of this book is to teach the reader how to think recursively. (Friedman & Felleisen, 1989, p. XI)

Within its possibility to think recursively lies the unique capability of Lisp's almost total abstraction of language. Together with macros and functional notation, Lisp is one of the best languages to use to write other programming languages. Domain Specific Languages (DSL) are computer languages created for a particular problem domain. Lisp allows us to write a DSL for any selected problem (Hoyte, 2008, p. 40). In its total expressiveness, it comes closest to philosophy, where one is free to define one's language from scratch: "Lisp gives you the same tools available to the people who created your programming environment" (2008, p. 44). Lisp deliberately implements a "duality of syntax" (2008, p. 71), giving programmers the ability to have the same word mean different things, in relation to the context in which it is used. It deliberately breaks what the vast majority of computer languages try to enforce: the uniqueness of meaning and referencing (referential transparency). Another Lisp feature of special importance is the ability to inspect what happens in a Lisp program at any stage of its execution, or "the whole language there all the time", as Graham expressed it (2004, p. 188). A running program can be interrupted, examined, state changed, and its execution resumed. It embodies the idea that "there was no hidden status anywhere" (S. Williams, 2002, p. 49), a characteristic praised by Richard Stallman when talking about Incompatible Timesharing System (ITS), an early operating system he used in the famous MIT AI Lab.

A user, hacker, could intervene at any point in the process of program execution. This way, not only was it that "the entire act of hacking relied on intellectual openness and trust", the structure of ITS was "built to foster this spirit of openness" (ibid., p. 53). The process is open to being changed, open to hacking at any stage. Open processes and trust, I claim, are at the heart of the hacking spirit. They offer new ways to rethink organizational paradigms, and the political consequences of their re-application could be immense: trust in the ability and desire of people to participate in political, economic and juridical tasks, and openness of the processes of participation. Without trust, openness of process would be always seen as too risky, as it often is, by commentators on both the political left and right. It is assumed that people need to be led,

controlled, disciplined, and told what to do and how to do things. Open processes, on the other hand, offer far more options to control our social environment. This provides a set of challenges to standard political theories – however, this is not something discussed in this thesis.

It should not be forgotten that IBM and Intel, amongst many others, did not believe that anyone would want a small computer (Levy, 1984, p. 189). Steve Jobs' predictions about the sales of first Apple computer were not much better: he asked one of his components suppliers for a "high volume" order, of fifty units a month. Several years later, the supplier estimated he sold four hundred thousand of those units (Levy, 1984, p. 261). Similarly perhaps, talking about open process participation of people in political, economic and juridical daily tasks, a new form of direct democracy across key aspects of society often provokes comments such as "no one cares, no one will be interested". As the cases of personal computing, electronic networking, e-mail, short message service (SMS),<sup>17</sup> or social networking confirm, humans embrace new ways of getting in touch with each other beyond what the creators of new ways expect. While we can hope for the same with the models of direct democracy based on group cooperation and communication through new technologies and organizational methods inspired by an open-process hacking culture of cooperation, history indicates strongly that any major egalitarian political change occurs through political organizations. In other words, although it seems they can offer substantial improvements, organizational novelties are not a substitute for organized class struggle.

## **1.4 Volunteer cooperation and communities for all**

The networking and software communities that were central to construction of the Internet, the Web and their means of production consisted mostly of hackers, engineers, hobbyists and academics. I shall call them the *founding communities*. Their political importance does not derive from the results of their work alone but lies in their methods of cooperation, whose application in the political sphere is still missing. Capitalists, as open source demonstrated, have understood and subsumed these methods to the extent that they can fit into and help broaden the existing corporate model without taking away the ability of executives to control the flows, the coordination of labour and tasks in time. In Marx's terms, they used open source to improve the

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<sup>17</sup> Personal discussion with a friend who worked for one of the largest UK telecommunication companies at the time. The company was not charging for SMS in the early days of service being introduced, based on the prediction that there will not be much interest for it.

capitalist mode of production. Extensive use of email lists, online working groups, sharing of all project documentation, having a trail of every change to the project (software source changes are visible to the smallest detail to all participants, with the time/date/author), self-selection of tasks, were all early components of the hacker cooperative model. Today, although a more radically distributed cooperative model is at the forefront of software development (Bird et al., 2009), the quality control and the acceptance of submitted changes is still often hierarchically structured and in the hands of those who run projects, especially for larger projects (Crowston & Howison, 2006). The best example of a more distributed model is the source code version control software Git, originally developed by Linus Torvalds for managing Linux kernel development, a project with thousands of contributors and a daily stream of contributions managed in a hierarchical structure on top of which Torvalds who project manages it. Github is a good example of a newer generation of systems built on top of Git, adding another layer for easier use of cooperative tools.<sup>18</sup> The peculiar feature of Linux kernel development is that although the reasons for developing Git were to enable a radical decentralization of the main source code, all decisions on accepting modifications are still entirely in the hands of Linus Torvalds and his lieutenants. When a conflict arises, there are no defined resolution mechanisms; the community relies on the culture of heated arguing and technical nit-picking, with the final say in the hands of its leaders. Torvalds' response to criticism on these points has always been that if he was not able to manage it well, the community could fork (create a new branch of development) the source code and choose a new leader. However, unlike in software production, one cannot fork a hospital, a school, a nursery, a cinema, or indeed most productive activities.

A reapplication of some aspects of hackers' methods of cooperation is starting to emerge in the political sphere. Yet, as can be seen from the discourse around the Government 2.0 projects, this is currently done only as an extension of the liberal model of governance through representatives. The participatory model is added only in a passive mode which complements, rather than challenges, the existing parliamentary model based on political parties, elections and parliaments. This is visible in projects for the opening of the data held by governments. If one is to believe in a possibility of reapplication of hackers' methods in ways that do disturb the capitalist mode of production in the direction of egalitarian production and allocation, then the existing

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<sup>18</sup> Note the graph of forks in one of the most popular Javascript AJAX libraries/frameworks:  
<http://github.com/jquery/jquery/network>

changes can be seen as an early phase. Comparable to the construction of open source ideas and practices, the construction of Open Government shows what aspects of hacker cooperation have to be cut out of it for it to fit the liberal democratic political-economic framework. Processes cannot be open without open data, hence this first phase, regardless of its extremely limited positive political influence, and its embeddedness in the existing liberal-capitalist governance model, is extremely important and has to be supported from a left political perspective. The British project MySociety runs a number of projects that belong explicitly to the current phase of state hacks, aiming to improve the parliamentary system (Cross, 2007; mySociety, 2013). There are similarities between the way governments function and the cooperation between hackers, both have working groups with concrete mandates. However, hacker groups are largely self-selective, more fluid (joining and leaving is usually a trivial procedure) and have a looser mandate. Participation and internal process of government working groups are closed, often secretive, sometimes highly secretive and protected from public view for decades, while in most online software and network projects, labour processes are to a large degree open, both to participation and to anyone wishing to observe.

#### **1.4.1 Technological advances & freedom to self-organize for all**

One of the most directly political messages coming from the free software movement is the claim that technological advances should benefit all. This is an affirmative egalitarian claim that is difficult to subsume under capitalism as capital's own revolutionizing element.<sup>19</sup> Life should be less machine-like for all humans (Himanen, 2001, p. 33), and self-organization of work and time should be part of this. Broadly speaking, although they can be mimicked and altered to fit the goals of the capitalist mode of production, it is difficult to imagine that hackers' methods of cooperation can spread capitalist societies.<sup>20</sup> In order to keep the hope of reusing hackers' methods and ethical commitments for egalitarian goals alive, it is essential to both keep analysing and explaining how the capitalist mode of production integrates elements of hackers' methods, and to keep pointing out why and how they could potentially suit egalitarian goals.

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<sup>19</sup> See chapter five, where "to each according to their needs" is discussed as one of the central principles (table 4. Developmental-egalitarian principles).

<sup>20</sup> In chapters four and seven I argue that although Gross Domestic Product (GDP) has been used by the political leaders of the advanced countries to claim that technological advances have benefited all, as seen in the steady growth in the flow of goods and services, this is capital-centric measure was not designed for nor is appropriate for such use. This has been recognized in the past few decades, gaining prominence since the 2009 Sarkozy commission has acknowledged that GDP is an inadequate measure for the quality of life.



The freedom to self-organize one's time that hackers demand for everyone started in academia. While in the past craft-based labour was task-oriented, industrialization imposed time-based (Himanen, 2001, pp. 35–6), controlled, or as we learned to call it in the 20th century, managed work. The capitalist mode of production also introduced de-skilling and removed the power over the organization of work from the workers putting it in the hands of management (Braverman, 1998). Since information technology tools that enable new forms of cooperation have become widely available, there are opportunities to design systems of socialized labour which would partially bring us back from the time-based to task-based work, putting control over production back into the hands of workers. This is especially the case for the latest generation of Web software that enables the creation and tracking of working groups and tasks through custom configured workflows, thus enabling collective project management and all the corresponding benefits of communication. We can already see this kind of software being implemented in corporations and large public service bodies, but only to the extent to which it serves the already existing corporatist, management based system of work.<sup>21</sup> While many workers are trained to use it, it still happens under the strict time-based, management run regime. It does not seem that any thought is given to a broader participatory model of labour processes, thus ignoring the opportunities to make steps towards instituting the principle of “from everyone according to their ability”. Given that the profit motive is now widely present in public services, this is not surprising. However, once large sections of the population are familiar with these types of software at work, it may be possible to apply this knowledge to task-based cooperation outside of work controlled by capital. This would not be a return to the past, to the task-orientation of rural communities whose work rhythm followed the patterns of the day, of plants and animals (E. P. Thompson, 1967, pp. 60–61). Instead, it would involve consciously designed technologies and the organization of work, aimed at emancipation from the capitalist mode of production. Measurements of success would not have to be entirely dispensed with, but they could be utilized from a different perspective, for egalitarian goals. However, it is likely that a structural feature that is often part of hackers' passionate immersion in their work, a demarcation between work

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<sup>21</sup> The Department for Social Services in Lambeth Council in London, UK, uses Framework system, based around episodes, mapping entire the workflow in one system, including: initial assessment of cases by social workers, further documentation of cases by admin staff, analysis and decision on cases in department meetings, and the signing off of the case progress by senior management.

and the rest of life, would increase. This is fine for highly creative types of labour, but not for the vast majority of productive activities.

While in some sectors, deploying technology that is part of hackers' labour processes could enable a move away from the strictly imposed time-managed model so important to the capitalist mode of production, there is no guarantee that this will happen. Quite the contrary, new tools have been developed to increase control over workers under the conditions of time-based work (Himanen, 2001, p. 37). Currently, a key assumption in business studies is that there are only a few people in any organization capable enough to take decisions. The majority of people are deemed incapable of it, and regardless of rapid technological changes and the possibilities they open up, most people are condemned to obedience (ibid., p. 39). Hackers' desire to share with all, across society, not just software, but also their forms of cooperation and work, has a long way to go to materialize. As later chapters argue, productive activities are organized according to the capitalist mode of production and the way it creates or appropriates economic value. While Marx's analysis of the capitalist mode of production was useful for understanding the workings of the mode of production, it does not provide an understanding of value, or wealth from an egalitarian perspective. That is the task remains to categorize, qualify and quantify production from the egalitarian standpoint. Thus I discuss egalitarian categories and possible measurements at length in the last two chapters of this thesis.

As Manuel Castells argues, rather counter-intuitively, contrary to the widely held idea that it was the military and the state with its own aims that developed the Internet and the Web, because they funded it, we should look at their emergence from the opposite perspective: it was in fact software and networking communities in academic research centres, those founding communities, which seized USA Department of Defence projects and funds and developed the Web and the Internet without direct military direction (Castells, 2001, p. 1975). Our challenge today is that technological revolutions do not come about without large cultural transformations, which require new analytical frameworks. This does not happen incrementally. It requires "a vision, and act of belief, a gesture of rebellion" – attributes not directly ascribed, but well applicable to Richard Stallman's work. At the core of the wave of new tools and practices are the distribution of processing capacity and the increase in *innovation potential* by cooperation and sharing. Hacker culture was central to this. Hence, for Castells, to reap the benefits of the revolutionary leap in technology, new organizations have to be built using the hacker culture (ibid., p. 177).

The open source movement is an attempt to use this innovation potential for the benefit of private profit, for capitalist goals. This clashes with some of the most important features of hacker culture: disrespect for some forms of property, axiomatic ethics of sharing and modes of cooperation. However, there are many differences in how hackers responded to the rising need of capital for their skills. Long before the open source movement got formed, many hackers went on to form companies that became large corporations, adopting their hacker traits to fit the purpose (Thomas, 2003, p. XXII). To complicate things further, many of those commercially minded hackers invested their corporate earned money in new capitalist ventures whose novelty was partly based on the element of the hacker spirit that were not antagonistic to capital, but that instead feed into its continuous need for a revolutionizing of technology and the reorganization of work. Since capitalism thrives on innovation, it is on the constant lookout for sources of it. If anything, it took capital a surprisingly long time to recognize hackers as one such source. The involvement of state-capital in the development of new technologies and loose organizational forms is where academia and research centres excel in comparison with other sectors.<sup>22</sup> The capitalists' understanding is that those types of innovation (technology and organization) are crucial to prevent ossification (Harvey, 2010, pp. 88–92). Hence, it is only logical that the university, a key site for the birth and development of hacking, was where many of today's large IT corporations directly came from.

#### **1.4.2 The key attributes of the founding communities**

As developed further in chapter three, the key attributes of the founding communities have been formalized best by the Internet Engineering Task Force (IETF) and free software. They can be summarized as: one, a goal to create something that is shareable – making profit can only be a secondary goal. Two, open participation – anyone can join, based on enjoyment of work – and open processes and results of work. Three, core activity is based on volunteering, working groups and competence. Four, rough consensus and a running code decision making principle is the norm, voting is used only in rare and extreme circumstances. Five, responsibilities are defined, to note some examples: for IETF it is protocol ownership, for FS software maintainer, for Debian GNU/Linux operating system package maintainer. Six, rights are based on contributions – in the Open Organizations project, this was called 'implementation work' (Geer, Malter, & Prug, 2005b).

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<sup>22</sup> 'The university's peculiarly loose form of organisation guards against the tendency towards ossification (and tacit corruption) in the overlap between state and corporate bureaucracies' (Harvey, 2010, p. 95)

The roots of this principle are visible in the MIT Tech Model Railroad Club, the earliest hacker community we know of, where keys to the main room were given to new members, new hackers, only after they completed forty hours of work (Levy, 1984, p. 21).<sup>23</sup> I propose that the model could be described in short with the following formula: the Internet Model = FS + IETF, software + networking, or ethics + organization.

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<sup>23</sup> Many authors hold that having a trusted benevolent dictator is a key aspect (Coffin, 2006).

## 2. Tracing open source revolution and its deficiencies

### 2.1 Introduction

The purpose of this chapter is twofold. First, I look at the founding moments of the open source movement. By tracing the ideological steps of the founders, we can observe which aspects were capitalist-friendly and which had to be removed or pushed into the background in order to make hackers' production easier to integrate into the capitalist mode of production. This also presents an opportunity to observe hackers' production from the perspective of the egalitarian mode of production. In other words, by tracing the history of the open source revolution we can render visible the clash between the capitalist mode of production and coexistent egalitarian elements not reducible to it. The second part looks at what the advantages might be of applying some of the hackers' methods of cooperation to academic publishing.

The founders of the open source movement set themselves a huge task: adopting new terms for an important and widely established set of practices is a difficult undertaking. Once the new concept was agreed on and the early work was done amongst the communities of hackers and firms that supported the initiative, the public imagination was captured with the 2001 IBM announcements that they were investing one billion US dollars in Linux development. IBM was convinced that "Linux can do for business applications what the Internet did for networking and communications", which will "make computing easier and free from proprietary operating systems" (Wilcox, 2000).<sup>24</sup> This type of business reaction was precisely what the open source founders were looking for. In their "re-labelling" of open source, their primary, publicly stated goal, was to attract business (E. S. Raymond, 1998), to make hackers' software and networking communities and their products look like a good place to invest vast sums of money. The Open Source Initiative and for-profit organizations have been incredibly successful in appropriating only those aspects of software and networking communities' unique cooperative features that suit them. However, every such appropriation is a closure of other possibilities. Given the dominance of capitalist social relations, is the appropriation most often entails removal of what does not fit its core logic. Tracing the processes of these appropriations is necessary to evaluate what was left out, or added, to construct a capitalist concept suitable for profit making, like open source.

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<sup>24</sup> For an account of IBM's intervention, also see Coleman (2012, pp. 191–3).

If one looks at the various stages of cooperation in software and network communities, although many successful businesses were set up by the members of those communities, one does not see claims that explicitly break with important elements of the hacker ethic. Quite the contrary, they are replete with claims to creativeness, to being playful (Levy, 1984, pp. 184, 202, 208; Stallman, 2002b), to doing it with others, collectively through open processes, open to both participation and with a shared final result (H. Alverstrand, 2004). Although corporations have been integrating these messages of togetherness into work culture (Fleming, 2009, pp. 56–76), they are still not attributes that would be welcome in a typical corporation, especially not in the founding days of open source in 1998. This is why the appropriation of hacker history by the open source founders, in their focus on attracting capital and top corporate decision makers, had to exclude elements unacceptable to the for-profit capitalist model. In the beginning, corporations were frightened by the quality and quantity of work done in self-organized software and networking communities. Yet, if they could integrate this gigantic amount of labour into their own production lines, harnessing it without losing control over the commodity in which this external productivity was being integrated into, it could be turned into a gold mine. Research and conceptualization of open innovation is an attempt to do this, and the creation of the Nokia N900 phone community is a perfect example of strategic openness resulting in a commodity: in order to prevent easy replication, some key closed components are inserted into an otherwise open source system. No wonder then that when a business friendly, ethics-free subset of free software, open source, was offered, it saw a fast rate of adoption.

## **2.2 Stolen methods enabled false claims of uniqueness**

### **2.2.1 Appropriation of the critique through selective inclusion**

In order to differentiate themselves, the founders of open source made two central claims. First, their new concept was unique in rendering conscious the method of cooperation which was until then a set of customs passed on through practice, the so-called “bazaar model”. Second, they were pragmatists, not interested in ideology.

In a three-year study (2005-2008) of a vast new shopping mall, Shopsville in Finland, Murtola describes what happens when critique is appropriated into what is being critiqued. Investors were worried about the possibility of the shopping centre being criticised by local community. This might have slowed down or even endangered the project. Hence, investors

worked hard to demonstrate how responsible social behaviour and efficient enterprise can go together without contradictions. Potential criticism from the local community – along the lines of authenticity, freedom, equality and solidarity – was taken into consideration and potential obstacles were integrated into the project. The developers achieved that by selecting those small business and community participants that would fit their shopping mall smoothly. The first step was exclusion, the separation of those community members who were seen as potentially problematic for the project: “some people are allowed to join, they are specifically selected as appropriate. Others are denied access”. In this process, the main decision makers are investors, capital holders:

“The process of appropriation can be understood as divided into two stages. The first stage involves choosing a selective, desired part of something and abstracting that part from its social and historical context. The second stage involves inserting it into another context” (Murtola, 2008, p. 15).

In other words, once investors selected appropriate elements of the community, they had to provide a new narrative, a new context in which this new community, now selected for the shopping mall, could fit well without the excluded parts. Appropriation, Murtola explains, is a partial, very selective means of incorporation, one that “assigns something for a particular purpose”. In this case, the particular purpose was to suit the needs of private property and having more organizations operating under the capitalist mode of production, clustered in a new shopping mall. Where total exclusion would have meant being open to a long conflict with the local community, appropriation was the solution.

### **2.2.2 The unique contributions of Richard Stallman and free software**

My claim here is the following: Richard Stallman’s foundational ethical principles of free software were the expression of the desires of a community of software engineers, academics, hackers, to produce collaboratively, and voluntarily, without the coercive mechanisms of capital. He saw the current normal state of professional programming work – where we do it for the money, wanting to get away from it and forget it as fast as possible – as a tragedy (S. Williams, 2002, p. 77). For Stallman, and for many hackers, there is relation to, and organization of, work that is different to that dictated by capitalism. In order to make all this fit in capitalism, in order to take advantage of it, open source founders did precisely what Murtola describes as appropriation. The open source

founders selectively chose from the free software and hacker communities those people and the features they found useful. Stallman and important proponents of free software were excluded; they were not invited to the founding meetings of the, at that time yet unnamed, new initiative (which was named open source in that meeting). They ignored key aspects – ethics (FS) and open-process (IETF) – extracting parts they selected from the overall social and historic context (focusing only on openness of the source code), combining it all into new forms (narrative, organizations, events, journals, funds, and finally a community that identifies with it) suitable to capitalist investors.

Early versions of Emacs, Stallman’s earliest software, state that they were “distributed on a basis of communal sharing” (ibid., p. 85). He found a way for an easy addition of features without disrupting the whole. He shared the source widely, inspiring a large number of people to contribute. In the words of Hal Abelson, one of Stallman’s colleagues at the time: in a robust structure a loose network was collaborating successfully, with Stallman “paving the way for future large-scale collaborative software projects” unlike anything done before (ibid., p. 86). John Gilmore, a prominent hacker, believes that through the GNU project “Stallman pioneered collaborative development of software, particularly by disorganized volunteers who seldom meet each other”, and this may end up being his most important legacy (ibid., p. 181). In other words, it was free software that first practiced what Raymond claimed was unique to open source.

It is puzzling that although Eric Raymond confirmed Stallman’s contribution to collaborative methods, he nevertheless stood by his claims:

“In retrospect, one precedent for the methods and success of Linux can be seen in the development of the GNU Emacs Lisp library and Lisp code archives. In contrast to the cathedral-building style of the Emacs C core and most other GNU tools, the evolution of the Lisp code pool was fluid and very user-driven. Ideas and prototype modes were often rewritten three or four times before reaching a stable final form. And loosely-coupled collaborations enabled by the Internet, a la Linux, were frequent.” (2001a, p. 27)

For Raymond, there were two broadly identifiable ideological positions amongst hackers, and a variety of positions in between those two. The first one was ideological driven (FS), while the other one was pragmatist, not driven by an ideology (E. S. Raymond, 2001b, p. 67). Free software was “historically the best organized and most visible part of hacker culture” (ibid., p. 68), since it:



...supported a great deal of open-source development from the 1980s onward, including tools like Emacs and GCC which are still basic to the Internet open-source world, and seem likely to remain so for the foreseeable future. For many years the Free Software Foundation (FSF) was the single most important focus of open-source hacking, producing a huge number of tools still critical to the culture. The FSF was also long the only sponsor of open source with an institutional identity visible to outside observers of the hacker culture. (ibid., p. 69)

Note this well-crafted ideological move: Raymond called everything from a couple of decades in the past 'open source', even though he was in the very process of inventing the term. Equally, he describes the Free Software Foundation (FSF) as a sponsor of open source, erasing from history the fact that FSF was created to support the development of free software, while implanting his fictitious construct that it supported open source, which was non-existent at the time. In July 1997, more than half of the software in the largest and the most popular software archive in the world at the time carried a FS General Public Licence (GPL). There were also pragmatist communities in the 1980s and 1990s, mostly around Berkley Unix, who were users of the BSD licence. However, according to Raymond, these "failed to build bazaar communities of significant size, and became seriously fragmented and ineffective." In other words, Raymond agrees with the widely-held belief at the time: free software and its GPL copyleft legal method was a success, while what he calls a pragmatist approach – practiced at the time by BSD licence communities – was not. While explaining one of his "open source" principles (the importance of having users), Raymond used Emacs as a positive example of fast development in small cycles (E. S. Raymond, 2001b, pp. 26–8). He thus confirmed what was already known, as Abelson has remarked, that frequent and early releases and cooperative development are models developed by free software communities, the very features Raymond attributed to his newly formed open source movement.

Emacs was and still is free software. Hence the features Raymond named and attributed to his newly founded movement, are in fact the features of free software. In short, one of the key reasons why the free software movement was successful is because it did well what Raymond stole from it. Raymond's central point – the point on which the whole reason for the existence of open source hinges – the difference between the cathedral and bazaar model, is developed in a brief passage using Emacs as an example of a cathedral style of development. He claimed that in 1992 he tried to merge a large amount of Lisp libraries into Emacs, but he ran "into political trouble and was largely unsuccessful" (ibid., p. 28). Stallman's recollection of this was quite different. Raymond wanted to "take over the development of a large part of Emacs, operating

independently”, while Stallman wanted to judge contributed ideas individually, to accept some without being forced in accepting them all. This eventually led to Stallman “accepting a substantial amount of Raymond’s work” (Wayner, 2000, p. 113). For Raymond, this behaviour of Stallman was what made him characterize the development of Emacs as cathedral style, with a designer at the centre of the project. With the appearance of Linux, a different, bazaar style of development appeared. However, Linus Torvalds’ style, one which he insisted on loudly and frequently on the Linux kernel email list, was that he would only apply small patches, that do one thing (Sowe & Stamelos, 2007, p. 112). In other words, Torvalds was saying a very similar thing to what that Stallman told Raymond: changes (patches) have to be small to manage risk and to make a project advance fast. Small patches can be selected easily – the larger the change, the larger the chance of introducing new software bugs – by the project leader who makes all the final decisions (ibid., p. 107). The process was almost identical, with one important difference: the frequency and pace of the application of incoming patches and releases was significantly, if not dramatically higher. Torvalds took the existing model and improved on it by speeding it up; this was his big contribution. Otherwise, very little else changed, especially given that it is extremely rare that any software project attracts a number of developers large enough to start functioning like the bazaar Raymond describes (Krishnamurthy, 2002). Distributed peer reviewing and “release early, release often”, are also claimed to have been what made open source unique (E. S. Raymond, 2001b), yet turn out to be found to belong to many previous hacker communities. Other than a faster application of the cooperative model based on small patches, the overall differences between free software and open source was so small, that “as a development approach, the two F/OSS (Free and Open Source Software) movements are indistinguishable” (Dedrick & West, 2008, p. 436).

With the rise of Linux, pragmatists finally had a success on their hands (E. S. Raymond, 2001b, p. 70). Yet even if this was the case, if Linux was a success of the pragmatist model, the model kept failing until that moment, as Raymond himself admitted when comparing BSD’s relative failure, in comparison to GPL free software projects. The only explanation which seems plausible for the success of those times, the history before Linux, is existence of free software, as Raymond also noted. Hence, it is a blatant misrepresentation to call it what it was not, i.e. open source. However, there is little doubt that the success of the Linux kernel and the GNU/Linux system, and subsequent open source marketing supported by ultra-rich corporations, has made some aspects of hacker culture and their model of cooperation far more prominent.

To call the appropriation of the gains of free software into open source a “rebranding exercise” is incorrect (Moody, 2001, p. 169). Free software was never a brand to start with. Brands are ways to market, categorize, position, and sell commodities, ways to limit the use of a collection of attributes which constitute the brand, in order to make profit. Free software was, and still is, a social movement for the software commons, with a strong emphasis on egalitarian practices and principles. It came out of hacking communities, based on hacking culture. Core hacking values do not fit easily in for-profit, capitalist ideology and practice. Hence, Raymond and his group had to start by stripping away attributes that did not fit, in order to have an object that can suit capitalism and be commodified. Only such a new and appropriate concept could have been branded. Raymond created this new concept by rewriting and falsifying the history of free software. He negated it first through the creation of a new, hostile concept. He then proceeded to describe its history, its products, methods and communities with this new name. The circle was complete. It was a symbolic act of ethical cleansing: it cleansed the community formed under the new concept from its foundations, from free software hackers and their ethics.

### **2.3 On practice and ideology**

The creation of open source was not just the creation of a new concept. It was conceived as a project of extensive scope, and Raymond, who took central part in it, has proven to be a successful ideologue for it. Rejecting that the notion of ideology applies to you is a typical trait of an ideologue. Raymond’s believes in free trade and market forces, which are, according to him, both opposed to coercion through ideology (Moody, 2001, p. 153). There are two basically mistaken theoretical assumptions here. One, that there can be a non-ideological set of beliefs and practices (Žižek, 1994, p. 17). And two, that free-trade and market forces are those non-ideological entities. Ian Murdoch, founder of Debian (a Linux operating system distribution) project, expressed similar free market ideological views: “commoditization is a natural and unstoppable force that is good for everyone involved if that force is allowed to develop on its natural course” (DiBona, Stone, & Cooper, 2005, p. 92). It is through emphasis on a practice that as demonstrated is entirely based on the methodology appropriated from free software and other communities of hackers, that Raymond states his claim. Here is how he described Richard Stallman’s work:

In 1985, RMS (Richard Stallman) published the GNU (GNU is Not UNIX) Manifesto. In it he consciously created an ideology out of the values of the pre-1980 ARPANET hackers —

complete with a novel ethico-political claim, a self-contained and characteristic discourse, and an activist plan for change. RMS aimed to knit the diffuse post-1980 community of hackers into a coherent social machine for achieving a single revolutionary purpose. His behaviour and rhetoric half-consciously echoed Karl Marx's attempts to mobilize the industrial proletariat against the alienation of their work. (E. Raymond, 2004, p. 69)

The claim was that Stallman created an ideology, unlike Raymond's group:

"Open source" was explicitly intended to replace Stallman's preferred "free software" with a public label that was ideologically neutral, acceptable both to historically opposed groups like the BSD (Berkeley Standard Distribution) hackers and those who did not wish to take a position in the GPL/anti-GPL debate. (E. Raymond, 2004, p. 74)

What we have according to Raymond is ideology (FS) versus ideology neutral (OS). However, when he states, "for me, the working method is the ideology" (Moody, 2008), he exposes one side of the broken logic of his claim. First, a position outside of any ideology would entail a position outside reality, objectively relating to it from outside, and not being influenced by what it relates to. Such position is not possible. However, as demonstrated above, even the claim of being based on unique methods is false, as Abelson, Gilmore and Raymond himself confirmed (see also Table Two in chapter 1). Methods were developed, made widely popular and successful largely by the free software movement and other hacker communities, open source differences were minimal. Hence, not only is Raymond's key claim about ideology (FS) versus ideology neutral (OS) impossible and thus untrue, basing it on the differences in methods is false too. The only thing that is unique to the open source group is their approach to capitalism, their unreserved embrace of free-market ideology.

Unless my analysis here is terribly flawed, Raymond is incapable of giving his own constructs logical coherence. Another example is that he saw BSD communities as a pragmatist opposition that rejected GNU's ideological primacy (E. Raymond, 2004, p. 71). However, they came to be included in his open source concept, through inclusion as a method of work, as a part of the open source success story, as an essential argument for construction of the open source movement. Given that GNU's methods were more successful in producing software, in inspiring people and enlarging hacker communities, it made no logical sense to include BSD communities under a newly formed open source concept as an example of the success of what Raymond calls the pragmatist model. It was the GPL, copyleft and the FS movement model that was a success, and not BSD, as Raymond himself wrote. Raymond's inconsistencies make it impossible to follow

his line of argument. That these glaring inconsistencies and lack of logical coherence, factual correctness or truthfulness in his account did not stop him from being successful in appropriating on the behalf of the capitalist mode of production should not come as surprise. Capitalism has only one constant that it must obey: its law of value and the commodity as its most basic unit by which it produces wealth.

For Raymond, with his creation of open source, communities that objected to FS and GPL, like BSD, which were not successful in comparison with FS and GPL, suddenly became important because they fitted his pragmatist category. Regarding the main pragmatist success story, the Linux kernel, it stands that Linus Torvalds was, and still is, a person who does not agree with Richard Stallman's firm stance on free software principles. He nevertheless chose those principles, and still sticks by them, through his choice of GPL for his Linux kernel. Even if it is argued that Torvalds chose GPL out of pragmatic considerations, it would still demonstrate the efficiency of the free software cooperative, ethical and licensing models, and the degree of success of its approach. Paradoxically, such argumentation makes free software look like a pragmatist model worth adopting purely for the results – even as one disagrees, as Torvalds does, with its firm ideological stance on software commons, on ethics and sharing. As early as 1995, Torvalds openly stated that he uses proprietary software when it gets the job done better (S. Williams, 2002, p. 157). Regardless of this admission, and his open dislike of Stallman's hard stance, Torvalds acknowledged that he would not have been able to even start his Linux project, if there were no GNU project tools and libraries, ethics, copyleft legal licensing and Stallman's unfettered belief in and support for it.

Finally, it was people from these pragmatist BSD-license communities, many of them coming from Berkeley, that sometimes "shared by selling the software back to these students and the taxpayers who had paid for their work". Sun Computers was one of the companies that profited from such privatization of socially funded development (Wayner, 2000, pp. 96, 132). So did Microsoft, although quietly and without any commitment to such a model (Adamba, 2001). This is also in line with the neoliberal ideology of socializing the cost of developing (seen in arms and pharmaceutical industries), while privatizing profits.

## 2.4 Splitting the community: top-down, corporate exclusion of free software hackers and their ideals

The key event for the birth of the open source movement was the release of the Netscape browser's source code. It was a desperate last attempt by a company whose market share was being crushed by Microsoft's Internet Explorer. Michael Tiemann explained how Netscape's move inspired the foundation of the Open Source Initiative: "we decided it was time to dump the moralizing and confrontational attitude that had been associated with 'free software' in the past and sell the idea strictly on the same pragmatic, business-case grounds that had motivated Netscape" (Tiemann, 2008). In his first announcement to the community, after consultations with a number of interested companies and individuals, Raymond issued the call to arms "*Goodbye, 'free software'; hello, 'open source'*", in which he stated two problems with free software. The first being that it is confusing and ambiguous, since it is unclear whether free means no money charged, or free to be modified by anyone. And second:

...it makes a lot of corporate types nervous [...] we now have a pragmatic interest in converting these people [...] a chance we can make serious gains in the mainstream business world without compromising our ideals and commitment to technical excellence – so it's time to reposition. We need a new and better label. We suggest that everywhere we as a culture have previously talked about "free software", the label should be changed to "open source". Open-source software. The open-source model. The open source culture. (E. S. Raymond, 1998)

The key operation open source founders executed was getting rid of free software's ethical principles. If such an operation is done "without compromising our" ideals, it implies that free software hackers cannot be included in its "our". In other words, we see from the Open Source Initiative's use of "our" and "us", that it excluded all free software hackers who held free software ethical ideals. This was never publicly stated, of course, it would have caused an outrage if Raymond had come out with such statement. Effectively however, he did say it; he just expressed it in a subtle way that required a bit of analysis to render it visible.

### 2.4.1 Tim O'Reilly: commodities and capitalism versus free software

The exclusion of all free software hackers and their ideals was not only symbolic, Richard Stallman was deliberately not invited to the open source founding event in April 1998 (S. Williams, 2002, pp. 163–5). Tim O'Reilly, the founder of O'Reilly, one of the most successful publishers of books

on free software, offered the following explanation for the exclusion of Stallman from the founding open source meeting: O'Reilly had not met Stallman in person at the time, and in their email interaction Stallman was "inflexible and unwilling to engage in dialogue". Hence, he invited a couple of other FS/GNU project people instead. Bruce Perens, one of the more prominent FS people at the time, refused to participate in that meeting because of the exclusion of Stallman. It was telling that before the event, O'Reilly and Stallman feuded publicly over the issue of software manuals copyright. Stallman thought that manuals, published by O'Reilly's company, should be licensed under the same terms as the free software they were about: free to be copied and modified. O'Reilly disagreed, arguing that non-free book manuals were added-value which would increase the value of free software by making it more widely accessible. In other words, O'Reilly, one of the key actors in the creation of the open source, and by a long shot the most important and most successful publisher of computer books with a hacker approach to computing, wanted commodities and profits. He wanted private wealth accumulation and the capitalist mode of production was a way to achieve it. Stallman objected, insisting that sharing is not a matter of choice, but an ethical commitment that books on free software should follow. Given this clash, it is not a surprise that Stallman was deliberately left out of the founding open source meeting.

Tim O'Reilly recalls that at that April meeting – where a new name, a replacement for free software, was decided on – they voted, and decided to go with 'open source', which got 9 out of 15 votes. This was for O'Reilly "a solidarity message" (ibid., p. 164). But what about Stallman and the large free software communities that Stallman's views were representative of? It certainly was not in any sort of solidarity with them. They were excluded from the start, together with the central ideas – free software ethics, and Inter Engineering Task Force (IETF) open process – on which their communities were built. The process through which open source was born was in total opposition to open process, the most fundamental of all cardinal IETF principles on their mission statement, according to which "any interested person can participate in the work, know what is being decided, and make his or her voice heard on the issue" (IETF, Request for Comments 3935, 2004). Speaking about open source in an interview, Stallman said that the term was coined "to duck the ethical issues of freedom and social solidarity and focus only on practical convenience" (2007). It is hard to believe that O'Reilly could have missed the point about free software to the extent he could claim that: "at bottom the thing that I like best about free software/open source is that it allows people to do whatever they like." (Leonard, 1998) Precisely the opposite is true for free software, its licencing and ethical commitments axiomatically

imposed sharing. Open source was created to allow what O'Reilly likes to do, which is build a capitalist enterprise. While the GNU project, GPL and later the free software movement were all reactions to the commodification of software, coming into existence precisely to stop businesses and developers doing whatever they like with the software, to mandate sharing legally, and thus turning copyright against its original purpose.

#### **2.4.2 On Raymond as a capable capitalist ideologue and monetary rewards**

Once some of the first open source companies floated on the stock market and became worth tens, some hundreds, of millions of dollars over night, Raymond and many others were rewarded by open source business co-conspirators with share allocations (Moody, 2001, pp. 235–6). This stands in stark contrast with the details of a scene in Spring 2000 where Eben Moglen paid for a lunch for himself and Stallman, knowing that he was the only one who had any money to pay for it (S. Williams, 2002, p. 184). We can only speculate what the extent of the impact of open source pleasing investors was on the overall phenomena known as the dot-com bubble. However, it can be broadly said that Raymond and the open source founders played an active part in the inflated expectations that led to one of the largest financial crashes since the 1930s crisis, superseded only by the recent financial 2008 crisis. The following statements, from different books and times, show how subtle, clever and thoroughly ideological, the open source move was:

My impression at the time was that he (Linus Torvalds) had those conclusions as latent knowledge, but that I was causing the knowledge to become explicit in his mind. So I think that when he read my draft, he essentially consciously discovered what he already knew. (Moody, 2001, p. 152) [...] The one thing Torvalds did not offer was a new ideology, a new rationale or positive generative myth of hacking (E. Raymond, 2004, p. 49) [...] You can view it as a continuation of a theme that's been present in my work all along, which is the conscious elucidation of unconscious knowledge (Moody, 2001, p. 153).

Here Raymond is exposed as a mature, clever, respectable ideologue, explicitly defining himself as one who creates “a new positive generative myth”, an ideology for the new movement. This is opposite to his early claims that free software is ideological, while open source is neutral, pragmatic. The move is complex. Not only does Raymond elide the free software ethics of hackers and some other key Internet collaborative principles, he insists that this is only an act of elucidation of what was already an existing unconscious knowledge. He thus bases the responsibility and justification for his ideological move (his creation of a new community,



exclusions, betrayals and financial motivations) not on the motives of open source founders and his leadership, but instead projects it onto the internal, personal psychology of those who accept the new concept and accept being followers of this new community.

As we know from Slavoj Žižek's portrayal of Donald Rumsfeld as a philosopher, in the matrix of four possible states of the known/unknown, it is the unknown-known, a combination that Rumsfeld did not mention, that matters most (Žižek, 2004, p. 95). This is the definition of the unconscious: stuff that we do know, but are not aware that we know it. Raymond stuffed his entire creation into the unconscious, pulling it out of it like a magician pulls a rabbit out of a black hat. The trick, after all, for all its efficiency, was not that great, the reasoning was inconsistent and full of holes. Raymond ideological recasting of the history continues:

Before The Cathedral and the Bazaar, open-source development was a folk practice, a set of working methods evolved unconsciously by hackers who had no theory about why the things they were doing actually worked. It didn't have a name — and no, “free software” wasn't it, because that label was about ideology and goals rather than working methods and communications structures. (Moody, 2008)

As has been seen from Raymond's claims analysed earlier in the thesis, these are similarly entirely false claims. His work was all about a new ideology and new goals, as much as the work of free software communities prior to his open source project was about working methods and communication structures. This was clash of two ideologies: one devoted to social solidarity through the commons of software, to sharing and the right to form communities outside of the command of capital, the other to the right of capital and private property above anything else. Ideological framing is unsurprisingly present in the official document:

The prehistory of the Open Source Initiative includes the entire history of Unix, Internet free software, and the hacker culture. OSI was formed as an educational, advocacy, and stewardship organization at a cusp moment in the history of the culture. (Tiemann, 2008)

Suddenly, once their exclusion from the formation of the new community is forgotten, the excluded are back, as a supporting argument to the claim that the Open Source Initiative, the main organisation behind open source, includes the entire history of software and networking engineering and hacking communities.

A series of email exchanges on various Linux email lists at the time uncovered the differences between the existing hacker practices of openness and the closed nature of business

dealings that was crucial for the open source founders and companies involved. Most of the criticism focused on secrecy, lack of community involvement and opaque communication and decision making, all features contrary to the way hackers, and especially projects like Debian, operate (Perens, 1999; Schuessler, 1999; Towns, 1999).

The lack of open processes introduced by the open source founder was boldly attacked as something that hackers do not practice nor accept (Brinkmann, 1999; Pennington, 1999; Winebarger, 1999). Not surprisingly, Richard Stallman saw the problem in a completely different light to the open source founders. He thought that Apple's "purely materialistic goals" in their reuse of hacker software were made possible by the open source actions that resulted in Apple "putting aside the deeper issues of freedom, community, cooperation, and what kind of society we want to live in", while "dismissing the spirit of free software, which is that we form a community to cooperate on the commons of software" (Stallman, 1999).

## **2.5 Engineering the privatization of egalitarian objects and the help of the state**

Early signs of the capitalist open source counter-revolution were encouraging. Tim O'Reilly's main concerns were the new sources of profit, commoditization of software, network-enabled collaboration and software as a service (DiBona et al., 2005, p. 255). He found inspiration in companies like Google and Amazon, praising them for their vast profit making strategy, calling them free software based, yet "fiercely proprietary" (ibid., p. 258). Incredibly enough, he was actually praising Google and Amazon for being platforms that managed to bypass free software GPL legal obligation (to share their source code improvements) and harness the past contribution of software and networking without contributing any improvements back to the free software they improved (Stutz, 2004). In the first step, open source removed the ethical aspect and allowed the use of volunteer cooperative work for private profit without the mandate to contribute back, along the lines of the Amazon/Google model. An essential step in the open process chain of production, the return of contributions back into the open environment, returning them to the common, was made optional. The logic of private profit and the capitalist mode of production were the reason behind this removal. Simultaneously, capitalist activities like Google and Amazon stopped the improvements in the free software they used from becoming available "to each according their needs". The potential of wide social openness in production was subjected to the business logic of closure, secrecy and extraction of private profit, whilst

modifying appropriately to its own needs the overall forms of openness and open process developed in software, networking and hacker communities.

The US state was not a passive actor in those developments. Although some hackers widely used code that was initially obtained from commercial companies and much further developed in universities, (Wayner, 2000, pp. 36–39), many large and successful corporations, like SUN (Stanford University Network) emerged from universities. SUN stubbornly refused to take part in free software, sticking with open source (*ibid.*, p. 176–8). The relationship between state funding, universities and corporations at the forefront of new computing technologies has been a close and long standing one: “Federal support has constituted roughly 70 per cent of total university research funding in computer science and electrical engineering since 1976” (National Research Council USA, 1999, p. 2). Open source companies like Collabnet represent a second step away from the free software and open process methods: capitalist friendly aspects of cooperation are enclosed inside corporations and corporate networks that utilize the “community-based model, without losing intellectual property rights to the public” (G. K. Lee & Cole, 2003, p. 647). In open source, the state got an improved capitalist mode of production wherein the production of the academic and volunteer hacker communities could be turned into sources for private profit. In short, open source frees capitalism from free software ethical constraints, egalitarian beliefs and practices.

Another example is Google’s PageRank patent – a concept the history of which has recently been written (Franceschet, 2011) – held by Stanford university who also got a large number of shares in Google. While the code that Google uses is developed through the cooperative model with elements of the egalitarian mode of production, the patent on which Google built its empire, the algorithm producing their presentation to the users, is secret (Ippolita Collective, 2009, pp. 39–42). Google confirms the thesis that “capitalist abstraction rests on the common and cannot survive without it, but can only instead constantly try to mystify it” (Hardt & Negri, 2009, p. 159).

## 2.6 Wealth beyond capitalism and commodities: direct satisfaction of needs

Open source, but not necessarily open process. (Asay, 2009)

Within the inevitable ideological cracks that result from the fact that open source does not encapsulate the most important feature of the Internet founding communities, the notion of open process appears occasionally. From the 1950s onwards, when the production of software was still in its infancy and computers were not so powerful, nor widespread, software source code was not considered worthy of commercial exploitation, the capitalist mode of production did not see it as a source of profits. That changed in the 1980s, when corporations intensified assertions of their legal rights over the source code and software and hardware documentation, preventing hackers having access to it.<sup>25</sup> The strongest reaction from hacker communities came when Richard Stallman issued a call to arms to his fellow hackers for preservation of the form of their production: source code, documentation and end results having been shared for decades. Starting in 1984, the GNU project, free software, and its legal hack GPL – using copyright to assert legally that the code must be shared – were the results of the collective action for the preservation of the hacker form of production. Since then software production proliferated in both quantity and quality, taking especially large steps forward with the advent of the World Wide Web and more recently, mobile devices. Free software contributed many of the most important programmes and operating systems running majority of the networking and server side infrastructure. By the late 1990s, it was clear to many hackers and large IT business that there was plenty of free software with huge commercial potential, if only they could find the way to loosen the ethical demands that GPL and other strict licenses placed upon it. Part of the answer was to lean on liberal permissive licences, like the MIT one, or the BSD style ones, licences that allowed reusing the code without mandating sharing of improvements. In other words, firms could take a source code, add new features, or build a new product based on it, thus gaining competitive advantage: there was no legal obligation to release those changes publicly without charge, as it was the case with GPL and similar licences. They could either sell newly modified software as a commodity, or they could provide a unique Web or other networked service based on it. Apple's Mac OS X is, broadly speaking, one of the best known examples of the first instance, while Amazon and Google

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<sup>25</sup> For a history of the software industry, see Campbell-Kelly (2004).

fall into the second camp. Since companies did not have to share the modifications to the software under permissive licences, they were safe from easy cloning of their products and services. However, large quantities of potentially commercially extremely valuable software were developed under copyleft, under GPL, which meant that they had to release the modifications, thus enabling competitors to use the same software. Open source was born as a direct reaction to GPL and free software: it gave prominence to existing permissive and liberal licences, created a new set of such licences, widely promoting and encouraging their use over GPL. With the open source movement and licensing, vast amounts of labour performed by volunteers, academics and engineers, in both the private and public sector, became easier to integrate into the capitalist mode of production. The creation of open source was the reaction to the obstacles to the expansion of the capitalist mode of production over the software available under GPL and other licences that mandate sharing. In other words, with open source, to each according to their ability to pay, or to each according to their individual wealth, won over free software and its “to each according to their needs” principle.

### **2.6.1 Hackers: software “to everyone according to their needs”, contributions “from everyone according to their abilities”**

I argue that by mandating that the source code, documentation and the software itself be made publicly available, free software implemented a key aspect the developmental-egalitarian production in software production. Software was made available “to everyone according to their needs”. As I will discuss in the second part of the thesis, the same principle holds for public sector production and the allocation of the majority of its products/outputs with health, education, care and housing being the most prominent examples. I argue that this is where the most fundamental difference between the two modes of production, the egalitarian and the capitalist one, is visible. The form in which wealth presents itself differs. While in capitalist production wealth presents itself, to borrow Marx’s term, “as an immense accumulation of commodities”, in egalitarian production wealth presents itself in the form of outputs allocated, or made available, to meet needs directly, without mediation by commodities and markets. Large parts of the public sector constitute by far the largest egalitarian production of wealth in advanced capitalist societies. By keeping their labour processes open and thus making it far easier for anyone with enough skill and time to contribute to production, hackers have also implemented the other central developmental-egalitarian principle and aim: “from everyone according to their ability”. That is,

given enough time and skill, anyone can contribute to free software projects. However, while the vast majority of inputs to public sector egalitarian production are paid for (labour, materials, rent), and hence can be accounted for, the same is not the case with hackers' egalitarian production. First, hackers are often employed by organizations that are partly, but not fully, paying them to work on free software (Alleyne, 2011). These arrangements are frequently informal, thus very difficult to account for. Second, before the digital age, products were spatial, requiring geographical distribution, warehousing and points of sale. With free software, products are freely obtainable via the Internet, and the costly part of the production chain to distribute, store and make products available for sale is significantly reduced to Internet servers of comparatively negligible cost. While this aspect of software could be seen as immaterial in comparison with traditional products, it seems that it would be more accurate to talk about two key differences: software's low spatiality, and the allusiveness of the accountability of some of the key inputs (labour) and outputs. Thus, even when the outputs of software production are made available to everyone according to needs, it is extremely difficult to account for its inputs and outputs in monetary terms, or to account for outputs in terms of use. With some other products available through the egalitarian mode of production, like health and education, although the outputs do not take the form of commodity, we can account for both the inputs and for the use of outputs far better. Despite these difficulties, the possibility to contribute to software according to one's abilities makes those egalitarian outputs especially important to our research.

A summary of the history of the clashes of the two modes of production in software goes like this: since the 1950s, early hackers developed strong elements of the egalitarian mode of production. In the 1980s the capitalist mode of production starts asserting itself by imposing the commodity form and thus closing down the openness of the labour processes and work materials (final products, source code, and documentation). In 1984, part of the hacker community, led by Stallman, reacted to protect the egalitarian aspects by formalizing the set of ethical principles to guide their activity, making sharing of the work materials legally mandatory. In 1998, the capitalist mode of production attacks again, this time internally, from within the hackers communities, by splitting the hacker communities through the creation of the open source movement which gave permissive licences huge prominence.

Yet, the persistence of the most fundamental relationship in the capitalist mode of production, that of the exploitative wage labour, is shown by the fact that egalitarian forms of production practiced by a large part of hacker communities still relied on the dominant capitalist

mode of production. In the absence of the evaluation of the positive, productive contribution made by the egalitarian forms of production, visible in the problems of accounting for both inputs and outputs mentioned above, the capitalist mode captures some of those software activities and makes them valuable within capitalist economies, using its own methods: commodification, monetization, and extraction of surplus value. In other words, when there are no concepts and measures to capture wealth produced in the egalitarian production, such production is on the macro level rendered invisible. Its positive contribution becomes visible only when it enters commodification and capitalist measures: more sold software increase flows of final outputs (GDP), potentially creating profits, to name the two most prominent ways of measuring.

### **2.6.2 Methodological notes**

The question that inevitably needs to be asked is how do hackers themselves see their work and what is their concept of wealth? To start with, from a Marxist perspective, whatever workers personally thought of the production process they are engaged in bears little relevance to its operations. The task of theoretical reflection in this field of research is to construct an analytical framework that can help grasp key elements, relations and effects (consequences, outcomes) of production. That is not to say that I am not at all concerned with the subjects taking part in production. Rather, the role that their views and beliefs play in the construction of our analytical framework differs from that of analytical approaches starting from individual producers and groups. My method, inherited from Marx, designates the direction in which the investigation proceeds. Analysis does not proceed from individuals, as it does in neoclassical, or Keynesian economic accounts, or most often in sociology and anthropology. It proceeds from an understanding that the decisive forces that shape a society as a whole lie in its mode and relations of production, with the behaviour and to a large degree the ideas of individuals involved determined by how they relate to each other in this socially dominant mode of production (Marx & Engels, 1987b, p. 195). However, this does not mean that I ignore producers and their views. The process of the construction of categories through which I form an understanding of the whole is driven by looking at concrete reality and its often contradictory simple determinations. To put another seemingly contradictory methodological commitment in extreme terms: although the individual parts, labour taking part in production, hackers and their hacking, do not exist separately from the social relations that govern the mode of production and society as a whole,

my investigation still starts by looking at the concrete reality of their work.<sup>26</sup> The reason I look at the concrete realities of hacking is not in order to derive an understanding of individual behaviours, but to gain insights that can help us to construct macro categories, elements and relations that dictate the overall logic of production. In his Introduction to Three Volumes of Capital, Michael Heinrich repeatedly puts this important point across:

In bourgeois society, people's spontaneous consciousness succumbs to the fetishism of the commodity and money. The rationality of their behaviour is always a sort of rationality within the framework set by commodity production. If the intentions of social actors (that which they "know") are made the point of departure of analysis (as is the case in neoclassical economics and various sociological theories), then that which individuals "don't know", the framework that preconditions their thought and activity, is blanked out of the analysis from the very start. (Heinrich, 2012, p. 78)

Therefore, although this analysis does not begin from the intentions and ideas of individual actors, they have played a part in the development of my understanding. For Marx, this key difference between the whole and individuals was most prominent in his approach to the kernel of his theoretical project, his value theory. Explaining the difference between Marx's value theory and that of classical political economics and neoclassical economists, Heinrich points out that with his value theory, Marx was seeking "to uncover a specific social structure that individuals must conform to, regardless of what they think" (ibid., p.46). Since for Marx "the specific social character of commodity-producing labour" has to be explained, it seems important to ask the same of developmental-egalitarian production. As was pointed out in the introduction, capitalist commodity production satisfies needs as a by-product. Its goal is surplus value, with wealth presenting itself to us in form of immense accumulation of commodities. So what is the special social character of wealth-producing labour in hacking and free software? While I cannot answer this question compressively in this thesis, one can start assembling elements that point towards an analytical framework through which answers may be given.

### **2.6.3 Reading the GNU manifesto: implicit anti-capitalism**

Looking at Richard Stallman's texts may provide us with evidence of the links between his understanding, and that of egalitarian political movements. Stallman's views on emancipation do

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<sup>26</sup> We discuss more our reading of Marx's methods in 4.3 (Marx's methods).



not seem very far from how labour movements and Marxists understand emancipation. Stallman's take on contributions to society, which may be interpreted as the creation of new wealth, deserves a special attention. In the GNU manifesto, perhaps the key document for the free software movement, Stallman presents a series of views in the form of questions and answers. One of the central doubts expressed by the critics was about hackers making a living, getting paid to produce free software. This is how Stallman addresses it:

"Don't programmers deserve a reward for their creativity?"

If anything deserves a reward, it is social contribution. Creativity can be a social contribution, but only in so far as society is free to use the results. If programmers deserve to be rewarded for creating innovative programs, by the same token they deserve to be punished if they restrict the use of these programs."

The social contribution discussed here is a piece of software. It is something useful that meets people's needs. It can take two forms: free software, software which can be shared, inspected and improved on (hence society is free to use the results of the social contribution), and commodity-software. By closing software into commodities, for Stallman, social contributions are minimized due to the restrictions that the commercial form imposes: commodity-software does not come with its source code and detailed engineering documentation, nor can the source be improved on and a new version released with improvements. Both forms are a social contribution, but of a different kind. Contrary to the logic of commodity-producing labour, the basis of survival for the vast majority of workers, Stallman does not think that such labour deserves a reward. This is because by expending labour in producing commodity-software, a programmer takes an active part in reducing the possible contribution that that piece of software may have had on society as a whole if released as free software. In other words, commodity-software production is seen as a social form that results in a reduction of positive social impact in other quarters, and as an offense that ought to be punishable. The manifesto continues with the following:

"Shouldn't a programmer be able to ask for a reward for his creativity?"

There is nothing wrong with wanting pay for work, or seeking to maximize one's income, as long as one does not use means that are destructive. But the means customary in the field of software today are based on destruction.

Extracting money from users of a program by restricting their use of it is destructive because the restrictions reduce the amount and the ways that the program can be used. This reduces the amount of wealth that humanity derives from the program. When there is a deliberate choice to restrict, the harmful consequences are deliberate destruction.”

This clarifies what may not have been entirely clear in the previous question and answer. For Stallman, wealth is derived in use. This is unlike the capitalist mode of production, where wealth appears as a proliferation of commodities. Unlike physical objects and services, where possession and use in the vast majority of cases restricts others from usage, software products are considered non-rivalrous: individual use of the product does not limit or reduce usage for others. It seems that this is why Stallman considers commodity-software to be a form of deliberate destruction: by turning software into commodities, their availability, use and possibility for improvements by anyone with enough skills and time is restricted, not broadened. From this argument, it follows that payments for creating wealth are fine for a more advanced free software production, but not for commodity-software, which reduces wealth creation that would have ensued had the same software been released as free software. However, the norm in society is commodity production. If all software was produced as free software, everyone with adequate access (admin rights, so that new software can be installed) to adequate hardware (which can run the software adequately) could meet their software needs regardless of their individual wealth. Therefore, when Stallman considers free software as a superior production, he makes the judgment from the standpoint of the welfare of society as a whole. From the standpoint of capital, free software holds great potential for commercial exploitation, but on its own it does not represent a form of wealth, since profits cannot be derived directly from it, nor can monetary value be determined with precision. Stallman’s thinking about software seems to suggest that like public education or health, free software ought to be a part of public sector production, thus making software part of citizens’ entitlement to the direct fulfilment of their needs. Unlike the capitalist mode of production where the satisfaction of needs is a by-product of a rush for profits, the production of free software aims to meet needs directly, without a proxy system of valorization like commodities and markets.

“Won’t programmers starve?

[...] the wrong answer [...] accepts the questioner’s implicit assumption: that without ownership of software, programmers cannot possibly be paid a cent. [...] The real reason

programmers will not starve is that it will still be possible for them to get paid for programming; just not paid as much as now.”

Programmers would not create surplus value any more, nor be a key element in creation of profits for capital, thus they would be paid less. But who would pay them then in this scenario? The public sector is the only long standing institutional arrangement, though other, far more risky models may be available. The GNU manifesto continues:

“Restricting copying is not the only basis for business in software. It is the most common basis because it brings in the most money. If it were prohibited, or rejected by the customer, software business would move to other bases of organization which are now used less often. There are always numerous ways to organize any kind of business.”

Stallman seems to think that a free software producing company can still be profitable, that without the commodity form, wealth can still be produced. However, something has to be restricted for a user to want to pay for it. Scarcity has to be created. Unless a form of production similar to the public sector takes over free software production. Wages for programmers would not be as high as they are nowadays, but would be more in line with other trades less crucial to the capitalist mode of production and with labour more widely available on labour markets – this is another message we get from GNU manifesto:

“Probably programming will not be as lucrative on the new basis as it is now. But that is not an argument against the change. It is not considered an injustice that sales clerks make the salaries that they now do. If programmers made the same, that would not be an injustice either. (In practice they would still make considerably more than that.) “

Finally, this last point shows that according to the GNU manifesto, the guiding text of the free software movement, amassing individual wealth, the most important end goal of the capitalist mode of production, does not take priority over the broader social interests outlined above. In other words, the overall impact of product (software) on society is measured not from the individual to the whole, but on a basis where the whole takes precedence. The equalization of wages with those of other professions is mentioned merely as a by-product of the capitalist mode of production ceasing to treat hackers as special workers paid higher wages.

#### 2.6.4 Free software hackers and labour movements

I hope to have demonstrated by now that free software hacker production shares a lot with left egalitarian thought and its political movements. Sharing across society was one of the most fundamental principles and practices coming out of workers' movements, and its highest form of development thus far are socialist states and states wherein large sections of the public sector allocates its outputs according to needs directly. For both free software and left movements, the commodity is an undesirable form of wealth. Critics on the left often point out that scarcity based on constantly invented new needs is actively produced in capitalism. Yet, for Stallman, "In the long run, making programs free is a step toward the post-scarcity world, where nobody will have to work very hard just to make a living". This arguably is what workers movements have fought for since the industrial revolution.

Most importantly, the question of the working day is also expressed clearly in the GNU Manifesto: "We have already greatly reduced the amount of work that the whole society must do for its actual productivity, but only a little of this has translated itself into leisure for workers". For Marx, the struggle for shorter working hours resulted from the long struggle between the capitalist and the worker (Marx, 1990, p. 382), from a "protracted, more or less concealed civil war" between the two sides (ibid., p. 412). Increase in free, or leisure, time, was for Marx how wealth appears from the perspective of workers and their self-development. However, regardless of all of the above similarities, Stallman thus far has failed to identify capitalism and its mode of production as a reason for the benefits of increased productivity not being shared across society (Stallman, 2009).

Many of the above points from the GNU manifesto cannot be situated solely by a reading of free software and open source along the lines of liberal ideas like free speech (Vasile, 2009), although free speech undeniably plays a crucial role (Coleman, 2009). More importantly, the reduction of time Stallman mentions, technical gains in productivity to translate into less forced wage labour, cannot be squared with the central liberal tenet of private property, nor its extension into the right to private accumulation and private use of wealth. It seems to me that for Stallman's claim to become feasible, a necessary rapid increase in social, shared wealth – becoming possible through advances in technology and knowledge – would have to be developed under an egalitarian political, economic and legal system.

However, given the poor record of organizations with egalitarian political beliefs to grasp and utilise opportunities presented in the past few decades, it should not be surprising that free software and hackers find it difficult to think of themselves in relation to the 20<sup>th</sup> century forms of left politics and its histories. In the vast majority of cases strictly hierarchical, opaque, slow and unadjusted to the possibilities that new methods and technologies offer to organizational forms, trade unions and political parties are organizationally configured in many ways that are quite the opposite of how hackers' free software production takes place. Organization is here not just how people cooperate; organization creates new political possibilities which can be expressed as new political demands.

As some authors on the left have pointed out, although this is far from the only crucial aspect, without access to accounting books and business documents more broadly, workers cannot possibly know how to intervene in the operations of organizations where they work. Ernest Mandel puts this point across with clarity:

One can sum up the basic difference between the ideology of 'participation' and 'co-management' on the one hand, and the demand for workers' control on the other, in the following ways. Workers' control rejects the idea that the unions and/or workers' representatives should share in the management of capitalist industry; it demands for the workers a power of veto in a whole series of spheres relating to working conditions on the job, etc. Workers' control rejects any idea of secrecy, with the account books being opened only to a handful of carefully chosen union officials. On the contrary, it demands the widest, most total publicity for all that the workers may discover, not only from their examination of the employer's accounts and the way the firm's money is handled, but also, more important, by comparing those accounts on the shop floor with the economic reality they are supposed to reflect. (Mandel, 1973)<sup>27</sup>

Although this was written decades before openness was on the mainstream agenda, Mandel posited workers' interests as inseparable from openness of the data about the labour processes, linking it both with public openness and workers' being in a position to use their work experience when assessing the data. While open source was created to enable a reduction in such openness

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<sup>27</sup> See also Mandel (1969): a "challenge cannot be mounted effectively, that is, in an informed way, unless the books are opened, unless secrecy in banking is done away with, unless the workers drag out and expose all the secret mechanisms of profit and of capitalist exploitation [...] opening of the company's books must be done publicly and not be limited to a closed meeting with a few trade-union leaders, whose tendency towards good fellowship with the bosses is well-known."

by making it optional and promoting permissive licences, the openness which Mandel asserts as necessary for workers' control is the kind of openness found in free software, and in the long history of hacker communities practicing self-organized open labour processes. It has to be kept in mind that what made hackers' openness of labour processes co-exist and even thrive in some aspects with the capitalist mode of production was that it was applied partially. It was only hackers' immediate production that was open. No kind of vaguely similar openness of labour processes and work materials ever applied to places where hacker wages originated, in organizations responsible for the reproduction of value and wealth in which hacker communities were embedded in, be it universities, research labs, capitalist firms, or public bodies. The possibility to formulate the demands that Mandel talks about in the light of free software forms of openness – to formulate new practices, concepts and demands that would address the paradoxes of simultaneous closeness and openness of particular aspects necessary for the capitalist mode of production to reproduce itself – is currently lost for the political left.

Given that trade unions and left political parties do not practice or understand anything close to hackers' forms of cooperation, this is bound to make them unappealing to hackers. Yet, without the political experience and consciousness required to understand the history of egalitarian struggles and how it links to their own ethics and practices, hackers are also not in a position to develop new concepts, practices and demands which may elevate their practices to political demands with historical relevance. The positive resolution of this deadlock might have a significant impact on the egalitarian-left political forces and on egalitarian communities of hackers. It would be highly beneficial for both sides to participate in the development of more cooperative and egalitarian economic, political and governance concepts, practices and long-term demands, simultaneously antagonistic to the capitalist mode of production and affirmative and constructive of the egalitarian mode of production. In later chapters, I discuss how this development may proceed: its concepts, categories and what the measurements of it might be like.

## **2.7 Towards open-process academic publishing**

To test my notion of open processes both theoretically and to an extent practically, I looked at how to implement more open processes in academic publishing. I even developed a software platform in collaboration with groups of academics. Our starting point was that, in respect to existing hacker cooperation models, publishing and peer review processes in academia are

outdated and closed models. The key flaws are lack of transparency in the pre-publication process, lack of dialogue in both pre and post-publication phases, and a linear use of digital media that only scratches the surface of possibilities for greater reflexivity and dialogue in order to have more powerful, effective and responsive knowledge production (B. Cope & Kalantzis, 2009). The history of peer reviewing is closely tied to state and royal censorship, and academics take turns in disciplining each other and providing a sense of order and assurance that good science is produced, so that the contract between the state and science is preserved (Biagioli, 2002, pp. 12–13). A black box seems to be an apt description of this state of affairs:

You submit a study to a journal. It enters a system that is effectively a black box, and then a more or less sensible answer comes out at the other end. The black box is like the roulette wheel, and the prizes and the losses can be big. For an academic, publication in a major journal like Nature or Cell is to win the jackpot. (R. Smith, 2006)

There are examples of some hacker practices reused in academic publishing. The British Medical Journal (BMJ) and the Journal of Interactive Media in Education (Buckingham Shum & Sumner, 2001) include in their peer reviewing process discussion-based reviewing, first private then publicly open, in several stages. The more recent journals include Papers in Physics (Editorial Board, 2010) and Geoscientific Model Development. Atmospheric Chemistry and Physics (Editorial Board, 2009a) implement a multi-stage reviewing model, which includes an eight week period for public comments and another author revision prior to peer reviews. According to the editors, such a model brings with it the following advantages: rapid publication and free dissemination, traceable peer-review, immediate feedback by interactive discussion within the scientific community, and efficient new ways of publishing special issues (no ‘waiting for the last paper’) (Editorial Board, 2009b). Several journals use this model, enabled by a proprietary online publishing platform (Copernicus Publications).

In medicine, the PLoS One (PLoS, 2009) journal started from scratch in 2006. Today, it is one of the largest journals by volume in the world, peer reviewed, open access and with rich use of commenting tools and automatically generated article metrics. Its primary publishing criteria are data and methodology validity, while they leave the originality and importance for readers to judge. Their downside is a highly problematic principle that authors pay substantial publishing costs, although this is somewhat balanced by a fee waiver system and by the reviewers not knowing whether the authors pay or not. In physics, if the paper is considered original and

technically sound, *Papers in Physics* publishes the article, the reviewer's comments and the author's reply alongside the names of all involved (Editorial Board, 2010).

Critics may see open process as too alien to academia. A counter argument, and a strong one it seems to me, is that open processes, a key component of hacker ethics, were first developed and thrived in academia amongst software and networking communities.<sup>28</sup> Himanen draws many comparisons: in academia, a point of departure for researchers is the problem they personally find interesting. The academic ethic demands that analysis and solutions to problems be published in order that everyone may use, criticize and develop them further. Fulfilment of this is not required by law, but by internal rules in the scientific community (2001, pp. 63–79). In business, almost all aspects of cooperation – goals, teams, time frames, plans, methods, distribution of results – are typically set by the management hierarchy. In academia, teams are largely self-selected and self-managed with large levels of autonomy. For some commentators, current practices of academic journal publishing and peer reviewing are geared against innovation, seemingly “most appropriate for papers that contain little that is new”, on average with less capable researchers often judging the work by the best ones (Armstrong, 1997, p. 6). It is not rare to be in a situation where “leaders are explicitly advising new faculty not to innovate if they want a career” (Whitworth & Friedman, 2009a).

Instead of enabling better cooperation, which is key for knowledge production, the Internet and electronic tools are used in academic institutions increasingly to enlarge and multiply bureaucratic procedures, surveillance, regulations and managerial control, radically changing the university in the process (Angelis & Harvie, 2009; Dyer-Witheyford, 2005). That seems to be the trend (Sievers, 2008, pp. 242–3). While managers are imposing more control over many aspects of work (Bousquet, 2008, pp. 12–13, 59–70), we need to ask why it is that academics are so slow to adapt to those new tools and processes. One aspect of this, which this paper does not deal with, and which requires a separate study, is their possible use for the improvement of internal processes within university departments: self-governance, labour relations, and organization of work in all aspects. The other aspect is the production of knowledge, most of it revolving around writing and publishing in journal papers. Is the situation as rotten as it appears in the above selection of sources?

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<sup>28</sup> The best account of hackers' early MIT days (later University of California and Stanford) is in Levy's recently reissued book (2010b) – a longer account has been given in the previous chapter.



The Open Access movement and academic blogging are examples of the positive adoption of aspects of hacker cooperation. However, blogging is limited to individuals working on their own, linking and having discussions through comments. It does not apply to the full software-networking Internet model, which is not a surprise – it is not meant to be about collective, organised, prolonged production work. Still, I am tempted to argue that blogs, pingbacks (Langridge & Hickson, 2002), discussions in comments<sup>29</sup> (Adio, Jaud, Ebbing, Rief, & Woehlke, 2009), intense circulation of new posts and comments via RSS (RSS Advisory Board, 2009) amongst clusters of inter-linked blogs, are all elements of an early form of open process cooperation developing in academia. Not developing in an institutional setting, but, for now, in a self-administered way outside of it. It is impossible to say at this stage what its further development will be like.

There is no doubt that the current model of academic publishing is based on the private appropriation of public labour on multiple levels, with commercial publishers getting 30-40% profit margins, the highest anywhere in the economy (Beverungen, Böhm, & Land, 2012; Pirie, 2009). Corporations are a significant source of funding, but play no qualitative role in the production of journals. In the process they make significant profits, year after year rising subscription rates for libraries, with almost the entire production based on volunteer labour of academics. This conflict of interest between the academic community and corporations – who fund a fraction of the total cost, yet have entire control over the price and profits – came to prominence with a clash of titans between the University of California and Nature Publishing Group (Howard, 2010). The solution Pirie and Beverungen et al. propose is sensible: why not have those funds contributed by the state, all other parts of the system are largely state funded already – why not bring the publishing in-house under university presses. With Open Process and the gCommons platform the lack of organizational models and tools is being addressed in order to make such a move easier to consider.

### **2.7.1 Open-process publishing and reviewing advantages**

Here I speculate that journals implementing open processes could benefit in the following ways. In respect to structure and visibility of tasks, processes and work done to complete them will be clearer, which contributes to easier recognition of the workers who contribute the most work that

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<sup>29</sup> There are reputable journals already allowing comments directly in texts, blue squares in the text are user made comments.

matters to the organization. As a result of this visibility, focus on implementation work<sup>30</sup> and continuously carried out processes will increase, which keeps the organization alive and developing. Project management will become easier, while decision making will be placed into the hands of those who matter most, who contribute most to the implementation work, work whose progress defines the organization and ensures its continued existence. All of this might attract new volunteers and reduce the impact of the existing counter-productive internal participants. Today, given the structure of organizations across society, given our time based obligations to the workplace, and our waged labour, it is no surprise that it is difficult to see how these new processes of work, this hacker culture, especially its volunteer aspect, could be applicable. However, the following benefits could be gained with open-process publishing and peer reviewing:

1) *The quality of submissions would increase over time* – because new authors would see the history of the entire process and learn from it (from the archive of all submissions, peer reviews, editorial board comments, etc.).<sup>31</sup> In addition, quality would increase because new authors would be less likely to submit badly written texts with no adjustments to publicly stated journal guidelines – a big problem for editors, we are told repeatedly, is the large amount of low quality initial submissions. In the current system, with externally invisible submissions, the *reputation cost* of submissions for authors is too low: they can submit any rubbish without adjusting it to the journal’s guidelines and without caring for the quality of what they submit. The only people who see these disrespectful acts (towards the work of editors, especially volunteer work), and who associate it with the author’s name, are editors. If submissions were openly visible, the cost of submitting random, unadjusted, low quality, undeveloped papers would be far higher, since such disrespectful behaviour would be publicly linked to the author. The *Atmospheric Chemistry and Physics* journal has been operating an open, two-stage peer review process for years, and the results confirm the logic of our hypothesis:

Public peer review and interactive discussion deter authors from submitting low-quality manuscripts, and thus relieve editors and reviewers from spending too much time on deficient

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<sup>30</sup> In the Open Organizations project implementation work was defined thus: ‘anyone doing implementation work in the group, or has done such work in the recent past (e.g. within the past two months), can participate in its decision making’ (Geer, Malter, & Prug, 2005a).

<sup>31</sup> Richard Smith’s argument that “some readers, particularly researchers, will want to follow the scientific debate that goes on in the peer review process” (1997), is the same feature through which software and networking communities improve their work: decisions and changes debated and commented on email lists, blogs, and even in the source code (Kotula, 2000).

submissions. [...] The deterrent is particularly important, because reviewing capacities are the most limited resource in the publication process. (Koop, 2006)

However, there is a dark side to this: open-process peer reviewing might be a significant deterrent to many, if not to the vast majority of referees. The logic is the following: younger academics, or those with a lower career profile, or simply those whose work might be affected by any aspect of the reaction of the author who is being reviewed are not likely to be willing to review a paper of a big academic star, if their names are revealed. According to this logic, anonymity protects the referee and gives her the freedom to respond without any possible retaliation by the author. Although such a scenario is quite likely in today's academic climate, the principle of anonymity seems rather unethical (Godlee, 2002). A critique behind the veil of anonymity, the key purported positive feature of the current system, seems also entirely at odds with how the new writing is produced. In writing, everything has to be referenced, the more, the better. Ideas are critiqued, improved or abolished, and this works not only because rational arguments can be seen in relation to each other, but because by knowing the name, the history, the previous work and intellectual, sometimes even business and political, associations of the author, can help put those ideas, both the original ones and their critiques, in context.

Particularly in the social sciences, the name and biography of the author are essential ingredients without which it is impossible to evaluate their ideas. This core logic of academic production is lost in the current reviewing system. After giving it a second thought, I hold that the current system is flawed and destructive to the open battle over and cooperation of ideas that academia relies on through sharing, referencing, and quoting. These key features could and therefore should be upheld by a new peer reviewing and publishing system, replacing the current one. Open Process gives us an option to consider.

### **2.7.2 The history of the peer review and its problems**

Peer reviewing has a long history (Spier, 2002), but it was not much researched until the 1990s. A large scale randomized controlled trial with 420 reviewers by *The British Medical Journal* (BMJ) – introducing eight areas of weakness in a paper accepted for publication, giving it to five separate groups of reviewers under different conditions of anonymity – found out that ‘neither blinding reviewers to the authors and origin of the paper, nor requiring them to sign their report had any effect on rate of detection of errors’ (Godlee, Gale, & Martyn, 1998). A follow up BMJ randomized trial, examining effects of revealing reviewers' names to authors of the paper, found out that

although identified reviewers produced slightly, but not significantly, better quality reviews, there was a significant difference in the number of reviewers refusing the review, with 12% more rejections (35% v 23%) for reviewers with a revealed identity. They concluded:

...open peer review is feasible in a large medical journal and would not be detrimental to the quality of the reviews. It would seem that ethical arguments in favour of open peer review outweigh any practical concerns against it. The results of our questionnaire survey of authors also suggest that authors would support a move towards open peer review (van Rooyen, Godlee, Evans, Black, & Smith, 1999).

*The British Journal of Psychiatry* randomized trial a year later, with a goal to “evaluate the feasibility of an open peer review system” through 498 reviews, found that the quality of signed groups was significantly higher, with a more courteous tone, but took significantly longer to complete. Surprisingly a high number of reviewers, 76%, decided to sign their reviews (Walsh, Rooney, Appleby, & Wilkinson, 2000).

Finally, open Process will challenge current notions of the quality of the peer reviewing system. Only when the full process – from the initial submissions, through the reviews and revisions after the peer reviewing process to the published version – is seen will I be in a position to compare the two models. As it stands today, stating that peer review contributes to quality<sup>32</sup> seems a wild guess that lacks a proper argument and any scientific basis. Moreover, as suggested here, only if all submissions were made visible at the time of the submission would editorial boards and reviewers be made accountable and fully rewarded for their work. Moreover, “a number of important questions about peer review can only be answered, however, by studying rejected manuscripts as well as those that are accepted. Until such research is undertaken, peer review should be regarded as an untested process with uncertain outcomes” (Jefferson, Alderson, Wager, & Davidoff, 2002). Richard Smith, editor of the BMJ and chief executive of the BMJ Publishing Group for 13 years wrote one of the most damning articles on peer review and is worth a lengthy quote:

People have a great many fantasies about peer review, and one of the most powerful is that it is a highly objective, reliable, and consistent process. [...] it is little better than tossing a coin [...] ‘it is based on faith in its effects, rather than on facts’ [...] it is not a reliable method for

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<sup>32</sup> A political elephant in the room is here the question of quality. An open process production of knowledge would provide additional ways to open up the often unspoken political aspects of quality assessments.

detecting fraud because it works on trust [...] it is slow, expensive, profligate of academic time, highly subjective, something of a lottery, prone to bias, and easily abused [...] it is probably unreasonable to expect it to be objective and consistent [...] Sometimes the inconsistency can be laughable. Here is an example of two reviewers commenting on the same papers. Reviewer A: 'I found this paper an extremely muddled paper with a large number of deficits'; Reviewer B: 'It is written in a clear style and would be understood by any reader'. [...] (2006)

During his work at BMJ, several international conferences on peer review were organized, eventually leading to the BMJ switching to open peer reviewing as their default policy. Together with *The Journal of the American Medical Association* (JAMA) and *The New England Journal of Medicine*, they were leaders in the introduction of open peer reviewing (R. Smith, 2005). As a reading through of the history of peer review suggests: "the core assumptions inherent in the process must be evaluated and adapted to the changing environment." (Benos et al., 2007).

2) *The quality and innovation in published texts would increase* – because of the above point, and because opening up the whole, or most, of the publishing process would improve the quality of peer and editorial board reviews. Low quality, superficial peer or editorial reviews would be publicly exposed and vice versa – the possibility of a lost, or gained reputation as an editor or peer reviewer would be a motivating factor.<sup>33</sup> In the current model, all of that work is visible only to those few who participate.<sup>34</sup> In one of the most comprehensive studies, a review of 68 papers concerning peer review, a rather depressing picture is painted. At the time of writing it, Armstrong had been a professor for over thirty years, founding two journals and acting on fourteen editorial boards. He draws attention to the anonymity aspect of reviewing and the lack of reward, thus confirming what I concluded speculatively: "reviewers generally work without extrinsic rewards. Their names are not revealed, so their reputations do not depend on their doing high quality reviews". Although "reviewers typically have less experience with the problem than do the authors", they do not contribute any new data nor analyses, they spend between two and six hours doing it, often after waiting for months to do it. Overall, reviewers use their opinion against the scientific work of authors, often differing from other reviewers (Armstrong, 1997, p.

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<sup>33</sup> See (Kaplan, 2005) as an example of a proposal to make reviewers account for their comments.

<sup>34</sup> See (Fitzpatrick, 2010 unpublished manuscript) for an extensive analysis of the problems of anonymity in peer reviewing.

5). To complicate the whole matter further, academics are impressed by and prefer “complex procedures’ and ‘obscure writing”.

Amongst several suggestions Armstrong makes is to *have authors nominate one of the reviewers*. This is especially important for innovative work, type of work that provides “useful and important new findings that advance scientific knowledge [...] which typically conflicts with prior beliefs”, and requires a paradigm shift (Armstrong, 1997, p. 2). Another suggestion he makes is open peer reviewing, since “disclosure of reviewer identity allows for a deeper dialogue among interested parties [...] while once the article is pronounced ‘peer reviewed’ and published, there is little record of the process and no means of further development” (Phillips, Bergen, & Heavner, 2009). Such open process would create lasting relationships and build a reputation for good reviewers. The logic of reputation works well in life in general, it can work well via online tools too – Ebay is a good example of quite a successful model of closely attaching behaviour to a name. Peer reviewers could still easily stay anonymous, if they so choose they could send their review to editors who could forward it to the open-process system. In that case, they lose the reputation they could have gained for a signed submission well reviewed. Neylon has argued that reviewers should be “held accountable for the quality of their work. If we value this work we should also value and publicly laud good examples. And conversely poor work should be criticised.” Recognizing that most of us do bad reviews at times, he states clearly why this is the case: “After all, why should we work hard at it? No credit, no consequences, why would you bother?” Regarding the reciprocity argument, that we can only expect good quality peer reviews if we do the same ourselves, the author concludes that this may be true “only in the long run, and only if there are active and public pressures to raise quality. None of which I have seen.”

Another couple of key points the author makes are concern the *portability of reviews between journals* and the loss of opportunity for journals which could “demonstrate the high standards they apply in terms of quality and rigor – and indeed the high expectations they have of their referees”, only if reviews were open. Finally, “virtually none track the changes made in response to referee’s comments enabling a reader to make their own judgement as to whether a paper was improved or made worse”, thus setting editorial boards of journals up as judges who can pass an infallible judgement on every aspect of publishing on behalf of their readers (Neylon, 2010).

3) *Journals who implement this process well would attract more agile and risk-taking authors* – because through open process publishing it makes more sense for authors to take more

risks (which might sound counter-intuitive at first), to situate themselves less within the known/accepted knowledge boundaries, since they can rely on the peer and editorial assessments of their work done in public. This in turn can lead to less politically correct, career-opportunist position-taking from both authors and reviewers and to an opportunity for more bold leaps from both sides. In short, openness would steer the reviewing assessment towards a focus on the merit of the work assessed. Hence the authors can be more confident in submitting more risky, less compromise-driven works. This would lead us away from “the modern academic system that has become almost a training ground for conformity” (Whitworth & Friedman, 2009a), and away from the ‘publish or perish’ devaluing model whose low-risk, but well-referenced style of writing has made overall research difficult to assess. It would encourage ground-breaking authors to publish their new research early and suppress mediocre authors who often, by the sheer number of low-risk publications, prosper in the current play-it-safe system. Armstrong’s research again confirmed this: as a wide variety of research points out, it is common for reviewers to reject ground-breaking papers, as “it is more rewarding (for researchers) to focus on their own advancement rather than the advancement of science. Why invest time working on an important problem if it might lead to controversial results that are difficult to publish?” (Armstrong, 1997, p. 15)

If open-process publishing were widely spread, the re-writing of the same papers for different journals, again for the sake of careerism, to get research points and an extra publication would be far easier to spot and expose. The current opaque system makes it easy for low-risk careerists. Whereas Open Access is contributing to this changing for better, Open Process would reduce it further: participation of the wider community of reviewers would increase the chance of innovative, risk taking, work being spotted and it would help to develop it and publish it (Beel & Gipp, 2008).<sup>35</sup>

*4) Journals that implement this process well would significantly raise the dynamics/pace of research* – because some of the most in-depth debates that now happen on academic blogs<sup>36</sup> could develop thanks to a faster and open-process peer reviewing and commenting system being integrated into journals in some form. The form could be shorter, still referenced as academic

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<sup>35</sup> For how peer review functions could be developed and improved with a cooperative approach, through a new system see Scienstein. For a more technical explanation of Scienstein, see (Gipp, Beel, & Hentschel, 2009).

<sup>36</sup> See Nielsen, “Is scientific publishing about to be disrupted?” (2009b), especially the part where he discusses how the New York Times cannot compete in providing scientific writing with the amount of top scientists and their blogs.

papers are, and arguments even more focused than those in an average 8,000 word paper. My impression is that most journal papers revolve around a few core ideas (often a single one), not necessarily always connected so closely as to require a single paper. Today, I believe that at least some of these ideas originate in blog posts. Such high quality 700-800 words blog posts could be submitted, first as rough drafts, and then in a fully referenced short form of 1,500-2,000 words.<sup>37</sup> Since the argument would be shorter and more focused, it would be easier to evaluate, which would mean a shorter turnaround time for peer reviewing and publishing, and hence presenting an earlier opportunity for those whose work relates to it to respond.<sup>38</sup> Let us call this '*early screening*'. The cycle of publishing would thus follow more closely the way we research, especially for senior academics for whom "research is often done when a few precious hours can be salvaged from a deluge of other responsibilities" (Weber, 1999). It would also contribute to possibly avoiding the fact that 'many journal papers are out of date before they are even published'; with a rather frustrating truth that many experience personally, namely that 'in the glacial world of academic publishing one rejection can delay publication by two–four years' (Whitworth & Friedman, 2009a). In addition to this, there are situations when a rapid response of scientists could be immensely beneficial (Varmus, 2009). A few years ago, PLoS Currents started a project to provide a platform for fast publishing of scientific papers on specific issues (the worldwide H1N1 influenza A virus outbreak being the first one (Public Library of Science, 2009)), using a board of expert moderators instead of in-depth peer review in order to get papers shared as rapidly as possible.<sup>39</sup>

5) *Journals would gain readership and reputation* – because of all the above and because of internal benefits and their public visibility. That is, given that they remain in a form which still justifies calling them journals. Several authors consider that the future of academic publishing will be focused on articles, with a possibility of moving towards "public research environments" (Mietchen, 2009a) that will displace the notion of journals. One thing is certain, that journals do not have a single future (Nielsen, 2009c). Different platforms are already emerging and we will be seeing more of those in the near future. Scientific blogs are places where emerging models are discussed. Yet there are big obstacles to a more collaborative model emerging. Academic journal

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<sup>37</sup> Armstrong (1997, pp. 22–23) suggests alternative forms of articles, including publishing electronically peer reviews.

<sup>38</sup> See Gura (2002, pp. 258–60) for an open peer-reviewing model which starts with fully finished articles.

<sup>39</sup> In the spirit of open process, Daniel Mietchen (2009b) provided several excellent comments and references soon after I posted a first version of this text on my blog, some of which I have incorporated here.



publishing is a hugely profitable industry (B. Cope & Kalantzis, 2009) achieving its profits by a paradoxical privatization of the work done by communities funded mostly by the state, and selling access to it back to those who produce it via library subscriptions. In health sciences and within most established institutions, “the current publication and review process is controlled and fiercely defended by those who benefit from it” (Phillips et al., 2009). For Nielsen, for radically open collaboration, science lacks both tools (infrastructure) and incentives: why would one write and comment on blogs if that does not count when grants and jobs are given (Nielsen, 2009a).

### **2.7.3 Internal benefits for journals**

In addition, there could be enormous internal benefits for journals, all of which would contribute to their increased organizational health and development:

1) *A clearer structure and visibility of tasks and processes contributes to recognizing its most important workers* – due to the breaking up of a large task (publishing a new issue) into a set of defined and openly recorded smaller steps, a more precise and transparent allocation of tasks and responsibilities exposes who does what, how and when. This is crucial, since such practice rewards those who do more, better and timely work. In organizations, especially in voluntary ones (i.e. most editorial boards/collectives in social sciences and humanities), recognizing a contribution, or lack of it, is one of the keys for the survival and improvement of the project. If it can be considered relevant, given the differences in the fields of operation, a recent study has shown that contributors to popular websites (Youtube.com, Digg.com) are motivated by the attention they get. The attention comes from the volume of contributions. Users who get no attention tend to stop (Wu, Wilkinson, & Huberman, 2009). Although the work of a contributor to Youtube.com is significantly different from a volunteer in a collectively produced journal, there are some parallels. Translated in the context here, it suggests that making work on tasks visible (open-process publishing’s key point) is likely to award most attention to those who do most of it, which is a positive outcome for any project that relies on retaining its most productive members.

2) *Easier project management* – increased task modularity and real-time visibility of the status and article history (anyone can anytime check the state, comments, versions, reviews of any submission on the web system used) allows for better project management, easier allocation, delegation of tasks, and a more precise sense of progress and problems. All this is beneficial to the general work spirit, time and resource assessments, and to keep authors who submit papers,

and all other parties involved, informed correctly at all times about the full status of the submission.

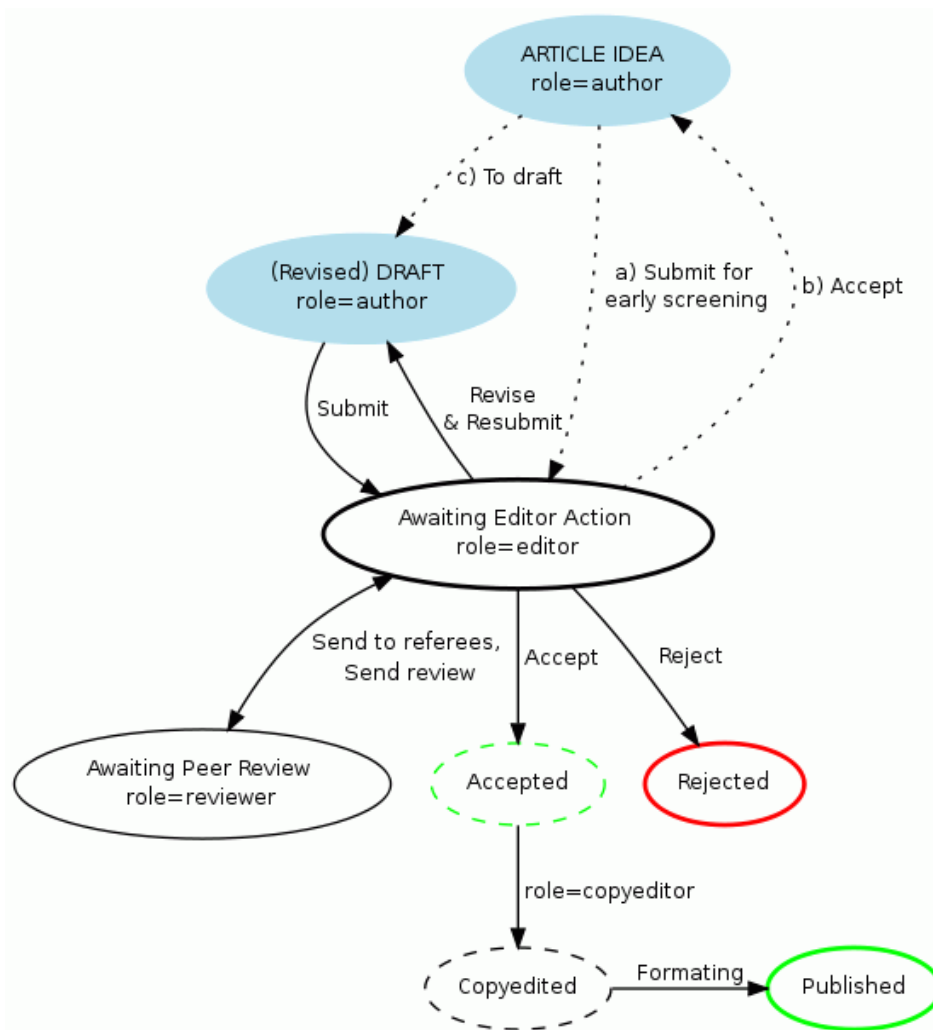
3) *Decision making in the hands of the people who matter most* – because who does what, when and how becomes visible, and because those who carry out implementation work continuously matter most for the organization, more decision making can be placed in their hands. For example, the Marxists Internet Archive (MIA) addresses this by defining a volunteer, and hence defining decision makers, through work contributions: ‘MIA volunteers are people who have, in the most recent six-month period, made at least three separate contributions over a period of three weeks to six months’ (Marxist Internet Archive Admin Committee, 2009) – not far from the above definition of the implementation work.

4) *Attract new volunteers and reduce the impact of existing counter-productive internal participants* – utilizing the above task and process openness and visibility, journal editorial boards could use decision making rules similar to the MIA to attract volunteers. Through linking of decision making rights and defined implementation work, it would be recognized that a certain type of work that could be done by external participants matters more than internal talk and communication among existing participants. To reduce risk, only certain decision making rights could be given to new participants to start with, until the existing board is assured they are fit to carry out editorial work according to the journal’s long term goals and strategies. This opens up groups and projects for new participants who would from the beginning adopt the culture (habits) of doing the implementation work, while simultaneously reducing detrimental influence. It could also lead to justified exclusion, or sidelining, of existing participants. In the context of groups where volunteering and self-managed play a significant part, this is a positive culture to develop.

#### **2.7.4 Modular process: workflows, states, actions and transitions**

To summarise, fully open-process academic publishing would amount to the following being open: initial submissions, editorial collective and individual comments, peer reviews, further peer comments, author comments back to reviewers, all the subsequent drafts, and the final published or rejected text. One objection is that authors would want only their final version clearly marked, used and quoted. A way to ensure this is to map and implement the entire production in software: modularise and define the workflows, roles, states, their actions and transitions. This gives good control over what is exposed publicly, when and how, thus enabling the wishes and

concerns of involved parties – authors, editorial boards, reviewers – to be addressed. A workflow diagram<sup>40</sup> will explain this best:



As the submission moves through the stages of the publishing process, its status changes accordingly.<sup>41</sup> The system has different *roles* (Author, Editor, Reviewer, Copyeditor) that are required to take *actions* at a specific stage. Comments can be left at the time of each state change and once made, additional automated actions (called *transitions*) can be configured and programmed to run.<sup>42</sup> Logged-in editors can see queues with the latest articles in a given stage

<sup>40</sup> gCommons article workflow with peer review (Grigera & Prug, 2010).

<sup>41</sup> The Critical Studies in Peer Production journal follows an alternative evaluation model (democratic knowledge exchange system design) developed by (Whitworth & Friedman, 2009b), and implements the concept of signals, where reviewers signal what they think of the article in eleven categories, instead of rejecting or accepting it.

<sup>42</sup> Sending an email to inform author about an article being accepted is an example. Transition can also be time-defined (Ohtamaa, 2009), providing a mechanism to send emails about overdue tasks.

(imagine it like an RSS feed on the side bar of a website).<sup>43</sup> Editors can also assemble a personal dashboard, creating an individual view of the production process, selecting article queues and other available components. This provides a complete view of all the latest articles in the publishing process. Here is one such dashboard showing six state queues (Submissions contains submitted drafts) with the latest articles:

Toni Prug's dashboard Profile

<p><b>Submissions</b></p> <p> Technologies of the common ari — May 27, 2010</p> <p>Full list...</p>	<p><b>Awaiting Referees</b></p> <p> Another test article tprug — Apr 07, 2010</p> <p>Full list...</p>	<p><b>Published</b></p> <p> my fish piece admin — Jul 03, 2010</p> <p>Full list...</p>																																										
<p><b>Awaiting Editors</b></p> <p> Only an ephemeral test jgrigera — Apr 02, 2010</p> <p> Terrace text tprug — Jul 03, 2010</p> <p>Full list...</p>	<p><b>Accepted</b></p> <p> Continental Drift tprug — May 28, 2010</p> <p>Full list...</p>	<p><b>Rejected</b></p> <p> teasdf asdf tprug — Jul 03, 2010</p> <p>Full list...</p>																																										
<p>« July 2010 »</p> <table border="1"> <thead> <tr> <th>Mo</th> <th>Tu</th> <th>We</th> <th>Th</th> <th>Fr</th> <th>Sa</th> <th>Su</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> </tr> <tr> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> </tr> <tr> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> </tr> <tr> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td>31</td> <td></td> </tr> </tbody> </table>		Mo	Tu	We	Th	Fr	Sa	Su				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		<p><b>Recent Changes</b></p> <p> Terrace text Jul 03, 2010</p> <p> draft_2 Jul 03, 2010</p> <p> teasdf asdf Jul 03, 2010</p> <p>All recent changes...</p>
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This is a highly flexible system, where each journal can configure its own workflow. It would be interesting to see differences in editorial models becoming visible as different journals start adjusting the platform to their needs.<sup>44</sup>

## 2.8 What can we gain from open process

Implementing open processes widely would also present an opportunity to challenge the logic behind journal ranking tables and other existing metrics. A demand could be formulated to open the processes of all ranked journals. Seeing editorial work – what gets rejected, what accepted, and on the basis of which arguments and reviews – could provide us with the arguments to open up debates and pose a challenge to the ranking tables, rendering them less authoritative.

<sup>43</sup> One of the reasons the Plone content management system was chosen to implement gCommons is because of its inbuilt support for workflows and states (Stahl, 2008).

<sup>44</sup> Although Open Journal System (OJS), a widely used journal publishing system, has the concept of workflow (Public Knowledge Project, 2008, p. 12), it was found to be rigid, too difficult to adjust to the needs of different journals and the open process optional aspects required.

Furthermore, open-process publishing would make labour in journals visible, thus helping justify demands to account for it in academic employment contracts. This would reduce the rate of unaccounted free labour, I argue. Most importantly, for universities that have to buy back expensive access to journals edited, peer reviewed and written by their own staff and other academics on university salaries, it would enable us to quantify financial investment of universities in the production of journals and academic books, thus forming clearer arguments for re-negotiating, or perhaps abolishing the control of corporate publishers over access to journals and books. In other words, open process would provide a strong financial argument for more open access journals and books.

Finally, implementing open processes would also open up the biggest paradox involved in academic knowledge production. Namely, both labour and processes through which works of academics are selected for publishing are mostly opaque, erratic, unreliable (BMJ trials evidence) and not accounted nor directly paid for. Since allocation of academic jobs is to a large degree closely related to this labour and these processes – authors that publish in highly regarded journals get the best jobs and positions – it follows that the allocation of jobs in academia is to a large extent based on an opaque, erratic, and unreliable basis i.e. on the journal publishing processes. This is the bitter truth of academic knowledge production that open process aims to disrupt. The Journal of Peer Production has taken on board some of those suggestions, integrating the open peer review.<sup>45</sup> However, overall changes in academic journals towards openness of the labour process have been minimal in recent years (Beverungen et al., 2012), while the profits of the corporate owners of journals kept rising, reaching profit margins that no other industry can dream about (D. Harvie, Lightfoot, Lilley, & Weir, 2012; Monbiot, 2011; Prosser, 2011). As is the case with the rest of the egalitarian political goals, the capitalist law of value, the structurally driven need of individual actors to strive for profits in the capitalist mode of production, exerts pressures that are proving once more difficult to overcome (David Harvie, 2000). As is argued in the second part of this thesis, broadly speaking, the economic laws of society are its key structuring force. In capitalism, economic value is expressed in monetary terms. Since there are no other ways to express value in socio-economic terms, an open-process journal cannot argue that it contributes value to society in a more beneficial way than the profits made by the closed,

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<sup>45</sup> See <http://peerproduction.net/peer-review/process/>

corporate-owned journals. This missing understanding of value and productive labour in the egalitarian mode of production is what is addressed in the second part of the thesis.

## **2.9 Conclusion**

In this chapter, I looked at the open source movement in a more detail. I argued that contrary to the widely accepted view that open source was based on a different methodology, even its key founder expressed views that free software hackers were already working using those methods. However, the claims of having an original methodology were not only important to differentiate the new brand from the old movement, but to appeal specifically to managers of large corporations and capitalist investors who were extremely reluctant to invest in free software projects and organizations. The capitalist mode of production cannot have principles driving action, ethical demands standing in the way of making profits. The crucial importance of the open source founders' appeal to a unique methodology was to position themselves as free of any ethical demands, and free of ideology. I hold that positions without ethics and ideology are not possible. The open source founders' move – a combination of social hacking, claiming they were ideology free and representing objective views, while accusing their opponents (free software) of being ideology driven – was the highlight of the capitalist mode of production's fight against the egalitarian mode of production throughout the 20<sup>th</sup> century. In later chapters, I will show a similar technique was used by the founders of economics to assert their neutrality, their lack of ethical or ideological commitments in their pursuit of what they claimed was a real science as opposed to egalitarian theoretical schools, like Marxism and Marxist economics, which displayed their ethical commitments to core aspects of the egalitarian mode of production explicitly. Instead of adopting the position of neutrality, I argue that the open source founders replaced egalitarian aspects of free software ethical commitments, narrowing down in the process avenues for considering hacker practices in a broader social context. An aspect of the broader social context where the two modes of production clash, is visible from the examples of Google and Amazon using free software (GPL and compatible licences that mandate sharing) and other software under more liberal hackers' software licences which do not mandate sharing. Although they deliver their core business services using free software, they do so in a way that cleverly bypasses GPL licencing created to impose ethical demands for mandatory sharing through law. As I argue above, some of the key beliefs and practices of hackers and the workers' movements and their organizations, trade unions and political parties, overlap. Yet, lacking a common language, the two sides are

unlikely to find each other appealing. The example of Pirate parties in Europe shows that some of the hackers' beliefs can be formulated in political terms without an appeal to egalitarian aspects. Finally, I look at how open processes can be implemented in academic publishing, and assess the advantages, problems and obstacles.

## **Intermezzo: hackers and the egalitarian mode of production**

In the first part of the thesis I discussed many aspects of the ways that hackers collaborate in constructing networks and software in novel ways. Before reflecting on the importance of this part for the thesis as a whole, I will first introduce the second part of the thesis. There my key concern is the exploration of human development in the egalitarian tradition. Historically, this kind of development can be observed in workers' organizations (burial and friendly societies, mutual aid), socialist states and large sections of public sector production in capitalist states. Both capitalism and egalitarian movements aim to develop human societies through technological advances, increases in productivity and the division of labour. While firm conclusions cannot be drawn about the detailed differences between the two, following Michael Lebowitz's work, I adopt a Marxist approach to the analysis, hence privileging the productive sphere as the essential site of the production of social relations. In our Marxist understanding, profits are the driving force of the capitalist mode of production. To fulfil the needs of governments to understand the dynamic of the development of economic activities within their territories, the overall success of societies has been measured by mainstream economics since the middle of the 20<sup>th</sup> century through the changes in gross final outputs (Gross National Product in the past, nowadays Gross Domestic Product), constant growth being the absolute imperative. Final outputs include both privately produced commodities sold at market prices, and public sector production counted as government purchases.<sup>46</sup> While we can know about the functioning of the capitalist mode of production from the perspectives of several economic schools, we lack an understanding of how the egalitarian development functions. Public sector production in capitalist states is nearly unanimously analysed from the perspective of the mainstream neoclassical school and its variants. Theorists in many socialist states tried to develop an understanding of their own productive activities either based on Marx's *Capital*, or by trying to merge neoclassical elements with Marx's work in order to construct concepts of socialist commodities and markets. Those approaches did not consider the productive activities that I see as egalitarian in a similar way, hence did not develop any systematic understanding of it. The omission was a logical

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<sup>46</sup> They exclude intermediate goods and services used for the production of final products, and government transfers (social programmes transferring cash) – to include both would be considered double counting by national accountants.



consequence of their starting points and conceptual frameworks. Following Lebowitz's understanding of Marx's *Capital*, I accept that it is not possible to apply Marx's concepts straightforwardly onto egalitarian production. First, as developed in detail my reading of Lebowitz's work in the second part of the thesis, although one can find Marx's comments on the standpoint of workers and their own development throughout his work, his central project was to understand capitalist societies and their economic and social laws and tendencies. The standpoint of workers, what they strive to, was not at all developed in *Capital*, especially not as a conceptual framework coming anywhere near the level of insight and abstraction found in Marx's analysis of the capitalist mode of production. Second, the capitalist societies Marx analysed had no public sector production that allocates according to needs, as we know it today in the form of health, education, care and partial housing provision. Clearly Marx could not have developed a conceptual analysis of a type of production whose growth exploded after his death, especially in the 20<sup>th</sup> century. The logic of this type of production, egalitarian production as I call it, when costs are socialized and outputs are allocated according to needs directly, is explored the second part of the thesis. In addition to early worker organizations (burial and friendly societies, mutual aid) and large branches of the public sector, I argue that hackers' production, especially since the formalization of free software, provides another example of egalitarian production and later in this section I illustrate its importance for the thesis as a whole.

In Lebowitz's words: "for the political economy of capital, the supreme goal is the growth of capital—that is, the accumulation of capital; and, to this end, anything that acts as a barrier to the growth of capital must be removed. In contrast, for the political economy of the working class, the supreme goal is the full development of human capacities" (2012, p. 144). What this full development of human capabilities may mean and entail, what its key concepts and relations are, and how its dynamic of change can be grasped, I show by looking at currently existing elements of such type of human development in the second part of the thesis. Since the sudden development of economics that occurred simultaneously with the spread of capitalism, it is not a surprise that classical political economy and subsequent mainstream schools of economics all consider productive activities almost entirely from the standpoint of capital, its interests and activities. This resulted in a profoundly capital-centric view of wealth and value-creating activities across economic schools. In contrast to those perspectives, I provide arguments for a conceptualization of productive activities formulated from a standpoint centred around human needs and the development of full human capacities for all. The socialist and communist maxim "from each

according to one's abilities, to each according to one's needs", appearing historically through the struggles of workers and their political organizations (Blanc, 1911, p. 7; Marx, 1989, p. 87; Meszaros, 1995, pp. 805–823), aptly conveys the egalitarian spirit of this standpoint. While I argue that the logic of this perspective on human development evolved furthest in practices in socialist states and in the form of public provision in capitalist states, there are severe limits to the full development of human capacities of all through those forms. Public sector provision still consists mostly of labour processes designed through capitalist criteria, where human labour is used purely as a means to their ends. This is a major obstacle to advancing a developmental egalitarian mode of production, as designing labour processes to facilitate and enable workers' self-development through practice is a crucial step towards development of human capacities of all (M. Lebowitz, 2010b, Chapter 2). Without it, elements of the capitalist mode of production within developmental egalitarian production would continue to act as effective limits on the development of the human capacities of all. This critical aspect is not just a problem of the public sector in capitalist states, it was also recognized as one of the key reasons for the downfall of 20<sup>th</sup> century socialist states (M. A. Lebowitz, 2013). Even in the socialist Yugoslavia, where self-management in companies had been the official doctrine since 1950, following the break up with Soviet Union), there has been no systematic education in workplaces that would enable workers to gain knowledge essential for participation in running companies, thus keeping workers and managers separate. While one can accept that making time for the education of workers and providing a specific type of education required for participating in running companies are political decisions that are likely to occur only through periods of class struggle, the question of how to understand and conceptualize developmental egalitarian production still remains wide open.

Here I argue that many elements of hackers' cooperation discussed in the first part of the thesis can enhance transition towards the domination of the developmental egalitarian mode of production over the capitalist one, with a special emphasis on the democratization of workplaces, essential for the full development of the human capacities of all.

First, hackers made their outputs publicly available to everyone with sufficient technology, skill and time, thus creating opportunities to use software to meet needs directly, without the commodity form that the capitalist mode of production relies on. The importance of the practice of "to everyone according to one's needs" in the sphere of software grows proportionally with the importance and the amount of software surrounding us. Hackers influence over the availability of digitally reproducible, useful objects does not stop with software. Sharing of written works via

copyleft and hacker-inspired licencing like Creative Commons has been a widespread phenomenon in the last decade. Frequently, those practices rely on free software for their production. In the last few years, the logic of developmental egalitarian production – where, given certain material conditions necessary for self-production (knowledge, technical equipment, time), designs can be made available to everyone according to their needs, and outputs can be self-produced – has spread into the spatially-material world through 3d printing (Moilanen & Vadén, 2013). In other words, there is ample evidence that hacker practices have created a small ripple effect in other spheres of production where digitalization can be widely utilized.

Second, by using licencing and the concept of copyleft, hackers hacked (repurposed) copyright, making it do the opposite to its designed purpose, making it protect the public availability of their outputs whilst also mandating the sharing of any future improvements. Here I explore the potential of hacking as a generic method. In a separate chapter I provide a reading of several key concepts from the history of economics to demonstrate how neoclassical authors used *hacking* to sway economics in the direction of their political aims. In my view, this is an important lesson for the construction of egalitarian concepts: material from politically opposite standpoints should be treated as a source code for hacks, rather than just as the target of critiques.

Third, there is an important difference to note regarding hackers' sense of human development. As touched on in the second part of the thesis, many theorists who tried to distinguish between desirable and undesirable needs for the purpose of classification of outputs in national accounts felt that the military should not count as a productive contribution. With rare exceptions, hackers insist that it is the freedom of end user to do as she wants with software that has to be protected. Here we see a subtle, but important difference. Unlike economists' discussions on what should count as productive contribution, and unlike many negative evaluations of military expenditure, hackers put their faith in the freedom of the end user to choose any use they wish. Freedom of choice in use stands, seemingly for vast majority of hackers, as a supremely valuable principle above considerations how any chosen use affects human development as a whole. The insistence on the freedom to use software for any purpose is in direct contradiction with many important sections of the GNU manifesto, as discussed above in the section on the implicit anti-capitalist attributes of the manifesto. This highly problematic aspect needs further elaboration in the future.

Fourth, while the first developmental-egalitarian principle, to everyone according to their needs, has been implemented both in the form of public sector provision in advanced capitalist states and even more broadly in socialist states, the second principle, from everyone according to their abilities, has been largely neglected (Meszaros, 1995, p. 817). This is not a surprise: such social agreements require a high level of needs being met directly, with a highly configurable labour force and labour processes. While this is extremely costly with production that contains non-digital inputs and outputs, the history of hacker production shows that when both inputs and outputs are digitally reproducible, with adequate wealth, networks and tools, production can be structured to significantly enhance the possibility of putting the second principle, from everyone according to their ability, in practice. The practice of open processes developed by hackers, discussed in detail in the first part of the thesis, is a crucial element for improving conditions for the possibility of contributions from everyone according to abilities in other spheres of production. In liberal discourses, this key aspect of human development is hardly ever observed, with the possibility of opening up production processes regularly collapsed into far more capitalist friendly concepts of openness, through the strategic opening up of only some aspect and elements of the production. With open data and open government initiatives – two good examples of such strategic, capitalist-friendly use of openness – the entire production and decision making processes do not have to change at all once the data has been made open. Crucially, open processes raise the questions of people’s capacities to participate, both in terms of time available to get educated, and time to actually participate and use the newly acquired knowledge. With open data, none of those questions have to be raised at all.<sup>47</sup>

Fifth, as formulated in the first part of the thesis, in the *Reading GNU manifesto: implicit anti-capitalism* section and elsewhere, without being explicitly defined as such, many hackers’ principles and practices are already a small step in the direction of a post-capitalist socialization of labour. I collated the most important aspects of how the socialization of labour differs in *Table 1. Comparison of cooperation: capitalism – hackers.*

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<sup>47</sup> In an even worse case scenario from the perspective of developmental-egalitarian aims and principles, open data may work well with a partial and strategic opening of the labour processes that does not contribute to human development in the sense I am developing here. In this scenario, already seen in, for example, My Society projects in the UK, volunteer contributions to some intermediate phases of production of low relevance are made possible, but without any power of decision making and without any macro changes to the relationship between the workers forced to sell wage labour in an undemocratic, subservient relationship to capitalist production. Amongst several other similar projects, My Society enables citizens to write directly to their representatives, and to report such concerns as trash in the streets, or damaged roads.

Sixth, studying Yugoslavian Socialism, Michael Lebowitz noted a lack of horizontal solidarity between companies, with workers focused only on the interests of the companies where they worked. Implementing open accounting books and open labour processes whenever possible, the rigid boundaries of organizations would become far more porous, since workers would, given the opportunities, as hackers do today, be in a position to start contributing to various organizations, according to their abilities and preferences. This requires a significant reduction of the working week and opportunities for specialist education of workers, but those are today not such radical proposals as they once might have seemed (Coote, Franklin, & Simms, 2010).

Seven, hacker practices may play an important role in the transition period, from the domination of the capitalist mode and its commodity production, towards developmental egalitarian production and its egalitarian outputs allocated to meet the needs directly. As has been learned from former socialist states, especially East European attempts in the 20<sup>th</sup> century, a transition to an egalitarian society cannot be a matter of a state takeover of the vast majority of production. Decades of experience show that many problems of the capitalist mode of production remain in place in such a scenario. First, capitalist profit driven commodity production keeps the law of value in place, accumulating value in more advanced companies and regions, increasing, instead of reducing regional and inter-company inequalities. Second, lack of structural changes to enable workers' education geared for participation in decision making at workplaces and in political bodies keeps the workers and managers firmly separate. It also enables the development of a ruling class consciousness amongst a section of managers, leading to a sense of entitlement that may lead to anti-egalitarian and pro-capitalist political engagements. Instead, any transition towards the domination of the developmental egalitarian production over the capitalist mode and its commodity production needs to proceed in a way that makes possible, or at least moves towards, forms of free association of producers, as Marx used to call the desired outcome. This means that the end result of the transition must not be a sort of "total state" taking over everything, but new forms of socialization of labour must take over what was previously commodity production.<sup>48</sup> For this to happen, I argue, hackers' forms of production, discussed in the first part of thesis through the development of the concept of open processes, sometimes

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<sup>48</sup> For example, see Michael Heinrich's brief account of a transition strategy (*Value, fetishism and impersonal domination*, 2014, sec. 1 hr 46 min).

considered as “commons-based peer production” (Benkler, 2006, Chapter 3) because of its attributes that link up freely associated individuals into productive groups, can play an important role. The same goes for political transformation, the move from representational closed bodies to forms of direct, participatory, democratic bodies, where through open processes and conditions created by the developmental egalitarian mode of production all inhabitants would be given opportunities to participate according to their abilities. This however is difficult to imagine without the state playing the central role in creating the conditions for the transition to occur (Prug, 2012b).

All of the above makes the first part of the thesis a crucially important component of rethinking production from our developmental-egalitarian standpoint.

## **PART II – WORKFORCE, STATE & ECONOMICS**

The second of my initial research was aimed to propose new modes of production, consumption and institutionalised politics, based on open processes and hacking. As outlined in the introduction to the thesis, a couple of large changes transpired in the course of research. I relegated the matter of proposing changes to the institutions that make up the state to a secondary research question. This was due to the realization that any possible political changes are highly dependent on the social relations that are continuously reproduced in the productive sphere. This does not mean that I take a view that the changes in political institutions that I consider necessary – various forms of direct participation of the people to replace representative bodies – will automatically follow if the productive sphere is adequately changed. Nor does it mean that I do not consider political institutions as productive in important ways for the reproduction of social relations. As will be argued in the following chapters, the egalitarian mode of production has been introduced on a large scale by the state adopting the workers' model of pooling of resources and allocation according to needs, and implemented it on the level of society as a whole. The state, learning from workers' practices, socialized many risks, thus a system to meet selected needs directly through allocation, instead of relying on the capitalist production to do so through commodities, markets and the wages it pays to workers. This in turn does not mean that the capitalist mode of production did not benefit from certain risks (not being able to maintain health, obtain education and housing, or falling into in the old age) being socialized and needs being met according to needs in certain periods. Still, the past decades show how, through privatizations, the capitalist mode of production penetrates the egalitarian mode of production – housing, health, education, public transport, pensions, to name the more prominent ones – to assert itself and its logic in those spheres. However, the wealth the state has been able to deploy productively to construct so many public services, to a significant extent allocated according to needs, still largely comes from the capitalist mode of production. Again, this does not mean that the capitalist mode of production could have been as productive as it was in the last century in advanced states without the egalitarian mode of production, through which the state created a solid foundation for meeting some of the key needs of society outside of commodities and markets. While in the 20<sup>th</sup> century the two modes of production have both struggled against and depended on each other (capitalists strive towards reduction of public services and expanded

commodification; workers' organizations strive to expand public services), the key categories through which the economic and overall success of social systems are judged— like value, wealth and productivity – are all one-sided. They have been developed from the standpoint of the capitalist mode of production, matching its needs and goals. This should not come as a surprise, given that the dominant mode of production in advanced states was and remains the capitalist one. For all those reasons, in order to rethink the key categories from the egalitarian perspective and the perspective of the full development of human capacities of all, I have removed the study of political institutions from the core research questions, putting the emphasis on the productive sphere and its disciplines: political economy, economics, and Marxist economics. In other words, although public services are productive and wealth creating, and although they set up and macro-manage the public sector egalitarian mode of production, the terms in which its productivity is understood cannot be re-evaluated by beginning an investigation with political institutions. First, the concepts, categories and measurements need to be developed to assess what are traditionally understood as the productive sectors. Hence an argument needs to be put forward for the spreading of the egalitarian mode of production as desirable and plausible social change. Put differently, while one cannot construct the theoretical framework required to propose new modes of production by starting from political institutions, once the framework is operational, its aim is to demonstrate in measurable terms how the political institutions contribute to productivity.

My central research question can thus be refined. Since establishing that a new, explicitly egalitarian, mode of production is already in existence, and that it has a rich and long history, instead of aiming to propose new modes of production, consumption and institutionalised politics, based on open processes and hacking, I now set out to construct the theoretical analytical framework necessary to understand this mode of production. It was found in workers' organizations (burial and friendly societies, mutual aid) and later in public sector services and hackers' production. The capitalist mode of production produces to make profits and distributes its products as commodities through markets, with distribution occurring according to individual wealth. In contrast, the egalitarian mode of production produces to meet needs directly, without proxies, distributing its products as allocated or freely available products, with the end users acquiring the products according to their needs, regardless of their individual wealth.

When the capitalist mode of production conquers new territories or new spheres of production, a huge analytical apparatus of rational thinking gets deployed to show the plausibility



of the claims that the spread of the capitalist mode of production is a desirable scenario, one that will increase well-being far better than any other mode of production could. While arguments for the capitalist mode of production are rarely made on an economic basis alone, and that there is a huge ideological apparatus linking the desirability of liberal parliamentary order with the capitalist mode of production, with especially strong emphasis on concepts like individual freedom and choice, I do not deal with this issue in the thesis. The central research objective is to construct a similar apparatus to demonstrate the plausibility and desirability of the egalitarian mode of production, as understood from the perspective of the full development of the human capacities of all. A whole set of derived research questions, which I attempt to answer in following chapters, also arise. What are the problems with economics? What would the egalitarian categories necessary to capture the results of the egalitarian mode of production, those that would play the roles of value and wealth in the capitalist mode, look like? What are the sources of wealth and value, and which activities should be considered productive of wealth and value in the egalitarian mode of production? What are the possible contributions of open processes and hacking to the understanding and development of the egalitarian mode of production?

Given that the discipline that deals with production and consumption of wealth and value in the capitalist mode of production is economics, our research has to start with it. In its early form, under the name of political economy, economics investigated the sources and causes of material wealth.<sup>49</sup> Since the 2008 capitalist crisis, the fundamental structural inconsistencies and weaknesses of economics to relate to the real working of capitalist societies became a lot clearer. The necessity and the scope of state intervention and the inability of mainstream economists to account for the roots of the crisis opened up the space for alternative analytical frameworks. Marxism has demonstrated in the past that only a systemic and historically rooted critique of the production and distribution of wealth gives us a chance to offer an affirmative counter-view to account for what happens in real world. I believe a view that can be used by political movements, especially for the construction of economic and political proposals and projects can be found in the egalitarian perspective of labour. Michael Lebowitz's reading of Marx's work provides us with a good starting point for thinking about the egalitarian mode of production and provision of social

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<sup>49</sup> According to Keynes, Marx was the first to name those early authors, Ricardo, Smith, Mill, "the classical economists".

resources according to needs.<sup>50</sup> Before looking at Lebowitz further, in the following chapter I will outline some of the key reasons for delaying our engagement with economics.

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<sup>50</sup> By provision, I mean the total process of the delivery of outputs, one that starts with production and continues through either allocation (the egalitarian mode of production, public provision), or distribution (the capitalist mode of production). Consumption is excluded from provision.

### 3. The problems with economics

#### 3.1 Introduction

There is a widespread view that the way economy has operated for some time has been highly damaging to society at large. The perception comes from the near collapse of the financial system in 2008, prevented only by swift government action to nationalise and re-capitalise large sections of the financial sector. Most blame the rampant speculation and growth in new financial products, greed, insufficiency of state regulation and the removal of a separation between commercial and investment banking. However, the roots of the problem go a lot deeper. The last crisis was only a symptom of a bigger problem. Parliamentary democracies and the capitalist mode of production never attempted to deliver democracy, especially not in the work place.<sup>51</sup> The system of political parties and elections is in theory capable of overturning the anti-democratic capitalist mode of production, perhaps even introducing a mode of production that would enable an egalitarian distribution of wealth, limit the economic working time of individuals, thus creating the material basis for and freeing up the time for broad democratic participation of all. However, with rare and only partial exceptions,<sup>52</sup> combined with the private ownership of the means of production, including the crucially important means of producing consent through mass media (Dinan & Miller, 2007; McChesney & Pickard, 2011; McChesney, 1999), the parliamentary system has delivered the rule of capital by proxy through the state (parliament, courts, government). In these developments, mainstream, orthodox economics played a key role. Although there is a wide set of arguments to call economics one of the main intellectual forces of capitalism in the last century, the judgment on its role and its success depends on the perspective. From the perspective of the majority of population, especially from the perspectives of informal workers and the vast majority of wage-labour, despite the vast increases in household consumption, marked by the steep rise in total working hours of a family (Basso, 2003; Schor, 1993) and increasing inequality, the neoliberal decades were at best a highly questionable period.

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<sup>51</sup> See Ranciere and Wood (2006; 1995) for a Marxist critique. In a libertarian critique of the lack of democracy in the workplace, David Ellerman asks the following: since society treats us as rational individuals responsible for negative consequences of our actions, why is it that according to the same logic we are not treated at the workplace as responsible for positive results of collective work, so that all earnings are shared amongst all employees? (Ellerman, 1993)

<sup>52</sup> Kerala (Fic, 1970; M. Williams, 2008), West Bengal, Tripura in India; Venezuela, Peru, Bolivia, Brazil.

From the perspective of the ruling class, set on amassing wealth both individually and as a class, what seems to us to be the primary aim of economics – to support theoretically the development of capitalism, to provide it with an ideological justification – has been extremely successful.

Attempting to observe how economics contributed arguments to support the capitalist mode of production, I discuss some of the important changes in economics in terms of *hacks*. It seems to me that such understanding enables one to see the class struggle with more clarity. Immanent critiques play an important part in hacking, since to hack an object it is necessary to know some of its key components in detail. In software, hackers are among the best in their trade. It is hard to tell without a detailed study, but I think that it is a safe speculation to say that the same is very likely to hold true in the social sciences. I also assume that class struggle in theory is quite often a conscious activity: many of the economists that I mention here do not hide their class allegiances. Not all hacks have to be about class, hacks are possible within economics schools and within political communities of the same persuasion.

### **3.2 Hack one, outright class war: from “to each according to needs” to “to each what he creates”, interchangeable factors of production**

Classical political economists held that labour is the main source of value and that it contributes intrinsically to wealth creation. For the pro-capital political economists, this was the central obstacle in explaining why the wealth creation process should be in favour of capital and capitalists. They battled with it in various ways: pushing economics towards mimicking physics, using almost exclusively mathematics to prove their scientific credentials, and focusing on the exchange and the concept of marginal utility as the only determinants of value in various ways. As early as 1850, well before Marx’s first part of *Capital* was finished and published, Frederic Bastiat made one of the principle aims of his *Economic Harmonies* “to show that landlords and capitalists created value and wealth in the same way that labor did” (Hunt & Lautzenheiser, 2011, pp. 180–4). Stanley Jevons was among the first to push labour out of the special position granted to it by political economy. Instead of being the foundation of value, for Jevons, labour moves onto the same plane as land and capital, becoming just one of the factors of production: “each labourer must be regarded, like each landowner and each capitalist, as bringing into the common stock one part of the component elements, bargaining for the best share of the produce which the conditions of the market allow him to claim successfully.” (Jevons, 1871, p. xlvi) Carl Menger was not far from Jevons on this. Hunt and Lautzenheiser argue that it is in his work that we find the

removal of surplus value so essential for Marx's theory of exploitation: "when each input was paid the value of its productive contribution, the value of the total output that had been produced would be exactly exhausted." (2011, p. 260). This move, the assertion that each input gets paid the value of its contribution, was the key to displacing the class struggle. Once the concept of surplus is gone, there is nothing for any person or class to expropriate, there cannot be exploitation and there is nothing to struggle about. The category of surplus is thus central from an egalitarian perspective.

John Bates Clark pushed the idea to another extreme, announcing his intentions from the first page of his *The Distribution of Wealth*. He placed the distribution of income on the level of a natural law: "It is the purpose of this work to show that the distribution of the income of society is controlled by a natural law, and that this law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates." (Clark, 1899, p. 1) Put differently, the distribution of rewards was not only natural, but meritocratic, according to the contribution of each factor of production. Paradoxically, profit, the central category in capitalist accounting is gone. Instead a new role appears, that of the entrepreneur who gets rewarded for his contribution to the production process like any other factor. In Clark's words, "cost prices are no-profit prices" (ibid., p. 78), and the competition makes sure that any deviation from cost prices is corrected (ibid., p. 111). In other words, what is called profit in Marxian economics is here recast as just rewards for the contribution of the entrepreneur as a factor of production. It seems that Clark was one the most candid early neoclassical economists. When it came to capitalist societies and the role of class struggle, he expressed clearly what was, from his pro-capitalist perspective, at stake: "free competition tends to give to labor what labor creates, to capitalists what capital creates, and to entrepreneurs what the coordinating function creates.[...] to each a corresponding reward – such is the natural law of distribution." This is, of course, diametrically opposed to the egalitarian principle "to each according to their needs". However Clark's own admission to the political significance of the model is worth quoting at length:

This thesis we have to prove; and more hinges on the truth of it than any introductory words can state. [...] The welfare of the laboring classes depends on whether they get much or little; but their attitude toward other classes – and, therefore, the stability of the social state depends chiefly on the question, whether the amount that they get, be it large or small, is what they produce. If they create a small amount of wealth and get the whole of it, they may not seek to revolutionize society; but if it were to appear that they produce an ample amount

and get only a part of it, many of them would become revolutionists, and all would have the right to do so. The indictment that hangs over society is that of “exploiting labor.” “Workmen” it is said, “are regularly robbed of what they produce. This is done within the forms of law, and by the natural working of competition.” If this charge were proved, every right-minded man should become a socialist; and his zeal in transforming the industrial system would then measure and express his sense of justice. If we are to test the charge, however, we must enter the realm of production. We must resolve the product of social industry into its component elements, in order to see whether the natural effect of competition is or is not to give to each producer the amount of wealth that he specifically brings into existence. (ibid., p. 3-4)

The future of capitalism, Clark thought, hinges on making sure that a wide acceptance of Marxian economics, its notion of value, surplus and exploitation does not occur. Demonstrating that every factor of production is paid according to its contribution is thus a key moment for the neutralization of the reasons that could make labour dissent and organize revolutions to claim their share. When Clark does briefly address the egalitarian premise, he unsurprisingly puts it in terms of an anti-egalitarian, capitalist understanding of wealth and value. Had labour, Clark writes, “worked according to ability and be paid according to need”, it would “require taking from some men of a part of their product, in order to bestow it on others who might be more necessitous. It would violate what is ordinary regarded as a property right”. Hence, for Clark, “the entire question whether this is just or not lies outside of our inquiry, for it is a matter of pure ethics” (ibid., p. 8).

Clearly the following applies: as long as the mode of production and its key categories (productivity, value, wealth and distribution) are being understood in a way favourable to capitalists, those topics are a matter of economics. The very moment the operating logic is established, the rationale of an egalitarian way of thinking about production and its key categories, or any other possible analytical framework that might disrupt the economic categories that constitute the capitalist mode of production become a matter of ethics, displaced outside of the scope of investigation. Here is why: along with labour, public infrastructure and capital, it is private property that constitutes one of the essential factors of production – to use Clark’s terms – under the capitalist mode of production. So, when Clark asserts that to consider the status of accumulated private property is to engage in purely ethical consideration, he is in fact asking that a key aspect of the capitalist process of production, its key factor of production, accumulated private property, is left out. Clark’s attempt to leave what he calls property rights outside of

economic considerations is utterly false according to his own logic. If the job of economics is to discuss factors of production, private property is on the table as much as any other factor.

However, there is one way Clark's own logic can be justified as consistent and right to leave private property out of the reach of economics, while shielding it within ethics: by returning to the idea of treating economics as a theoretical discipline with a specific function to justify and promote the capitalist mode of production. This seems to be the only way how Clark's assertion on private property can be interpreted as being a matter of pure ethics.

The more Clark is read, the less this shielding of private property within ethics seems a coincidence, or an accidental break up in the logic of his argument on factors of production. Clark calls the logic he presents "to each what he creates", with the payment of the wage to the labourer being "the point where the possession of property begins, in the payments that are made in the mill, etc., for values there created". Profit in this scheme is not a surplus that someone appropriates, "profit is the product of a coordinating act" (ibid., p. 9), i.e. profit is the value that the entrepreneur adds. To each what he creates seems too close to the egalitarian maxim "to each according to her needs", to be a coincidence. In conclusion, it seems to that Clark broke with the logic of his argument to counter the appeal of egalitarian ideas. Unlike the vast majority of pro-capitalist economists, he at least acknowledged his anti-egalitarian, pro-capital beliefs, and explained his anti-Marxist urgency with clarity and without doublespeak.<sup>53</sup>

Jevons was another early economist who displayed strong anti-worker and anti-egalitarian views. He disliked trade unions to such an extent that he devoted a whole book, *The State in Relation to Labour*, to labour relations. Due to their interference with a person's ability to sell labour and earn a living, trade unions are "opposed to the interests of the community" (1882, p. 99). For Jevons, "nothing can be more injurious to the poorer classes than any artificial restrictions in the building trades tending to raise the cost of building, or to impede the introduction of improvements in bricklaying and other building arts" (ibid., p. 104). Unlike casual labour, whose Friendly Societies and Trade Unions were sources of trouble to the state and capitalists (ibid., pp. 111–114), the organizations of highly paid professionals like barristers and physicians had "no trace of socialist tendency" (ibid., p. 121). Admitting that the function of a capitalist employer "acting as discounter of the labourers' share gives rise to a further conflict

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<sup>53</sup> Clark was sympathetic to egalitarian ideas earlier in his life. For the development of his beliefs and writings, see Perelman (1996, pp. 73–82).

with the labouring class”, Jevons wondered whether “the supposed conflict of labour with capital is a delusion” (ibid., p. 98). Instead of focusing on the conflict, “we ought not to look at such subjects from a class point of view, and in economics at any rate should regard all men as brothers” (ibid., p. 104).

To summarize Jevons: although he accepts that the state acts on the behalf of capital to reduce the share of the value labour gets, he considers labour organizations – who work on the opposite, on increasing the labour’s share – negative for labour’s own interests, while highly-paid class professionals, libel barristers, act positively. The biggest problem with such a set of views is not that they are anti-egalitarian and anti-labour, it is the weakness of the arguments presented that makes it difficult to engage with Jevons on any level.

The class war is blatantly explicit in Jevons and Clark but does not end with them. An important issue, one of distribution and its effects, also had to be explained in ways beneficial to capitalists.

### **3.3 Hack two, “welfare”: closures of interpersonal comparisons against the allocation of wealth**

In this section, I argue that Pareto’s neoclassical welfare economics removed the possibility of making arguments for the egalitarian allocation of wealth in the neoclassical marginal utility framework, using mathematical-economic principles, effectively ensuring that economic policies favour those who are better off to stay so. Herein I find more evidence that mainstream economics, predominantly neoclassical, is a theoretical framework developed mostly to defend the interest of the wealthy and oppose egalitarian ideas and practices. In the hands of neoclassical welfare economists, the term welfare – in its ordinary meaning associated with the wellbeing of all, hence its use in ‘welfare state’ – acquires the opposite meaning. This complete reversal in meaning is what makes it a powerful hack. Given the dominance of welfare economics in the economics curriculum, and its use in public discourse by economic advisers and policymakers, whenever the term ‘welfare’ is uttered in the political sphere, unless readers are familiar with neoclassical welfare economics, it is impossible for them to tell what the term is referring to. Is it welfare, as in the welfare state and public services, or is it the welfare of the neoclassical economics, meaning the protection of the well-being of the upper classes against the egalitarian allocation of the wealth that the welfare state does. Mark Blaug tells the story of the obstacles welfare economists set to remove. No matter how well neoclassical authors



conceptualized the production in their own terms, Blaug notes that if they wanted to argue that the rule of markets and exchange should be extended into allocation (taxes, transfers, public services and goods), they were still faced with an impassable obstacle. At the time, the prevalent thinking on welfare was to see it “as the sum of the cardinally measurable utilities of the individual households of a community”. In other words, although already measured by neoclassical marginalists on a purely subjective basis, the units of measure of utility were comparable between persons, in which case it followed that “an optimum allocation of resources is achieved only when income is equally distributed”. If the marginal utility of two persons can be compared in absolute terms, their welfare can be increased by distribution of wealth also in absolute terms. That was, of course, politically explosive, and had to be removed. Had such theory remained, interpersonal comparisons of utility would dictated that the wealth be distributed in order to improve the overall well-being of society. Pareto’s *Manual of Political Economy*, “the decisive watershed in the history of subjective welfare economics in which he [...] ruthlessly restricted himself to welfare conclusions that do not depend on any interpersonal comparisons”, Blaug writes, changed all that (1985, pp. 585–6). Pareto-optimal allocation is defined “as a position from which it is impossible to improve anyone’s welfare.” (ibid., p. 588) Put differently, “Pareto proposed a new interpretation of utility that completely de-psychologised the concept. The idea was that utility no longer had to be thought as a measurable variable, like electricity, or pressure.” (Varoufakis, Halevi, & Theocarakis, 2011, p. 127). All we were left with were lists of ordered individual preferences. Even worse than the removal of interpersonal comparisons, Varoufakis notes, once Pareto’s interpretation was accepted a key economic guidance of what lies in the public interest, “average utility as an indicator of collective interest”, was also gone. Pareto’s optimality, Hunt writes, is extremely conservative anti-egalitarian measure, since it removes conflict in the world: “The fundamental rule of Pareto optimality states that the economic situation is optimal when no change can improve the position of one individual (as judged by himself) without harming or worsening the position of another individual (as judged by that other individual).” Given that in the real world, “any important social, political, and economic situations where improving the lot of one social unit is not opposed by naturally antagonistic social units are indeed rare.” (Hunt & Lautzenheiser, 2011, p. 384), it begs a question

what could be the point of Pareto's optimality if not to serve as a strong ideological defence of the markets and exchange as perfect distributors of wealth.<sup>54</sup>

In addition to Pareto's efforts, the concept of *compensation principle*, first provided by Enrico Barone, and later developed by Kaldor and Hicks, provided a logical argument for bettering the already better off individuals. The principle states that as long as the losers in a proposed change in the welfare state of society will voluntarily accept a monetary payment for their loss, the change is an improvement for all. As Blaug points out, there is a good reason why none of the key authors insisted that the compensation must actually be paid: "a potential compensation claims that there is extra income available for distribution, whereas an actual compensation has in fact selected a particular redistribution of that extra income that is most preferred, at which point an interpersonal comparison of utility creeps back into the argument." (1985, p. 589). To avoid the interpersonal comparison, this argument is never considered to the end. Instead, a mere hypothetical willingness of one side to accept the payment validates the proposed distribution.

The key idea in Pareto's law, and in many of its extensions (Barone, Hicks, Kaldor), Blaug points out, is "the belief that 'efficiency' and 'equity' can somehow be separated" which "represents one of the oldest dreams in economics" (ibid., p. 591). Not only does such dream not seem attainable, but through claims of value-free welfare economics through Pareto-optimal allocation of resources a dangerous precedent arises. There are three fundamental problems with such allocation:

It is predicted on three assumptions which are undeniably judgments of values: (1) that every individual is the best judge of his own welfare; (2) that the social welfare is defined only in terms of the welfare of individuals; and (3) that the welfare of individuals may not be compared. (ibid., p. 592)

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<sup>54</sup> "Pareto optimum of resource and the existing distribution of power in society, including the system for property relations and distribution of property rights. It takes as given the existing distribution of sacrifice in society. Inasmuch as Pareto optimum assumes the existing status quo, it is obviously inherently conservative." (Medema & Samuels, 2012, p. 201). See Elster-Romer (1993) for a questioning of the removal of interpersonal comparison by neoclassical welfare economics. Bruni and Sugden provide a rich set of arguments that economics cannot progress with studying how humans behave without psychology. Along with Spread (2011), they argue that Pareto was aware of immense limitations to what he was proposing, but those warnings were ignored by those who used his theories. Unfortunately, their acceptance of rational choice theory as universal in its applications raises doubts about their extensive critique (Bruni & Sugden, 2007).

Although the consensus among mainstream economists on Pareto-optimal allocation and its value assumptions has been broad, for Blaug what Pareto's law attempts to achieve necessarily carries a value judgment. His final assessment of Pareto's law is put in entirely clear terms:

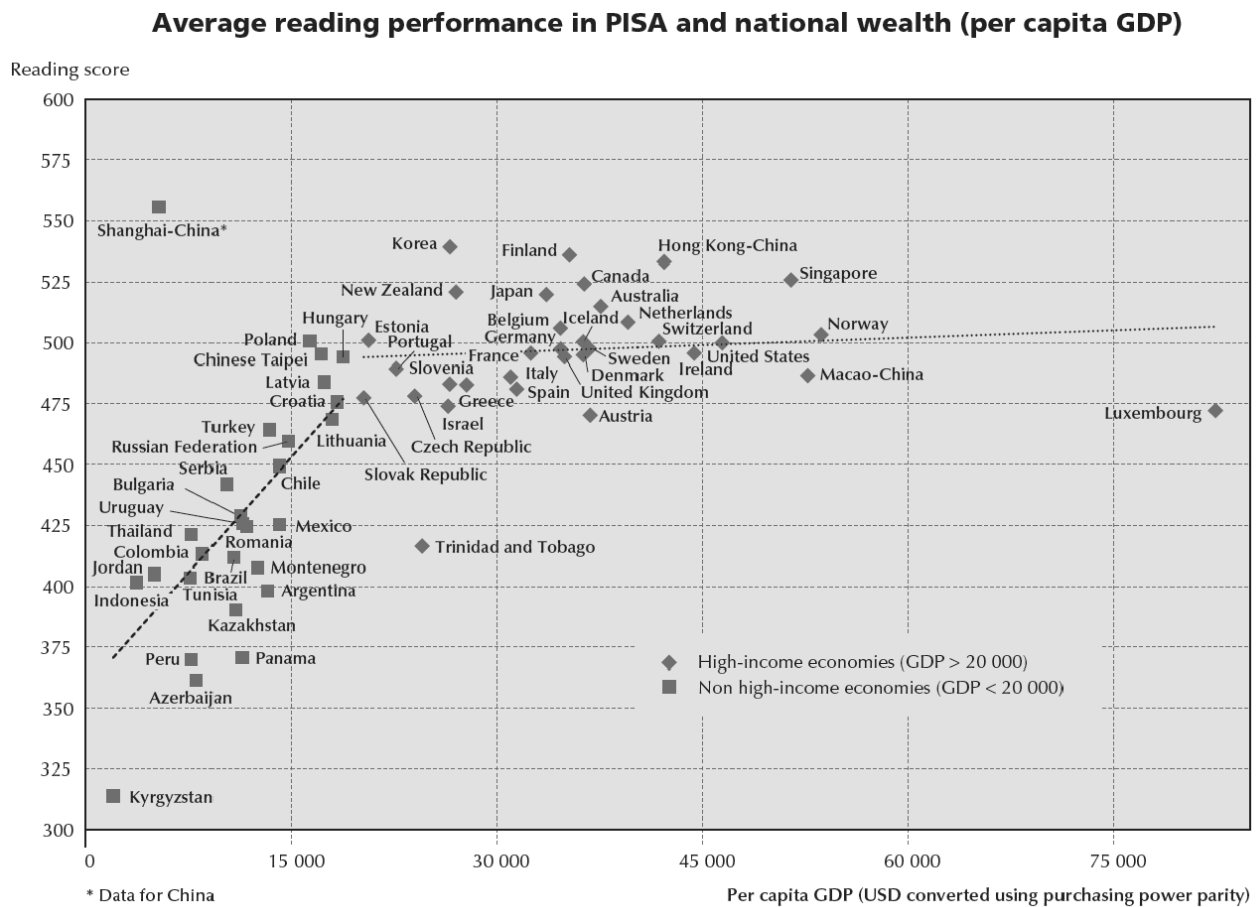
...there is no such thing as 'value-free welfare economics' and, indeed, the phrase itself is a contradiction in terms. To say that something is an improvement in 'welfare' is to say that it is desirable and persuasive statements of this kind necessarily involve ethical considerations, that is, value judgments. (ibid., p. 592)

Another danger that capitalism faced with marginal utility was *marginal utility of money* and its role in distribution of wealth. Namely, if the marginal utility of money diminishes, income redistribution promotes welfare. Lionel Robbins was among the authors who wrote against this, asserting that "ethical questions must be kept wholly out of economics", and that inter-subjective comparisons of utility were meaningless (Putnam, 2002, pp. 53–5). In Robbins' own words: "the assumption of equality" (in capacity for satisfaction) "comes from outside, and its justification is more ethical than scientific" (1938, pp. 637–641). However, regardless of numerous critics and not so complex and convincing arguments against the claims of objectivity, Pareto's theorem remains "the main justification for the implementation of the system of competitive markets" (Chipman, 2002, p. 9). In other words, regardless of the critiques, the Pareto-optimal allocation continues to be used widely in economics and for policymaking. Again, if one considers economics a generic theoretical discipline of provision, this would be difficult to explain. If one looks at it as a science of capitalism, this lack suddenly makes sense. Namely, if the utility of money also declines the more we use it, i.e. if the marginal utility principle applies to money, the logical conclusion would be that in order to increase the welfare of all, beyond a certain level of personal spending, money should be allocated to equalize its distribution across society. One of the places where the interpersonal and international use of money, can, at least for certain purposes, be compared, is OECD's PISA (Programme for International Student Assessment) project:

National wealth is no longer a predictor of a country's mean performance in PISA. The amount these high-income countries spend on education is similarly unrelated to their performance in PISA. After a threshold of about USD 35 000 per student, that expenditure is unrelated to performance. For example, countries that spend more than USD 100 000 per student from the age of 6 to 15, such as Luxembourg, Norway, Switzerland and the United States, show similar levels of performance as countries that spend less than half that amount per student, such as

Estonia, Hungary and Poland. Meanwhile, New Zealand, a top performer in PISA, spends a lower-than-average". (OECD, 2012a, p. 2)

Here is the graph that the above conclusion accompanies:



The results in reading performance climb steeply until the spending rises to around 25,000 USD. As the spending grows, which is the case in nearly all advanced countries, very little changes in the performance. This kind of empirical study is the enemy of Pareto derived neoclassical welfare economics, as it demonstrates that outcomes and spending are correlated.

### 3.4 Hack three, Robbins and the history of economics: From material wealth to allocation of scarce means?

Money-making ... is merely the intermediate state between a sale and a purchase ... it is merely a mean, a medium of exchange, an instrument of calculation ... Only the miser, the psychological monstrosity, desires and infinite accumulation of money. (Robbins, 1937, p. 31)

It is hardly believable that one of the most prominent theorists of neoclassical economics could have written something like this in 1931, in the midst of the biggest crisis that ever hit the advanced capitalist states. In *The Great Depression*, his book-length treatment of the crisis,

Robbins concluded that the crisis had nothing to do with failures of capitalism, but that it was caused by state intervention and monetary mismanagement; the restoration of free market capitalism being the necessary condition to recovery (Robbins, 2007, p. 194). However, not to be misled by this, it is crucial to note straight away that despite its continuous developments, the economics of the kind Robbins was promoting, especially the Walras-style pure mathematical formalist neoclassical branch that completely disregards empirical verification, takes the back seat after the Great Depression. Political forces, driven by the impact of the crisis, introduced state interventionist thinking. The birth of macroeconomics in practice on a grand scale – the New Deal, Marshall Plan, national accounting – was initiated by economists like Simon Kuznets, Richard Stone, John Maynard Keynes and Michal Kalecki, who all accorded less importance to mathematics and for whom what mattered was a mixture of empirical data collection, classification and understanding the links and relations between what really happens in national economies. I will return to this point in the last chapter. A more detailed reading of Robbins serves to demonstrate how different this research is from what neoclassical economics sets as its goals and methods.

The famous and most widely used definition of economics – “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses” (ibid., p. 16) – comes from Lionel Robbins as a flat rejection of the previous focus of economics, the sources and causes of material wealth. Robbins’ treatise projects a detachment from previous economics’ object of study, assuming constant scarcity and proposing instead relations between objects and strictly individual choices as the cornerstones of economics. It is from this definition that Robbins derives his conclusion on the neutrality of economics in regard to ends: “Economics, we have seen, is concerned with that aspect of behaviour which arises from the scarcity of means to achieve given ends. It follows that Economics is entirely neutral between ends” (ibid., p. 24). Translated into political language, since the social effects of the economic system – differences in wealth, social problems, accumulation of capital, continuous reproduction of social classes and privileges – have nothing to do with economics, economists are in a position to be the best advisors on how economies ought to be managed. Any social issues resulting from that advice are also none of the economists’ business; it is up to economic historians to deal with that. This claim about the purity of economics as a science and its neutrality vis-à-vis any desired social outcomes

constitutes a key condition for economists to be presented as the only trustworthy advisors for the political decisions concerning economic and other related matters.<sup>55</sup>

With Robbins' definition, the field of study is radically narrowed down to prices, and hence markets too, as the only key determinants worthy of investigation, while categories of classical economics, like labour and wealth, become irrelevant. The role of government and its policies becomes to create and safeguard markets in which individuals' choices will be reflected in prices (ibid., p. 146). According to him, such views of economics follow from "purely neutral analysis", it "deals with ascertainable facts", unlike ethics which deals with "valuations and obligations", affirming "rationality and ability to choose with knowledge", while having no ability to "pronounce on the validity of ultimate judgments of value" (ibid., p. 147). The pamphlet, in nearly complete discord with reality of wealth creation and its sources, became one of the linchpins of economics, both in teaching materials and in research. This is especially the case if when neoclassical economics is considered to be the primary capitalist ideological theoretical discipline.<sup>56</sup>

Robbins contrasted his approach with an older approach which was for him historic in character, and "the vestige of Physiocratic influence". In his view, Adam Smith's considerations of labour as productive and unproductive are a classificatory approach, one which necessarily includes value judgment on the behalf of classifiers, which he, and "modern economists" at the time, find unacceptable. Opposite to the "'closed' communistic society and its approach involving the executive deciding where to deploy production", the science of economics is "focused chiefly on the complication of the exchange economy", because it is an open system which relies on "the guidance of a price system". This is, according to Robbins, contrary to the "central ownership and control of the means of production", where "registering of individual pulls and resistances by a mechanism of prices and costs is excluded by definition". By this new definition, Robbins asserts, only the definition is rejected, and not "the body of knowledge which it was intended to describe" (ibid., pp. 1—28).

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<sup>55</sup> I lack the space here to develop the question of how economists became almost the sole advisors that mattered for political decision-making in more detail, but the topic deserves a lengthy study of its own.

<sup>56</sup> Its ideological role has been widely confirmed decades later, when this supposed freedom of choice of individuals became one of the guiding propaganda principles of neoliberalism. On-going privatizations of public services are still largely supported by these neoclassical arguments. Claims of neutrality and rationality also fitted with the use of mathematics as the primary method of analysis and proof of validity of economic theories.

Two points are visible here. First, Robbins, not unlike many of his neoclassical predecessors, defines his views on economics partly in contrast to left political views and practices, more specifically to the communist Soviet Union, which was at the time going through the most intensive industrialization ever known to humanity. Second, in his removal of the name while selectively retaining the body of knowledge, there are similarities between the creation of the open source movement (recall, open source founders removed free software ethics, but kept its body of work and methods) and the procedure Robbins describes. It is as if the open source founders knew the history of economics closely, or the question is one of a generic procedure of large-scale ideological turns, when entire histories and communities are re-cast, given new meanings and goals.

Under Robbins' new definition, economics is not interested in ends as such, or the technical and social environment, since "prices and costs are the reflection of relative valuations, not of merely technical conditions ... as every first-year student knows" (ibid., p. 37). All his new economics cares about are the relationships, since "the relationships between these things, and not the things in themselves are important to the economist" (ibid., p. 38). Regardless of his insistence on not rejecting any economic theories, his new definition of political economy rejects the core of both Adam Smith's work and the work of Physiocrats: their focus on material wealth and categorization of labour as the source of value has no place in Robbins' definition.

In respect to the role of economic and economic history departments today, Robbins' assertions – Economic History is "sometimes called Descriptive Economics" (ibid., p. 38), that it is separate from Economic Science – rings eerily prophetic. Given Robbins' position at the London School of Economics, it can be assumed that he had some influence in the cleansing of economics department of those who did not fit the new definition. "Economic Science lends no support to its doctrines [...] from the point of view of Economic Science, changes in relative valuations are data" (ibid., p. 45). Drawing a line between the various forms economics can take, Robbins implies that the form he promotes, Economic Science, is the only neutral one, with no ethics and no value judgments that influence it. Robbins shows most clearly how remote, yet expressed in subtle terms, his views of economics are from what I am trying to do here when he states that "there is no quality in things taken out of their relation to men which can make them economic goods ... whether a particular thing or a particular service is an economic good depends entirely on its relation to valuations.", One might for moment think that he does accept the role of ethics by accepting valuations. However, when he continues in the following sentence that, "wealth is not

wealth because of its substantial qualities, it is wealth because it is scarce” (ibid., pp. 46–7), it becomes clear that the valuations that he is talking about are those determining whether something is scarce, thus making it an economic good and an object of study for economics. In other words, only scarcity determines economic value. In complete opposition to this, in later chapters, I argue that such a view of economic, or economic-like value (since my research aims make it difficult, if not impossible, to stay within the boundaries of economics) is constructed from the perspective of capital. Robbins’ claim that scarcity is only to do with the relation between man and things obfuscates its purpose, its perspective and its political aims – this seemingly political neutral character makes the definition subtle, difficult to critique, while giving its pro-capitalist substance a powerful shell to hide within.

My thesis is that there is no such thing as a “generic economic value” such as Robbins attempts to construct. No matter how the concept of economic value is defined, the concept unavoidably ends up containing political beliefs and decisions made in advance. Decisions which – being at the foundation of the doctrine’s understanding of what is economically valuable – form the ideological kernel which by default becomes the invisible set of value judgments that permeate all economic and economic-like activities and subsequent theoretical developments. In order to stand a chance of constructing egalitarian and participatory production and allocation, the concept of value and other central premises need to be engaged with. In other words, the economics central concepts cannot simply be modified without first looking at its core positions. Although it is out of its scope to comprehensively address the foundations of economics, this chapter provides an insight into the direction in which my interpretation is heading. Given all this, it is valid question to ask whether what we know as economics today is, with rare exceptions, a combination of categories and measurements which embody neoclassical pro-capitalist, anti-egalitarian and anti-labour views, like those held by Clark, Walras, Jevons and Robbins.

From the developmental-egalitarian perspective, which I develop in later chapters, there are categories of needs the meeting of which does have intrinsic value, regardless of the commodity form that might or might not be present. Some of the key public services – health, education, care, public housing, to name a few – have this status. The questions is, other than Marx’s work and Marxism more broadly, which are useful due to their egalitarian commitments and the quality of their critique of mainstream economics, are there elements of economics which can help us to develop our research, whether directly, or when hacked, repurposed for my research aims?



The answer, I propose, lies in national accounting and theories developed around and through research on it. The picture is rather complex and I have the space to discuss only some of its aspects.

Firstly, the Great Depression, and later the Second World War, forced the governments of advanced capitalist countries to try to figure out what actually happens in their economies: how means of production and labour are utilized, what the relationships between the sectors, and between individual sectors and the economy as a whole are. The first systematic attempt can be traced to the early 1920s, when National Bureau of Economic Research (NBER) started to systematically collect the data and through a purely inductive approach learn economic phenomena – W.C Mitchell was the founder and a leading proponent of the institution (Fourcade, 2010, p. 82). This was also the time when Simon Kuznets did his studies under Mitchell, who proceeded to offer Kuznets a job, the latter eventually becoming the person to compile the first ever modern national accounts – this I return to in the last two chapters of this thesis.

Secondly, although understanding what happens in economies had to be done through vast programmes of data collection, this does not at all mean that concepts and categories through which this data was interpreted, made sense of, and formulated into the basis for policy making, was any closer to egalitarian aims than the neoclassical foundations that stand so extremely opposed to these goals. At the start of NBER's work, Mitchell's idea was to make irrelevant mathematical sophistication, or pure economics, as Marshall, Jevons, Walras and other envisioned it. However, as Fourcade warns us, it is often underappreciated "how much the intellectual programs of institutional and neoclassical economics in fact overlapped, not least in their common reliance on statistics." (ibid., pp. 82-3) To cut this long story short for the purpose here, after decades of the two empirically driven schools co-existing – the American institutionalist approach, which bizarrely had little to do with institutions, and neoclassical one – it was through the work of Paul Samuelson, that schools were joined into one general theory. In the following sections in this chapter it is seen how Samuelson's distinct attempt to merge Keynesian and neoclassical economics constituted a hack, and how it worked wonders to justify the capitalist mode of production and the apparent post Second World War aberration of huge state participation in owning, running and shaping of economies. Not only did he provide a unified platform for American institutionalists and neoclassicals, he did it by integrating Keynes' influence, authority and especially his important arguments for post Second World War, necessarily strong, state-led development of capitalism.

Thirdly, and most importantly, regardless of its significantly neoclassical foundations, it seems to me that a combination of concrete needs of governments to understand their own economies and the developments of national accounts as a separate branch of economics led to the vast and fast expanding field of national accounting. This is a field that is from an egalitarian perspective hardly explored at all – so I turn to it in the last two chapters. Hence, when reflecting on the systematic failure of mainstream economics to foresee the post 2008 crisis, discussing “systemic failure of the economics profession”, which allowed its models to “fail to account for the actual evolution of the real-world economy”, it should not come as a surprise that a large group of economists have recently called Robbins’ definition of economics short-sighted and misleading due to a whole set of issues (Colander et al., 2009).<sup>57</sup>

Lastly, although the question of scarcity is a lot more important and demanding than the space allows for it in the thesis, since it seems to be an important topic for future research, I will speculate briefly on it. Very little reflection occurs within the core of economics on the rise of productivity which has resulted in the enormous rise of service industries. The rise of service industries since the Second World War shows, roughly speaking, how wealth, affluence, volume and the use of material goods have also been on the rise. Although a more detailed study of the rise of services would have to take into consideration the displacement of industry into less advanced and developing countries,<sup>58</sup> the declining share of labour in agriculture throughout the world, but especially in advanced countries, provides another strong argument that we can feed far more people with less labour. Based on this, it seems to me that in rationally ordered societies, scarcity ought to be rapidly declining globally. Yet, the paradox of the capitalist mode of production is that not only is this not the case, but the number of people missing other basic material needs, like shelter, food, clean water, and transport has remained incredibly high in comparison with the rise of productivity of material goods. This disparity demonstrates the logic that drives the on-going, rapid capitalist expansion. Globally, basic needs, like food, shelter, basic education and health care, clean drinking water and several other needs, could be paid for with a

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<sup>57</sup> In his earlier work, Colander calls for death of neoclassical economics, given that “the study of the allocation of scarce resources’ definition of economics no longer describes what economists do”. He offers as alternatives “the study of the economy and economic policies through empirically testable models”, and a definition by Keynes, “Economics is the science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world” – the defining feature of modern economics being modelling (Colander, 2000).

<sup>58</sup> On service industries in developed nations and displacement of industry to other countries, see Perelman (2002, Chapter 7). For discussions on the need to integrate the global economy into macroeconomic and class analysis, see Smith (2010) and Cope (2012).

fraction of annual spending on arms.<sup>59</sup> Or meeting those needs could be funded with just a part of the advanced world's spending on categories like pet food, cosmetics and ice-cream. Moreover, around one third of all world food production is wasted each year, with Europe and North America leading the way with 95-115 kg/year per capita (Gustavsson, Cederberg, Sonesson, Otterdijk, & Meybeck, 2011; Parfitt, Barthel, & Macnaughton, 2010). Panayotakis presents the issue of scarcity in capitalism vividly:

The real problem of scarcity facing humanity today is not the one that neoclassical economics worries about, namely the gap between the infinity of human wants and the finite productive potential at our disposal. The real problem lies in capitalism's inability to allocate resources where they are most needed, and in its propensity to concentrate resources in the hands of those least likely to need or derive much satisfaction from them. In other words, the fact that resources are scarce relative to conceivable human wants is much less significant than the way capitalist societies waste and misuse available resources. This means however, that the main obstacle to human well-being is not the existence of scarcity in the abstract, but the specific configurations of scarcity that contemporary capitalist societies generate. (2011, pp. 77-8)

It follows that a key task is to break the logic, the plausibility of the arguments, on which the claims for the success of the current model of social constructed scarcity rests. In other words, since it is one of the backbones of the capitalist proponents' political arguments that the capitalist mode of production is the best option for humanity; it is the current task to understand how those arguments are supported by economics.

### **3.5 Policy and state-led development behind the veil of science**

Contrary to the image of a self-developing science, economics' conventional theories have been policy-led (Dowd, 2004, p. 13). In a detailed study of the role of state in the development of economics as a science in the UK, the USA and France (the main sources of neoclassical scholars), despite large differences between the states, Marion Fourcade concludes the following:

...whatever its forms, the institutionalization of economic knowledge in the state apparatus was the single greatest impetus propelling the transformation of economics into a highly technical, mathematically oriented discipline. In fact, public, or quasi-public agencies often

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<sup>59</sup> See UNESCO's The World Game Institute:  
[http://www.unesco.org/education/tlsf/mods/theme\\_a/interact/www.worldgame.org/wwwproject/index.shtml](http://www.unesco.org/education/tlsf/mods/theme_a/interact/www.worldgame.org/wwwproject/index.shtml)

harboured the most mathematical types of economic research before they became well accepted in academia. (2010, pp. 247–8)

If that is the correct finding, it should not come as a surprise that the leading role of the state has been denied (Dowd, 2004, p. 20). Had the role of state as the driving force been widely known and acknowledged, it would have been assumed that governments in power at the time had a significant ideological influence, hence making it far harder to claim the political neutrality of highly mathematized economics.<sup>60</sup> Given this link, it should not be surprising that the earliest appearances of economics coincide with the development of capitalism. Classical political economy was born alongside the industrial revolution when, if Britain is taken as a case study, the governing classes at the time were landowners and the rising class of capitalists (ibid., p. 22).<sup>61</sup> In other words, the private interests of the ruling classes were expressed in the form of public interests, and the struggle that was presented as one between public and private interests was in fact a struggle between two sets of private interests: those of the landed gentry and a new capitalist class.<sup>62</sup>

It was in the 1870s, perhaps to a significant extent as a reaction to the political force of Marx's work, that several authors – Stanley William Jevons, Carl Menger, Leon Walras, later joined by Alfred Marshall and the Cambridge school – initiated the changes that eventually led to the most important paradigm drag (it was anything but a shift) in the history of economics. Once the change was complete, it left the discipline with marginal utility as the cornerstone of a new, neoclassical, economics. Despite often being called a revolution, the neoclassical, or marginalist, school had diverse starting points and development paths. It took well over half a century for it to

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<sup>60</sup> Varoufakis, Halevi and Theocarakis also provide a detailed account of the state and various agencies in the development of economics (2011).

<sup>61</sup> Amongst the many histories of classical political economy, I have drawn most heavily on Blaug (1985) and the classic, but still useful, Rubin (1987). See also Porter and Ross' argument that political economy "gained wide acceptance by the early nineteenth century and was appreciated for its contribution to the art of governing. The usual German Term 'national economy', evoked political dimension still more clearly, while the French campaign to replace it with 'social economy' implied a certain discontent with mere politics" (Porter & Ross, 2003, pp. 1–2).

<sup>62</sup> We can see some of the earliest history of the development of English parliament in Appendix 1 on fiction: from the Magna Carta onwards, elites were created through the construction and practices of public bodies (courts, parliament, government bodies); the public interest could not have existed without public bodies; hence it could be said that those institutions were to a large extent a way to both manage commodification and wealth creation and to create the elites in the process. The situation in the richest and most neoliberal countries, like the UK and the USA, is not much different today, with a significant difference being that instead of landowners we now have millionaires, such as over two third of MPs in the British parliament (sitting between 2010-2014) who debate and decide on "public interests".

take hold in economics in respect to the curriculum, posts in departments and journals.<sup>63</sup> The state was not always entirely a positive enabler of neoclassical economics. Unlike the case of the UK and the USA, in France and Japan, due to a different culture of policy making and government staffing, the state was an obstacle to its emergence (2010, pp. 185–236, 245–253; Porter, 1996, pp. 55–71). However, in the US, the key period was after the Second World War, when the state and political decisions played a key role in changing the playing field in a move marked by intense anti-communist hysteria which deprived many left and broadly speaking heterodox economics academics of jobs and publications (F. Lee, 2011, pp. 35–40).

As Mirowski puts it, regarding the above mentioned group of early neoclassical authors: “a close reading of their accomplishments reveals that they did not all ‘discover’ the same thing; more disturbing, no one of them really managed to enunciate the full system that was only retrospectively attributed to them”. First, they lacked competence in what was attributed to them: “the level of competence in physics among the troika left so much to be desired that much of the work of the next two generations of neoclassical consisted of shifting the proto-energetics model back out of the original texts and elevating the formalism of the field to pride of place in value theory”. Second, the physics they were trying to model their work on was proto-energetics, which lacked many key developments. Third, Menger’s “major concerns were uncertainty, changes in the quality of goods, the absence of a notion of equilibrium, and hostility to the law of one price”, while he was “fundamentally motivated by radical subjectivism”. He was not promoting the same theory as Jevons and Walras: he was not a mathematician; he personally thought there was no similarity between his and Walras’s work; it was a mere historical accident that Menger ended up being considered one of the marginalist revolutionaries. Fourth, Marshall “was a populizer and a builder of a stable profession; by no stretch of the imagination was he a serious innovator in theory” (Mirowski, 1991, pp. 254–65).

Regardless of this initial patchy phase, neoclassical economics built its authority by transferring most of its core claims to proofs by mathematical models, thus borrowing the image of a “serious” discipline.<sup>64</sup> However, the long road went through an initial identification with a branch of physics, and later with branches of mathematics. Such developments made economics

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<sup>63</sup> See Jaffe (1976) and Lagueux (1997) for more on differences between Jevons, Menger and Walras, and Tribe (2007, Chapter 4) for Menger’s specifics.

<sup>64</sup> See Fine and Milonakis for history (2008). For scientism, see (Fleetwood, 2012; McNally, 2012), for economic rationality as ideology, see Foley (2004).

appear politically independent, placing it beyond criticism and above political decisions that would go against what is suggested by its models.

The role of the state has been especially important during the crisis, when institutional economics, like that of John Commons in the US and John Maynard Keynes in the UK, emphasised the importance of state interventions and inclusion of the state in economic theory (Yonay, 1998, pp. 35–76). However, nowhere is the role of the state in the development of economics as strong and as undisputed as it is in the development of national accounting (Carson, 1975; Hagen, 1949; Kenessey, 1994; Studenski, 1958; A. Vanoli, 2005).

Contrary to the neoclassical claims to objectivity, the history of economics is full of examples that such an extensive study of human activity cannot be politically neutral: from classical political economy, its Marxist critique, early and late neoclassical schools, to feminist economics. Numerous examples exist of the political allegiances of economics: the history of neoliberal ideology and its explicitly political focus; class commitments from Milton Friedman's manifesto *Capitalism and Freedom* (Mirowski & Horn, 2009), and from the Chicago schools of economics and law in general (Horn, Mirowski, & Stapleford, 2011; Overtveldt, 2009); a quip from Warren Buffet, "there's class warfare, all right, but it's my class, the rich class, that's making war, and we're winning" (Stein, 2006). Whichever combination of sources is considered, evidence of political positions in economics is abundant.

### **3.6 What is economics after 2008: a broken ideology, lacking scientific-theoretical foundations, based on fictions?**

Tony Lawson gives three different broad definitions of what economics studies: the causes of wealth (Mill); human daily activity (Marshall); and the optimising decisions of human beings (Robbins). In the last conception, optimising refers to allocation of 'scarce resources between competing ends' (Lawson, 2003, p. 142). Robbins' claim – a theory of perfectly informed and rational agents that in market conditions create equilibrium of demand and supply – has been one of the foundations of neoclassical economics for many decades.<sup>65</sup> Neoclassical economists frequently reject the responsibility of their theories for the current crisis, stating lack of free markets and excess of state intervention as the main problem. The claim is quite contradictory,

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<sup>65</sup> Neoclassical economics has since come up with a theory, still based on mathematical models, to account for imperfect access to information (J. E. Stiglitz, 1996).

since it was precisely by using state power that neoclassical economics became dominant (Galbraith, 2008; Mirowski, 2009).<sup>66</sup>

Despite Marshall's warnings against the use of mathematics for everything, despite Keynes' deep distrust of mathematics and despite his key idea that economic agents labour under radical uncertainty, which makes them prone to sudden and unpredictable swings in behaviour, neoclassical formalism became a doctrine that spread through economic journals, schools and textbooks like wildfire. Paul Samuelson's role was central. His textbook from 1948 became part of the canon, selling many millions of copies in the process, and was translated into over two dozen languages. It is still being re-issued and updated worldwide with multiple customized student editions. Samuelson placed mathematics in an undisputed central position, keeping elements of Keynes to justify state interventions, but without the kernel of Keynes' thought on irrational agents and undeterminable outcomes, thus making a bastardized version of Keynes and Walras' mathematical extremism coexist. Such neoclassical formalism, updated in each new edition as world political forces changed, was presented as being capable of solving everything by using mathematical models. Samuelson's Keynesian elements were dropped in late 1960s and early 1970s, parallel with the collapse of the dollar-gold standard and a reversal in U.S state doctrine on increasing aggregate demand through fiscal policy. Economic theory based on mathematics has been the main ideological driver of capitalism ever since, with a wide range of practical uses.<sup>67</sup>

Yet, regardless of the dominance of the neoclassical school, the following admission by Alan Greenspan, an economist and chairman of the U.S. Federal Reserve from 1986 – 2006, phrased as a failure of ideology, is important to remember, both as evidence of the failure of neoclassical economics and state policies of world powers, and as another reason to be unashamedly political in constructing a body of theoretical work from egalitarian perspectives:

REP. WAXMAN: Dr. Greenspan, the question I have for you is, you had an ideology, you had a belief that free, competitive - and this is your statement: "I do have an ideology. My judgment

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<sup>66</sup> The question remains whether we can separate the establishing of a discipline and of a free market. That is, neoclassical authors still could have claimed that they needed the state in order to establish themselves and impose what they believe is the scientifically correct principle: markets work best without state interference. The question is then, why did they need the state power to establish themselves as the overwhelmingly dominant voice of economics? Why did they not let the power of the markets dictate the dominant school of economics, and how was it that the immense private funds put into their research were not enough without state power? In other words, is talking about the establishment of a discipline entirely separate from talking about the operation of the market?

<sup>67</sup> For two very good, albeit different takes on the development of modern neoclassical economics, especially the period under Cowles' commission with von Neumann's work, see (Mirowski, 2002; Varoufakis et al., 2011, pp. 231–288). Another excellent source for history of neoclassical economics is (Fine & Milonakis, 2008, 2009)

is that free, competitive markets are by far the unrivalled way to organize economies. We've tried regulation. None meaningfully worked." You had the authority to prevent irresponsible lending practices that led to the subprime mortgage crisis. You were advised to do so by many others. And now our whole economy is paying its price. Do you feel that your ideology pushed you to make decisions that you wish you had not made?

MR. GREENSPAN: Well, remember that what an ideology is, a conceptual framework with the way people deal with reality. Everyone has one. You have to - to exist, you need an ideology. The question is whether it is accurate or not. And what I'm saying to you is, yes, I've found a flaw. I don't know how significant or permanent it is. But I've been very distressed by that fact.

REP. WAXMAN: You found a flaw in the reality.

MR. GREENSPAN: Flaw in the model that I perceived as the critical functioning structure that defines how the world works, so to speak.

REP. WAXMAN: In other words, you found that your view of the world, your ideology was not right. It was not working.

MR. GREENSPAN: Precisely. That's precisely the reason I was shocked, because I had been going for 40 years or more with very considerable evidence that it was working exceptionally well. (Ward, 2008)

David McNally notes how not only has Greenspan the failure of his ideological assumption, in another part of the same testimony he also acknowledged "that the crisis has blown up the theoretical assumptions underlying arguably the most important 'innovations' in mainstream economics in the half past-century – mathematical risk-assessment models and the finance theory that underpins them" (McNally, 2012, p. 10).<sup>68</sup> Robert Lucas, winner of the Nobel Prize in Economics in 1995, wrote that economists build their models operating in "fictional words": they are "storytellers operating much of the time in worlds of make believe" (Lucas, 1988).<sup>69</sup> In Lars Palsson Syll's words: "the recent economic crisis and the fact that orthodox economic theory has had next to nothing to contribute in understanding it, shows that neoclassical economics – in

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<sup>68</sup> For the recent history of Value at Risk (VaR), one of the most widely used risk measurements that documents the reckless introduction and use of risk evaluations by the top financial institutions' directors and board members, see Triana (2011) and Blyth (Blyth, 2013, pp. 34–8)

<sup>69</sup> In the appendix on the fictitious structure of reality, I have pointed to how, from the earliest concepts of private property in Roman law, to the most recent new forms of patents of seeds as a form of intellectual property, these concepts could not have been created without the extensive use of legal fictions.



Lakatosian terms – is a degenerative research program in dire need of replacement” (Syll, 2011). As Yanis Varoufakis argues convincingly in his latest books (Varoufakis et al., 2011; Varoufakis, 2011), the analysis of economics cannot be separated from analysing politics, especially not from the global political battles in which macroeconomics plays a major role.

### 3.7 Hack four: Samuelson’s neoclassical Keynes

It was in the above mentioned first edition of Samuelson’s textbook that Keynes’ ideas were united with those of neoclassical economics. Contrary to Keynes’ spirit and his unmistakable views on use of the mathematics and the instability of economic processes, Yanis Varoufakis and his co-authors show in detail how Keynes’ thought was completely bastardized, hollowed out and represented through a neoclassical approach. In the authors’ words, neoclassical theorists like Paul Samuelson “retold Keynes’ theory using neoclassical diagrams, curves and equations that reduced Keynes’ glorious narrative to a single sector version model of capitalism; the very model of capitalism that Keynes had no interest in” (Varoufakis et al., 2011, pp. 212–3). Samuelson’s idea was to bring together microeconomics, as the authors note “always Marginalist in spirit and, mostly, neoclassical in practice”, and Keynes’ macroeconomics together as one theory. In doing so, Samuelson not only disregarded Marshall’s warning against extensive use of mathematics,<sup>70</sup> he deliberately went against it. The same holds for his take on Keynes, who, according to Varoufakis and his co-authors, warned us that “in a complex, financialised capitalist economy, it is impossible to derive, by reasoning, the well-defined mathematical expectations which one needs to ‘close’ a macro-economic model.” However, despite its 3<sup>rd</sup> edition in 1955 describing his approach as “the neoclassical synthesis”, Samuelson had by now developed “a type of model utterly alien to Keynes (both to his thought and to the manner in which he arrived at his policy recommendations)”, which “came to be identified, in the eyes of millions of students, as Keynesian macroeconomics” (ibid., p. 257). Varoufakis briefly summarizes some of Keynes’ key guiding ideas as follows: “because of irreducible complexity, agents (e.g. investors, consumers, workers, capitalists) labour under deep-seated uncertainty”, which “in mathematical terms means that there exists no sufficiently narrow set of rational expectations that either agents or economic

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<sup>70</sup> Marshall’s careful stance toward the use of mathematics is well known and documented. His life’s work, *Principles of Economics*, had all the mathematics in appendices. In a letter, he described his use of mathematics: “(1) Use mathematics as a short-hand language, rather than as an engine of inquiry. (2) Keep to them till you have done. (3) Translate into English. (4) Then illustrate by examples that are important in real life. (5) Burn the mathematics. (6) If you can’t succeed in 4, burn 3. This last I did often.” (Marshall, 1956, pp. 427–8). See also Hartley (Hartley, 2002, pp. 75–7).

theorists can go to work with ... consequently, recessions happen when agents fear they will". Not a single of those ideas made it into the most important textbook in the history of economics (ibid., p. 258). Instead, the masses of students around the world were being educated in accordance with two of Samuelson's central principles: a) the discipline does not use mathematics as a tool, it seeks truth in it; b) the science of economics is "reducible to 'closed' mathematical models which leave nothing (except preferences) for history, philosophy or the rest of the social sciences to explain" (ibid., p. 259).

Samuelson took Keynes' work, removed all of his guiding ideas, putting in their place not just radically different ideas, but entirely opposite ideas, while leaving the vast majority of his peers with the impression that he had built on Keynes' work. In short, the work kept its external appearance of being Keynesian, while its functions, its key internal elements, were changed to fully neoclassical ones – that is what makes it a hack. Instead of comprehensive recognition of the complexity and uncertainty of economic agents, we get absolute certainty claiming truth through the use of mathematics.

Yet, the hack has not been recognized or acknowledged in mainstream economics. Quite the contrary, as a recently published review of his legacy in one of the highly ranked economics journals describes, Samuelson is still credited with popularizing Keynes:

His introductory textbook guided the thinking of millions throughout the world; it was instrumental in spreading the Keynesian revolution; it was a model that all subsequent textbooks followed. His advice to presidents and his popular writings helped shape policy. More than anyone else in the latter half of the twentieth century, Samuelson changed the way economists think and write. [...] today it is remembered above all for introducing Keynes' ideas to undergraduates and thence to the wider public, thus popularizing the Keynesian revolution that was already taking hold among the younger economists of the time. (Dixit, 2012)

As another review of his legacy notes, Samuelson's textbook, called in the trade "The Textbook", had by 2004 sold more than 4 million copies, and been translated into 41 languages. While its importance was immense:

Economics grew into something more than just another obscure textbook; its wide popularity meant that it strongly influenced the way that economists, the American public, and the entire world perceived economics. (Gottesman, Ramrattan, & Szenberg, 2005)

Finally, another aspect of the hack, even more important from our egalitarian perspective, was the complete removal of Keynes' ethical commitments that were central to his understanding of the task of economics and of human development. In his *Economic Possibilities for Our Grandchildren* (1930), Keynes asserted that while mankind is at the time solving economic problem of scarcity, once those are solved, which he projected to last for another hundred years, humanity will be able to turn to focus on human needs, basic and advanced ones, including improving leisure time (1963, pp. 358–368). As Fourcade puts it, Keynes' consideration of full employment was for him a way to free people from material constraints, "allowing them to better enjoy the true pleasures of life, such as the arts, nature, in short, leisure." However, although he managed to situate those ethical concerns at the macro level, "thereby circumventing the utilitarian problem of aggregating individual utilities", other economists of the time, including Robbins who will be discussed later in the chapter, and Samuelson, got involved (2010, p. 156).<sup>71</sup>

The importance of this hack for economics, policymaking and politics globally cannot be underestimated. Worst of all from our perspective, economics was de-politicized through its mathematization and cementing of certainty. While for Keynes, indeterminacy was expressed in terms of deep-seated uncertainty under which economic agents operate, as will be seen from the reading of Michael Lebowitz in the following chapters, this indeterminacy is the result of the class struggle, of the antagonism between labour and capital, with outcomes of the struggle not reducible to any pre-determined criteria. If I am mistaken about the centrality of the class struggle, then mainstream economics has to account for the egalitarian historic developments, especially for their eruptions through sudden political changes, through revolutions and in reactions to crises. In revolutions – led by egalitarian political movements, the most frequent method by which the socialist states came about in the 20<sup>th</sup> century – large sections of economically productive private property were abolished through nationalizations. After the Second World War in Europe, a number of industries and sometimes entire sectors in many countries were also nationalized.<sup>72</sup> This meant that the field that economics studies – the production and allocation of goods and service, along with its factors (economic agents of all kinds) and their social relations – was radically restructured in a relatively short period. Neoclassical economics, focused almost entirely on market societies, has no categories to

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<sup>71</sup> See Kirshner (2010) for a review of recent books attempting to recover Keynes' work from the neoclassical hackers. On Keynes' ethical commitments in economics and differences to Robbins, see Skidelsky (1995).

<sup>72</sup> For the UK post-WWII nationalization, see Tomlinson (1994, Chapter 8, 2002, Chapter 7) and Edgerton (2011).

comprehend those changes resulting from egalitarian revolutions. Instead, economics tries to force the argument by measuring the changes in societies where the egalitarian mode of production becomes widespread and where meeting needs becomes the overall goal of productive activities through its own categories, developed from the standpoint of capital. In other words, neoclassical economics makes universal claims about the two entirely different modes of production, with different overall goals and a different systemic logic that drives the behaviour of groups and individuals. With rare exceptions resigned to individual theorists (Marxists, ecologists) and projects (Genuine Progress Indicator), this holds true for both political economy and all schools of economics. This is why I hold the view that economics ought to be treated as a theoretical discipline with a distinct standpoint/perspective (that of capital) and a specific set of functions to measure, assist, promote and justify the capitalist mode of production and the social relations it reproduces, both nationally and globally.

### **3.8 Hack five: renaming, dropping ‘political’**

Marx’s critique of classical economists was the most significant challenge to political economy, dangerous because of his political commitments to egalitarianism, to socialist and communist ideas, and political engagements with the workers’ movements at the time. As the history of the 20<sup>th</sup> century demonstrates, when certain theories are taken on by the organized workers’ movements as leading ideas, strong challenges to capitalism can be mounted. To prevent ideas from Marx’s critique of political economy from being seen as scientifically valid in the field of economics, instead of tackling Marx head on, the pro-capitalist economists of the time set themselves the task of depoliticizing the whole research field.

Michael Perelman argues convincingly how, starting from Marshall as the first well known political economist, theorists started using a new name, economics, linking it closely to the natural sciences. For Marshall, dropping the ‘political’ from political economy was justified because “political interests generally mean the interest of some part or parts of the nation”. Perelman notes the elegant solution: “this stance allowed economists to dismiss anyone who questioned their objectivity as being mistaken or representing some nefarious special interest.” Instead of a more objective position to engage with their research field, as proponents of economics, or Economic Science, as some preferred to call it, claimed, for Perelman removal of the political from political economy was a withdrawal back to individual concerns, back to where economics started before political economists broadened it:

Marshall's interpretation of the notion of political economy is misleading in two respects. To begin with, the term "political economy" had actually been intended to assert a community of interests. Indeed, the term "economy," without the modifier "political," had originally referred to parochial self-interest. Before people began to write on political economy, an extensive body of writing had developed on the subject of managing the economy of large feudal estates (see Tribe 1978). The early political economists consciously appended the word "political" to suggest a broad extension of the idea of economy. Where economy had previously concerned only the rational management of a private household, the early political economists widened the scope of economy to the polis—the community as a whole. (Perelman, 1996, p. 13)

The re-positioning of economics back into the realm of the individual and purely on the exchange phase of the process of the provision of goods and services, benefits liberal ideology in a whole set of ways: market societies can be presented as meritocratic; it can be argued that one's family wealth makes no difference; anyone can excel only if equal opportunities for all were guaranteed in the sphere of exchange, which of course includes labour as a commodity in the production chain. Best of all, although the role of the state and government planning in the development of capitalist states and international relations is enormous, the allocation side of wealth, i.e. the distributive aspect of provision is not required; Pareto optimality acts as a test of desirability of the reallocation. However, despite of all those claims and nearly a century and half of efforts of thousands of economists to improve the mathematical rigour of their neoclassical models, the link with real world remains minimal:

...until recently there has been little cross fertilization between theory and applied policy work, and ... the standard applied economist's approach of assuming a representative consumer in applied policy work is unappealing both because distributional issues are ignored and because much evidence shows that aggregate demands are inconsistent with the behavior of a single representative agent. (Colander, 2007)

Long before the open source founders discussed in the previous chapter did their hacking to rewrite and re-cast the history of free software as a history of open source,<sup>73</sup> Lionel Robbins used the technique of re-casting, implying that the political economists were in fact economists who just did not know they were already doing economics: "Quesnay's *Tableau Economique* was

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<sup>73</sup> See in chapter two the section on Raymond as a capable capitalist ideologue.

essentially an attempt to apply what is now called equilibrium analysis”, and “though the appearance of modern theory may be new, its substance is continuous with what was most essential in the old. The modern arrangement simply makes explicit the methodological foundations of the earlier theories and generalises the procedure” (Robbins, 1937, pp. 68–9). Herein lies the similarity between Robbins’ and Raymond’s hacks: both claimed that a part of the community they wanted to recast under changed ideas and aims, hackers and political economists respectively, were latently already practicing this new discipline they were bringing into existence, the main supporting evidence in both cases being the methods. While I have demonstrated that Raymond’s claims were false, doing a similar comparative analysis requires a study of the history of economics that is beyond the scope of this research at this stage.<sup>74</sup>

### **3.9 Hack six: value as absolute but subjective marginal utility**

The category of value in political economy was most closely tied to labour. A tension has existed between a notion of economic value from the perspective of capital and a more generic category of value for the creation of national wealth, for the population as a whole. This tension is still visible in significant differences in the understanding of economic value among economic schools and practices. In chapter five, I demonstrate those differences by examining how the notion of value changes when goods and services production shifts between public and private sectors.<sup>75</sup> The most important change in the neoclassical model was discarding the category of economic value that political economists were working with in favour of the subjective category of marginal utility. In this “fundamental reconstruction” of classical economics, early authors, especially William Jevons and Leon Walras, believed in value-free and mathematically expressed formalism as the future of economics. Walras’s view of classical political economists is a telling example. Adam Smith’s definition of political economy – a discipline concerned with provision of subsistence for the people and with the supplying of the state with revenue sufficient for the public services – was according to Walras, applied economics, because it deals with “production of social wealth and the improvement of individual well-being” (Fine & Milonakis, 2008, pp. 93–5). As a pure science, Walras held, economics is meant to be indifferent to consequences and value judgments of any kind. However, not all of the early neoclassical authors agreed on the extensive use of mathematics. Carl Menger did not use much mathematics at all. Alfred Marshall,

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<sup>74</sup> For details of Raymond’s hack, see Table 1 and 2 in chapter one, and especially part I in the second chapter.

<sup>75</sup> Chapter 6, Table 10. Modes of production and sources of value.

whose careful use of mathematics has already been touched on, although in agreement that economics is a science which “shuns many political issues” (Marshall, 1890, p. 32), issued warnings against it, deliberately putting most mathematics in footnotes and appendices in his *Principles of Economics*” (Fine & Milonakis, 2008, p. 129), and asking that economics’ “reasoning must be expressed in language that is intelligible to the general public”, striving to “conform itself to the familiar terms of everyday life” (Marshall, 1890, p. 37). Regardless of these differences, all of the founders of the neoclassical school agreed on the removal of labour as the main source of value and wealth. Instead, Jevons writes, following Jeremy Bentham, “the nature of Wealth and Value is explained by the consideration of indefinitely small amounts of pleasure and pain” (Jevons, 1871, p. vii). Like Walras, Jevons had a total belief in the powers of mathematics. Not only did he hold that “it is clear that Economics, if it is to be science at all, must be a mathematical science”, he believed that measuring feelings, suffering and enjoyment “however difficult, ought, someday, to be achieved” by way of mathematics (ibid., p. 28).

The neoclassical move, in several steps and with significant differences between theorists stretching over many decades, repurposed the category of value by displacing it from the site of production, to the consumption side of the provision of goods and services. Once the differences were settled, mainstream economics ended up with a neoclassical marginalist understanding of value, which discarded the importance of production where labour struggles with capital. On the consumption side, the value is determined by the marginal utility of what is consumed, with a value that can be observed in the exchange process. The value is strictly individual, and as Jevons emphasised in the early days of development of the neoclassical marginalist doctrine, although expressed through the objective monetary quantity (price), it is marginal utility that is “indeed absolute and not relative”, while also being “subjective, personal and not physical or objective”. As he puts it, marginal utilities of things “are in us and not in things” (Walras, 1926, p. 188). It follows that no aspect of production, which includes workers and their labour, matters at all.

Let us summarize the differences. Classical political economy and its Marx’s critique understood value as something objective, determined to a significant extent in exchange, but intrinsically linked with labour and production. The neoclassical marginal theory understands value to be strictly observable in exchange, but subjective to each individual, and, which is crucial, not comparable between individuals – I discuss this further in this chapter in the section on Pareto.

With the development of public services, a gigantic, glaring contradiction arose. Although spending on public services reaches around quarter of GDP in advanced states, a large part of it is being delivered to the end user at partial (e.g. social housing), or not economically relevant costs (e.g. medical drug prescription carries a tiny part of the overall cost of the whole medical service). Hence, it contains no economic value according to the neoclassical understanding: as public goods and service in most cases do not have prices, consumers cannot subjectively determine their value as marginal utilities. In other words, neoclassical theory cannot observe (no exchange), or understand (no subjective, individual marginal utility) the value of public provision. That is, neoclassical economics is blind to a quarter of all final goods and services flowing toward consumers in an average economically advanced country. This is quite unlike national accounting, whose understanding of public services does see economic value within it. This point is developed in the last two chapters.

In summary, this neoclassical hack uprooted the category of value from its roots in political economy, placing it not only far beyond the reach of what egalitarian movements and workers need to be seen as valuable in the economic sense, but also firmly in the territory where what is valuable in the economic sense becomes what capitalists need for their own aims of capital accumulation, combined with a narrative of consumer choice. It's a double hack, whose undoing was made a lot more difficult due to Marx's own work being focused on understanding the capitalist mode of production i.e. what is valuable for capital. Political egalitarian forces never systematically developed their own theoretical discipline to provide a conceptual understanding and measurements of what is valuable and productive, or what is wealth, according to its own criteria. As argued in the introduction to the second part of the thesis, the capitalist mode of production does indeed have a huge analytical apparatus of rational thinking through which it supports its claims to being the best way of delivering the well-being of all and its superiority over any other mode of production. The central research question becomes to construct the same for the egalitarian mode of production as understood from the perspective of the full development of human capacities of all.

### **3.10 Open markets, the solution to global inequalities?**

One of the key arguments developed by the neoclassical economists and used by the advanced countries to dictate a certain form of capitalist development upon the world, was based on the notion of income convergence of poorer countries with the rich ones if only the poorer countries



did what the richer ones do. While it was the opening of markets that the advanced countries demanded from the rest, the advanced states have had a long history of protectionism and protectionist economics in the early phases of their development, the US being the most protectionist of all. In order to make a consistent argument, to make their own history fit the political-economic ideology they wished to impose on less advanced states, the history of economics and economic development of advanced states had to be rewritten (Bairoch, 1995, Chapters 2–4; Chang, 2002, Chapter 2). A crucial part of that rewriting came through the development of new concepts, ‘convergence’ being one of them: if less advanced countries did what advanced ones had done and open their economies, their incomes would converge. As Bairoch demonstrates and Chang develops further in a series of books and articles over the past ten years or so, advanced countries were asking the opposite of what they actually did. Ha-Joon Chang used the phrase “throwing away the ladder” to describe the imposition of open markets. If the less advanced countries did not comply with those demands, conditions were imposed through the Bretton Woods institutions once they were restructured along neoliberal lines.

Table 2.1  
Average Tariff Rates on Manufactured Products for Selected Developed  
Countries in Their Early Stages of Development  
(weighted average; in percentages of value)

	1820 <sup>2</sup>	1875 <sup>2</sup>	1913	1925	1931	1950
Austria <sup>3</sup>	R	15–20	18	16	24	18
Belgium <sup>4</sup>	6–8	9–10	9	15	14	11
Denmark	25–35	15–20	14	10	n.a.	3
France	R	12–15	20	21	30	18
Germany <sup>5</sup>	8–12	4–6	13	20	21	26
Italy <sup>6</sup>	n.a.	8–10	18	22	46	25
Japan	R	5	30	n.a.	n.a.	n.a.
Netherlands <sup>4</sup>	6–8	3–5	4	6	n.a.	11
Russia	R	15–20	84	R	R	R
Spain	R	15–20	41	41	63	n.a.
Sweden	R	3–5	20	16	21	9
Switzerland	8–12	4–6	9	14	19	n.a.
United Kingdom	45–55	0	0	5	n.a.	23
United States	35–45	40–50	44	37	48	14

Source: Bairoch 1993, p. 40, table 3.3.

As can be seen from the above table, since there is sufficient historic evidence that the richer states did not use the same open markets, the whole strategy of preaching and imposing development through open markets as guarantors of rising wealth and equality is a false premise.

Looking at the other element of the claim – that incomes would converge if only the markets of the less advanced countries were be open – historical data paints a different picture. Extensive evidence suggests the opposite: “Between 1870 and 1990, the ratio of richest to poorest countries’ income increased from roughly 9 to 1 to 45 to 1, the standard deviation of (natural log) per capita income doubled, and the average income gap between the richest and all other countries grew nearly tenfold from \$1,286 to \$12,000.” (Pritchett, 1997) Milanović, a long standing World Bank analyst and one of the world’s authorities on economic inequalities, calls Pritchett’s thesis on divergence “incontestable evidence ... the story of the past two centuries”, which “puts in doubt the workings of the standard growth theory, which postulates that through trade, migration, capital flow, or diffusion of technology incomes will converge” (Milanović, 2007, p. 47).

Another study shows that the share of world income of advanced countries (as classified by the IMF) has drastically increased between 1970 and 2000, doubling the difference in inequality between the advance countries and the rest of the world (Freeman, 2004). Figures 2.1 and 2.2 are from Freeman’s book, and illustrate the growth of inequality:

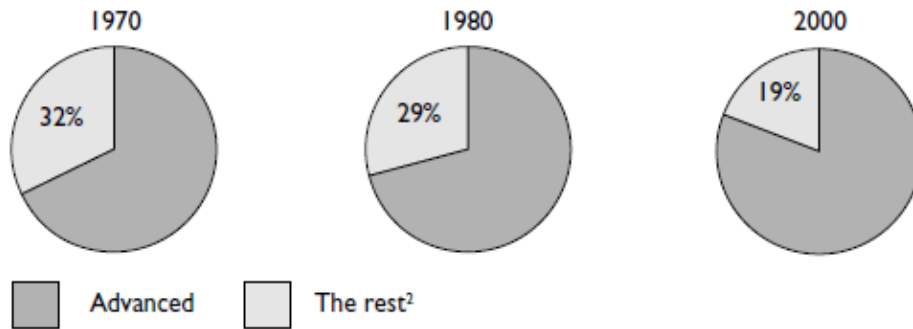


Figure 2.1 Share of world income

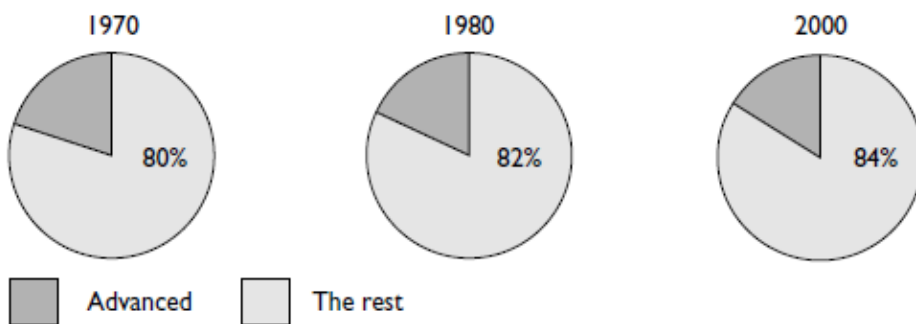


Figure 2.2 Share of world population

However, income alone is not the only measure of inequality in economics, the Gini coefficient is frequently used instead, and what is seen depends on a lot on how the measurement is conceptualized. Milanović explains there are three broad concepts of inequality measuring. The first concept is unweighted international inequality, where the GDP of a country is the unit of observation, and population size is ignored. The second concept is population weighted international inequality, where “we still assume that everyone in a country receives the same income but the number of representative individuals from each country reflects its population size”. The third concept is what he calls true world income distribution, where everybody is in principle treated the same, and we “no longer have ambassadors from the countries: we line up all individuals, regardless of the country, from the poorest to the richest” (2007, pp. 7–11). Milanović extensively demonstrates how the development of China, and to a small extent India, has reduced the gap between the advanced and less advanced countries in the last several decades: “the reduced income distance between China and the six large OECD countries (United States, Japan, Germany, France, United Kingdom, and Italy) lowered the weighted international Gini by a whopping 3.5 Gini points, which is 80 percent of the overall Gini decline between 1978 and 2000” (ibid., p. 91). The problem is visible in the last part of the quote; the vast majority of

the catching up is done by China. This is the case to such an extent that in terms of inequality amongst nations “a point may be reached where the lack of (sufficient) progress in the poor countries and their increasing distance from China may offset (in terms of Concept 2 inequality) the gains from China’s greater proximity to the rich world.” (ibid., p. 93) What are we then to think about the capitalist development promoted by the rich countries? For Milanović, despite his agreement with Pritchett’s historical evidence on divergence, and not convergence, being the outcome of the capitalist development, his conclusion is that “there are fundamentally no ‘laws of motion’ of world-income distribution” (ibid., p. 147). Somewhat along the line of Keynes’ view of economies, Milanović argues that we have to accept the uncertainty of the political events which shape economic development with forces and unexpected turns that are beyond our ability to foresee.

Broadly speaking, humanity is in the midst of a long lasting explosion of technological development. Progress occurs simultaneously with global growth of, or, depending on how China is treated, persisting relative poverty of vast proportions, with a huge portion of humanity lacking satisfaction of their basic needs. How can it be that with such a gap between the possibility of global well-being of all and the actually existing perpetuation of its lack, a theoretical discipline continues to provide justifications for such a state of affairs? Although Marx’s answer, that we are dealing with vulgar economics, still seems one of the most appealing short explanations, my research points to the active role of economics in the development of the capitalist mode of production and in the inequalities it produces.

### **3.11 Hack seven: an inside job, Sen-Stiglitz**

Amartya Sen comes from the neoclassical tradition of economics. From the very beginning of his career he started raising questions with quite disturbing consequences for mainstream economists (A. Sen, 1970). In one his early works, derived from his 1972 lectures, he started developing his own analytical framework with a stark critique of modern neoclassical welfare economics. He dismissed the whole branch, stating that there is not a great deal we can learn from it, since Pareto optimality, which the so-called basic theorem of welfare economics builds on, “was evolved precisely to cut out the need for distributional judgments”. The translation of this into political language is no less clear: “If the lot of the poor cannot be made any better without cutting into the affluence of the rich, the situation would be Pareto optimal despite the disparity between the rich and the poor” (Amartya Kumar Sen & Foster, 1997, pp. 6–7). Sen

acknowledges further the political-economic role that this branch of neoclassical economics played: being defined strictly on the set of individual orderings of preferences, social welfare functions are not only “remarkably unsuited to the analysis of distributional questions” (ibid., p. 13), but it is highly questionable whether many of the choices presented can fulfil the prerequisite that they have to be observable in markets (Amartya Kumar Sen, 1982, pp. 3, 59). The reductionism that modern neoclassical welfare economics presents us with is visible in its concepts of human action which can hardly be said to be relate to human behaviour (ibid., p.7–9). A key source of this extreme narrowness is its concept of man, which severely constrains what can be admitted into the analysis (Amartya K Sen, 1977, p. 322). In his critique of Paul Samuelson’s still widely accepted concept of revealed preferences, Sen makes a step towards an understanding of economics where the totality of social relations determines individual action: “the philosophy of the revealed preferences approach essentially underestimates the fact that man is a social animal and his choices are not rigidly bound to his own preferences only.” A human being is a social animal, Sen continues, and “his behaviour is something more than a mere translation of his personal preference” (Amartya Kumar Sen, 1982, p. 66). From my perspective, the differences between an approach that builds on Marx and his followers’, and Sen’s approach, ought to be revealed by looking further into what this “something more than a mere translation of his personal preference” that determines human behaviour is. In other words, what are the social forces that can be grasped and conceptualized as key parts of an analytical framework that can assist us – to borrow Michael Heinrich’s formulation of Marx’s goals again – “to uncover a specific social structure that individuals must conform to, regardless of what they think” (2012, p. 46). While this step away from methodological individualism brings Sen closer to a Marxist understanding of society, the questions is, how close exactly?

### **3.11.1 Sen’s capabilities: a non-fetishist extension of Rawls’ primary goods**

Sen’s principal innovation is his introduction of capabilities. Not unlike Marx – who in *The Critique of the Gotha Programme* attacked the notion of equal rights, insisting that since unequal needs have to be met, equal rights are not an adequate solution – Sen develops his concepts through the critique of various concepts of equality. Utility, Sen writes in *Equality of What?*, is concerned with what things of utility do to humans, but its shortcoming is to “focus not on a person’s capabilities, but on his mental reaction” (1980, p. 218). The way we react to things is how utility is measured, and that is not a metric that tells us how our life is bettered as the result of the thing in

use. Welfarism and utilitarianism, Sen argues, “see value, ultimately, only in individual utility, which is defined in terms of some mental characteristics, such as pleasure, happiness, or desire”. Such approach is restrictive, since it “ignores freedom and concentrates only on achievements, and it ignores achievements other than those reflected in one of these mental metrics” (1995, p. 6). Leaving the concept of utility, a key foundation of neoclassical economics and its understanding of value, behind, Sen builds his concept on the top of Rawls’ notion of primary social goods, “things that every rational man is presumed to want”, wherein it is “the basic structure of society” that distributes those goods (Rawls, 1971, pp. 60–5). Presented in broad categories, “the primary social goods are rights and liberties, opportunities and powers, income and wealth” (ibid., p. 92). We start deciding on primary goods “from the standpoint of the representative individual” of the least advantaged, with least authority and the lowest income, since these also tend to be associated”, asking “which combination of primary goods it would be rational for him to prefer (ibid., p. 94). Sen’s key objection to primary goods is that the concept “suffers from fetishist handicap in being concerned with goods”, and that “it is still concerned with good things rather than with what these good things *do* to human beings” (1980, p. 218). However, critiques aside, Sen sees his own analytical framework, the concept of basic capabilities, as “a natural extension of Rawls’ concern with primary goods, shifting attention from goods to what goods do to human beings”. In short, for Sen, “basic capability equality can be seen as essentially an extension of the Rawlsian approach in a non-fetishistic direction” (ibid., p.219).

### **3.11.2 The hack and the relevance to our thesis**

At this point, it might rightly be asked, what does all this have to do with the central thesis on the egalitarian mode of production, and where is the hack in Sen’s work? By the standards of neoclassical economics, Sen was a highly skilled mathematician, and his passion for using mathematics to develop arguments had been a key aspect of his work since his days as a graduate student (Gaertner & Pattanaik, 1988). Put briefly, Sen’s close engagement with neoclassical economics’ mathematics was not done in order to support and develop key neoclassical concepts then supremely dominant in academia. Instead, he used his critique, both mathematically and philosophically grounded, to develop arguments for an understanding of economics and the development of societies through concepts familiar and close to my egalitarian framework and other egalitarian principles and practices historically developed through workers’ organizations

(unions, political parties, friendly societies and other forms of mutual aid). This can be seen in his comparison of national health services and medical insurance schemes, where, following Kenneth Arrow, he points out the following: “if the insurance markets were perfectly competitive [...] those with a higher incidence of illness would end up with less income net of insurance premiums”. That is “precisely what a national health service run independently of market profitability can avoid”, while the rationale of avoiding such a market led scenario is “precisely the needs principle”, wherein by “spending more money ... [on an ill person] ... society would give him a greater effective income” (1997, pp. 78–9). Here it can be observed how Sen’s focus on needs makes him defend the rationale of public services delivering outputs according to needs, criticizing the profit-driven capitalist mode of production as an inadequate model. The similarities of his framework with aspects of Marx’s work were not lost on him (*ibid.*, p. 88). He praises Marx’s recognition of the centrality of “differences in needs”, which, Sen writes, led Marx “to the well-known slogan ‘from each according to his ability, to each according to his needs’” (1995, p. 120). If the central goal of human activities is to better conditions of living and enjoy life through the development of one’s own abilities in a social setting, then any use of resources to meet those goals is not a distributional judgment, but an investment in the production of those capabilities, or capacities in Lebowitz’s sense. While I lack space here to develop a reading of Sen’s work further, it is important to note that, provided that many of its problematic aspects are carefully considered (Fine, 2001), there seem to be productive avenues to develop Sen’s work further in the direction of this analytical framework.

### **3.11.3 Sen’s work with Joseph Stiglitz**

Part of the mainstream economics elite, Joseph Stiglitz played an important role in opening up paths for critiques of the dominant neoclassical economic discourse (J. Stiglitz, 2002, 2006). One of his most important contributions came through his collaboration with Amartya Sen in 2008-9. On the invitation of then French president Nicolas Sarkozy, a special commission consisting of twenty two experts, led by Jean-Paul Fitoussi, Amartya Sen and Joseph Stiglitz, was established to look into the deficiencies of GDP, the most influential macroeconomic measure. The report is comprehensive and rich with intriguing ideas, that cannot fully be given justice to it here. However, its five key recommendations should be very helpful for future work on a developmental-egalitarian framework. First, the report recommends that when evaluating material well-being, we should look at income and consumption, rather than production; second,

we should put emphasis on the household perspective; third, we should consider wealth (stock), jointly with income and consumption; fourth, we should give more prominence to the distribution of income, consumption and wealth; fifth, we should broaden income measure to non-market activities (2009, pp. 11–15). This opens a whole set of welcome questions, moving the debate from a single scalar measure to a multi-dimensional concept of well-being. The Commission recommends that the following key dimensions should be taken into account: “i. Material living standards (income, consumption and wealth); ii. Health; iii. Education; iv. Personal activities including work; v. Political voice and governance; vi. Social connections and relationships; vii. Environment (present and future conditions); viii. Insecurity, of an economic as well as a physical nature” (ibid., p.15). Most importantly, the report repeatedly emphasises that the contributions of the public sector and households are being extremely downplayed by the GDP’s intense focus on market production. This, I argued earlier in this chapter, should not be a surprise: it is only a logical consequence of political economy and economics being developed to support the development of the capitalist mode of production. Since I lack the space here to develop a reading of the report in more detail, I will offer only a few observations for future research. The reports puts forward quality of life as a concept that is broader than economic production and living standards. While the solutions the commission offers to measure the quality of life – subjective well-being, capabilities, fair allocation – seem only partially satisfactory for this conceptual-analytical framework, they “all point to the importance of a number of features that go beyond command over resources” (ibid., p.42). Such a move opens up the space for developing a more affirmative understanding of the productive role and contributions of public sectors and households. However, while it does not have to agreed that market prices reflect the value of the contribution of commodities, market transactions do provide commensurability. The same cannot be said, either for many of the other measures that the report suggests, nor for many aspects of the developmental-egalitarian framework. In this respect, the two approaches are confronted with the same problem, and consequently it seems that a lot can be learnt from an attentive reading of the report and its sources. The commission’s report is also a welcome challenge to the central neoclassical idea of marginal valuations, with health care as a well-argued example (ibid., p. 91). In Andre Vanoli’s review of the report, an important point is emphasised: no matter how much we extend and improve the imputation of monetary value, GDP cannot become a monetary



measure of “quality of life/well-being” (2010). This is, very broadly speaking, the direction in which my own research develops in later chapters.<sup>76</sup>

### **3.12 Conclusions and consequences: start from politics and class**

My initial research aim was to propose new egalitarian and participatory modes of provision: production, allocation or distribution, and consumption. Reading the practices and ethical commitments of hackers’ communities in the first two chapters, in later chapters strengthened by a reading of the histories of workers’ organizations and public provision, I recognized that the egalitarian mode of production was already in the existence. Creating the open source movement, a section of the hacker community acted in the interests of the capitalist mode of production, removing its free software egalitarian commitments. In this example, the two modes of production were seen to be in a struggle with one another. Economics – a necessary field for my research and the most important theoretical discipline that deals with provision – seemed a problematic proposition from the start. Although I knew that I would have to look into economics in search of elements to start constructing the analytical framework for the egalitarian mode of production, it was clear that the overall discipline, especially its mainstream, highly dominant neoclassical school, is antagonistic to what I am looking for. In this chapter I have looked at several elements of mainstream economics which point to its class allegiances and its contributions to policymaking that suit the development of the capitalist mode of production. Reading Jevons, Robbins and especially Clarke, I argued that the openly-expressed political class commitments of the early marginalists, later called neoclassical economists, were among their most important, perhaps defining, common features. Using an understanding of hacking as a social practice, something observed through the birth of open source movement, I reread some of the moves by the economists as hacks. The most important hack was the relegation of labour from being the key element in the production of wealth to being just one of the factors of production on an equal footing with others. In this hack, it is seen how Clarke repurposed the egalitarian principle “to each according to their needs” into “to each what each creates”. In the process, he got rid of the notion of surplus, key to Marx’s theory of exploitation, while asserting the fairness of the distribution of wealth, by insisting that each factor of production gets rewarded its share according to its contribution. What is understood as surplus in Marx’s

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<sup>76</sup> See chapter six, and especially Table 8 on workers’ needs, reproduction and development of ESA95 categories, and the section on the negative effects of the privatisation of public housing on workers.

approach was for Clark the reward for entrepreneur, or for the coordinating function as he called it. Unlike most economists who kept their political commitments outside of their theories, Clark's work was packed with explicit class positions against workers, against egalitarianism and for capitalists and the capitalist mode of production. Through the work of Pareto, welfare, normally associated with the well-being of all across society, was also hacked, re-cast in neoclassical terms using mathematics to show the impossibility of the wealth allocation – the opposite of what the term welfare actually means. The name political economy, the discipline that predated economics, was hacked similarly to the way the open source movement hacked free software and the history of hackers, framing the history of political economy as the history of economics, assuming retroactively that political economists were already doing economics at the time, just under a different name. The key schism, cut, or separation imposed – as seen in the work of Robbins – was that between economics, or economic science, and applied economics. The former was free of any ethics and ideology, scientific, and built on scientifically verifiable claims and procedures. The later was economics applied and at that stage politically and ethically driven. In the post Second World War period, Samuelson's hack of Keynes' work was crucial for a number of reasons. At a time when state interventions in the economy were huge and undeniable, it was essential to maintain the neoclassical total focus on prices and markets alive in economics. Not only did Samuelson manage to do so in a book that became the textbook of economics around the world, he managed to do it through a supposed synthesis of neoclassical micro analysis and Keynesian macro analysis, thus keeping Keynes' name through the period of state intervention, whilst having purely neoclassical content. The consequence was that even during the decades of Keynesian state policies favouring interventions, nationalizations and regulations, neoclassical economics and its total focus on individual behaviour, prices and markets were taught in classrooms under the name of Keynes and his quite different macroeconomic approach. While it would be logical to expect that the neoclassical research programme would struggle during Keynesian times, through a powerful hack it managed to achieve the exact opposite: it flourished, on its way to becoming the dominant and undisputed economic school. The notion of value that classical economists struggled with for so long was entirely displaced through the concept of subjective marginal utility. Economics was no longer considered political either, becoming instead seen as scientific, thus ensuring that it was perceived as a neutral discipline, fit to offer purely objective, hence by far the most superior, advice for policymaking. Even the temporary collapse of its ideology, acknowledged by Alan Greenspan after the near collapse of the financial system in

many advanced countries in 2008, did not alter its undisputed position.<sup>77</sup> Of all the early economists who were explicit about their class perspective, Clark went furthest. His son, John Maurice Clark, and sometimes co-author, wrote that his father's "statements are oriented at Marx, and are best construed as an earnest, and not meticulously qualified, rebuttal of the Marxian exploitation theory".<sup>78</sup>

For all those reasons, in the early phase of the research, I decided that I could not start developing elements of the egalitarian analytical framework by taking them directly from economics, whose categories and analytical framework were constructed to account for the development of the capitalist mode of production. As the example of hackers' communities has shown, releasing the results of work to be used directly according to needs stands in the way of the commodification necessary for the capitalist mode of production to operate. This is why the openness of labour processes, a feature that contributes significantly to another egalitarian principle, "from each according to their ability", hardly features at all in the open source revolution which opened the doors to multi-billion capitalist investments into hacker-produced software. Fifteen years later hackers' software can be found widely, such as in every Apple computer and in the vast majority of smartphones that use Google's operating system Android. True to the spirit of open source, and contrary to the history of hacking and free software, Apple and Google are well known to be amongst the most secretive and most closed of all the large software companies. This, I believe, is not a coincidence, as the capitalist mode of production relies on controlling labour processes and products, and excessive openness makes it difficult to do so. However, sticking with hacker communities and their egalitarian practices was just a starting point. In order to analyse the dynamic of development of elements of society contributing to social relations of equality, relations that stand in such a stark historical contrast

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<sup>77</sup> The most recent hack, documented in detail recently by Mark Blyth, occurred in advanced capitalist countries only a year after the banking crisis exploded, where, in the US, the UK and other European states the private sector crisis was recast as the crisis of the states. As soon as states bailed out private banks and took the debt on their books, the story changed and austerity was imposed, with poorest in society paying the biggest price for the privately created debt. Yet, within a year or two the causes of the debt were forgotten, whilst severe long term cuts in public spending were imposed (Blyth, 2013). A telling argument as to how was this was possible comes from an empirical study of the BBC's flagship morning news programme Today, conducted for six weeks following the collapse of Lehman Brothers in 2008, including three weeks after the first banking bailout, that looked at all the guests commenting on the topics and what they said. The conclusion was that "in reporting the banking crisis, the parameters of debate on the Today programme are set by a narrow group of City sources, regulators, IMF spokespersons and front bench politicians ... these groups share an almost identical outlook on the finance industry and how it might be reformed ... Organised labour is almost completely absent from the Today programme with only a single appearance from one union leader (0.4%)" (Mike Berry, 2013).

<sup>78</sup> Quoted in Perelman (2003, p. 152).

to capitalism, I realised that the research had to start from political ideas, in this case from egalitarian and workforce development perspectives. The histories of workers' movements, their organizations, theories, practices, ideas and achievements seemed the best place to begin. In the following chapters, I will introduce some major changes to the categories inherited from Marx's works, which were the main inspiration behind the foundation of workers' movements in the last century and a half. One example of these changes is a broadening of the concept of class. Instead of seeing the working class as a class selling their labour to capital, engaged in the capitalist mode of production, our perspective of the full development of human capacities of all dictated a far broader concept. This broader class is composed of both wage labour working under the control of capital and of those who struggle for own development and against capital which tries to control and manage the parameters and conditions of their reproduction and development. It is difficult to settle on entirely clear parameters, nor even on a name for this broader concept of a class based on the perspective of the human development of all. As suggested by Alan Freeman, a Marxist economist who read and commented some of the earliest drafts of this thesis, in order to not confuse it with the concept of the working class, sometimes I call it workforce, while other times I continue to describe it as a broader working class. By workforce, I mean a broad category of all those who contribute towards the development and reproduction of workers and towards the full development of the human capacities of all: the current economic workforce (wage-labour) the future workforce (babies, children, students), the former workforce (pensioners, other elderly), the informal workforce (household, interns, volunteers), the incarcerated workforce (prisoners) and those unable to work due to medical condition, or deprived of the opportunity to work (unemployed). By broadening this category, the parameters of our engagement with the field that economics deals with – starting with the three key concepts of wealth, value and productive labour – are changed. However, my aim is not to reject economics as such *ex ante*, but to challenge it, primarily its dominant neoclassical school, and its overall methods and boundaries. Working towards a theoretical framework capable of capturing egalitarian goals and struggles in a set of descriptive, and whenever possible measurable, concepts and categories, data sets, statistical operations and presentations poses vast challenges. Due to economics' role and its strong political roots in the development and justification of the capitalist mode of production, any reuse and modification of its categories requires constant focus on a series of questions. To name a few central ones: what is it that makes a category political?; can it be modified for my theoretical framework and how?; are the statistical measures using economic

categories structured in advance along the ruling class interests, or can they be reused, with their statistical application modified? This necessary frequent challenging of categories handed down to us by theoretical disciplines of all kinds sympathetic to the capitalist mode of production is probably the most difficult task ahead.

If after this chapter it is still not clear why the argument will not engage with economics directly, but will instead start from Michael Lebowitz's reading of Marx and Marx himself, arriving at the national accounts as the first step in our engagement with economics, a blunt confession by Yanis Varoufakis may help. In a talk about his career choices and encounters with economists, Varoufakis described one of his illusions about economics in the following way:

I had this bourgeois view, this illusion, that if you presented these Anglo-Saxon, Anglo-Celtic professors, colleagues, with the mathematical proof that their model is wrong, that they would care ... they don't. They used to. People like Frank Hahn, Kenneth Arrow, and so on. The older generation cared about worthiness of their theoretical vessel ... this lot now, they don't give a shit. And ... it is very discouraging. On the other hand, I have to tell you that the same thing applies to Marxist economists. Who will pursue their mathematical economics and models with the same zeal and lack of intellectual curiosity. Economics is bad for your mental health and for you intellect, whether you're on the left, or you're on the right (Yanis Varoufakis, *Confessions of an Erratic Marxist*, 14th May, 2013).

Varoufakis became a frequent public commentator on economics since the 2008 crisis, his insider knowledge of the Greek economy and of neoclassical economics helped. Since he is also an unofficial advisor to the Greek left political party Syriza, I asked him, given that he has such a low opinion of economics, which aspects of economics he does find important to forming his advice. His answer was short, sharp and clear: "none". I repeated the question, pointing out that it must be his inside knowledge of economics, regardless of its faults, that allows him to be a useful advisor. No, he insisted. All it does is put him in a position to be asked for his opinion as a professor of economics. Although I still do not quite understand the logic of his unequivocal answer, it helps formulate my own stance. In respect to what economics can offer if used differently, if hacked, reshuffled and repurposed from the egalitarian perspective, my work carries far more optimism than that found Varoufakis' answer. There ought to be, I argue, a way to understand and account for production, distribution and allocation of inputs, outputs and outcomes following the logic of the egalitarian aims and practices and the full development of the human capacities of all. If the research takes me to the point of agreement with Varoufakis on this

question, I will have come full circle. That is, it will return to the initial tentative and intuitive insight that research of this kind can only progress on its own terms if it escapes getting caught up in the discourse of economics and its pro-capitalist roots. That may turn out to be possible only if one starts from the premise that the construction of a new theoretical discipline is necessary. While at this point, I am not ready to take such a stance, Varoufakis' answers serves as a reminder that one ought to be open to such a radical move.

## 4. The question of standpoint, beyond one-sided Capital

I argued in the previous chapter that neoclassical economics has been from its inception engaged in the class struggle on the side of capital, refining economics to justify and support the development of the capitalist mode of production. Therefore, although I will come back to economics to look for elements which can be reused and hacked, put to a use different from their original intended purpose, it cannot be started from to develop the foundations of a new analytical framework. Instead, Karl Marx's work is a logical starting point, given the egalitarian commitments, the political views he held and embedded in his theories. However, as Michael Lebowitz demonstrates, there is also a problem with Marx's work too that has to be addressed from the outset. The economic concepts Marx developed while analysing capital reduced human beings to wage-labour within the circuit of the reproduction of capital. After all, categories have been developed to demonstrate the exploitation of workers by capital, showing how capital is engaged in the extraction of surplus value, in its constant search for profits. To show that capital is the enemy of workers, the parasite that lives off them, Marx's categories had to capture the internal logic of capital as it operates. The perspective he took had to be from the standpoint of capital, how capital sees own activities. Yet, it would be imprecise to call such a perspective the perspective of capitalists.<sup>79</sup> Clark's work discussed in the previous chapters shows how Marx's work appeared to pro-capitalist theorists and what their fears were about the role it might play in inducing revolutionary feelings in workers and turning them against capital and capitalism. Therefore, the perspective of capital that Marx adopted in order to understand how capital operates and capture it in a set of categories and their relations, is not a perspective that capitalists could ever take on themselves. Yet the task here is not to perfect how capital operates. I am not trying to build on Marx's work in that sense. Instead, I am looking for an affirmative analytical apparatus that will capture the reproduction and development of the workforce as a class broader than the wage-labourer alone.

It is clear what capital wants: surplus value extraction, profits, for which it relies on labour. The question is, what do workers want when they put their own development and reproduction as the main goal of work? If we can capture what do they want, how do we account

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<sup>79</sup> Harry Cleaver's *Reading Capital politically* provides a useful survey of various ways in which Marx's *Capital* can be read, emphasising the problems with readings that focus on political economy (2000).

for it? Put differently, capital goes after profits and its own expansion, money being the measure by which it achieves commensurability and aggregation of what it understands as value across all of its activities. What does the workforce go after? There are no easy candidates for either the goals of workforce development, nor for a unit of measure that would enable aggregation across the workforce's productive activities. Although the task seemed immensely difficult throughout the research, the logic of Lebowitz's core argument – on the necessity of the systematic development of analytic categories from the standpoint of labour and human development of all, which were accepted as the key starting points – meant that it could not be avoided. In this chapter, I make the first steps towards analytically capturing these goals through analysing workers' movements, proclaimed goals and practices. These are named development-egalitarian aims and principles. Without an overall analytical framework for capturing them in categories and measuring the goals and the developmental dynamic from the standpoint of the workforce, the only macro views of reproduction are possible from the perspective of capital. The consequences of such perspective can be seen in the theoretical battles in which the political left is almost permanently resigned to defensive stances (defending welfare state achievements and labour regulations), thus caught within the discourse of capital by being stuck within categories developed in Marx's *Capital*. More importantly, consequences can also be seen in the struggles of labour movements whose arguments critically rely on analysis developed by Marxist and heterodox economists, and left social theorists in general. If theorists continue to not put forward an affirmative framework through which we will be able to measure economic and social gains in the direction that labour fights for, both on the macro (municipalities, states, regions, globally) and micro levels (firms, government and non-government productive organizations) not much positive can be expected from political struggles in the long run either. Put differently, with only broadly applicable micro and macro measures being the ones by which capital measures own activities, all labour can do is resist capital's advances with more or less success. But, labour and the workforce cannot move forward in its own direction, as there are no practically usable macro-economic-like concepts, categories and units of measure to assess, aggregate and disaggregate the developmental dynamic driven by the goals of workers. The vast majority of existing Marxist economic accounts apply Marx's categories to the whole of the economy from the perspective of Marx's *Capital*, therefore staying within what Marx called the circuit of reproduction of capital. At their best, in different ways, they provide formidable defences of the importance and the role of labour within the circuit of the capital and demonstrate exploitation. However, what they can tell



us about building egalitarian societies with the workforce at their centres is extremely limited. This is not the case because they are lacking in quality, but their object of study is capital, its logic and its mode of production, and not workers, or more broadly the workforce, and their goals.

This chapter reviews key points in Lebowitz's *Beyond Capital*. It focuses on Marx's circuits of reproduction and Lebowitz's exposition of both the consistency of Marx's overall political views and the one-sidedness of concepts developed in his key work *Capital*. The 'degree of separation', reproduction of wage labour, wealth, value and productive labour all feature as the key one-sided concepts that have to be developed from the perspective of workers and human development of all. Marx's responsibility for some of the large conceptual difficulties that linger in Marxism is also briefly assessed. In the discussion on the sharing of the surplus, I demonstrate how we have to be careful when transposing elements of Marx's model – e.g. fixed subsistence bundle – to an analysis of existing capitalist economies and the role labour struggles play within them. The chapter closes with a discussion of how circuits of reproduction need to be extended. Several categories are added to these circuits: the worker, worker's needs, the state and its key functions. This creates both opportunities and problems; I briefly discuss those in the introduction to the chapter that follows.

#### 4.1 Introduction: beyond one-sided *Capital*

In his award-winning<sup>80</sup> book *Beyond Capital*, Michael Lebowitz demonstrated through a painstakingly wide and knowledgeable reading of Marx's work that what we have in *Capital* is an unfinished and one-sided project. In contrast to many critics of Marxism, Lebowitz comes up with an internal and constructive critique, sticking to Marx's method and committed to developing the missing aspects of Marx's work. The simplicity and the power of Lebowitz's core argument are summed up well by the following paragraph:

Capital is essentially about capital – its goals and its struggles to achieve those goals. Its theme is not workers (except insofar as capital does something to workers), not workers' goals (except to mention that they differ from those of capital) and not workers' class struggle (except insofar as workers react against capital's offensives). Even where Marx made sporadic comments in *Capital* about workers as subjects, those comments hang in mid-air without anything comparable to the systematic logical development he provides for the side of capital.

The result, I argue, is that some quite significant aspects of capitalism are missing and not

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<sup>80</sup> Winner of the Isaac and Tamara Deutscher Memorial Prize 2004 for the 2<sup>nd</sup> edition of the book.

developed in Capital and, indeed, that there are problematic aspects of the latter. (M. Lebowitz, 2003, p. ix)

In other words, Marx did not finish his theoretical project, and what we have is writing from the standpoint of capital, not the standpoint of workers. Hence, although we have an unsurpassed analysis of the workings of capital, we do not have anything similar from the side of workers – it is my task here to develop it.

Considering the centrality of Marx's work to left political movements worldwide, we should not be surprised with the lack of abilities on the left to formulate their own demands in a systematic manner which transcends capitalism and which poses it a genuine threat, at least on the conceptual level. I would suggest that the unfinished nature of the left's core body of theoretical work, the vast majority of it based on and derived from Marx, is a key reason for the lack of the left's ability to mount a coherent theoretical and practical challenge to capitalism. Critics of such stance could say that there was no lack of ideas on the political left in the 20<sup>th</sup> century; socialist states are the proof. A counter argument to such critics is that not one of those socialist states have developed a Marxist economics, or, more precisely, an egalitarian theory of production and allocation of wealth which can match the ideological power of mainstream economics and adjoining theories of liberal democracy and law. Especially not anything that can match the ideological cocktail that we are faced with since the neoliberal stage in the development of capitalism. Contrary to the need to develop their own analytic framework about the production, allocation and consumption of wealth, many of the important political economists of the left attempted to create an impossible combination: Marxist economics along neoclassical lines.<sup>81</sup> Such was the quality of their work that Deirdre McCloskey noted: "The new analytic Marxists have produced an impressive literature doing MIT neoclassical economics as well as or better than the MIT neoclassicals" (Fourcade, 2010, p. 92). The Cowles Commission, a bastion of neoclassical research discussed in the previous chapter, found an unexpected collaborator in Oscar Lange in the 1937-1945 period. In his *Economic Theory of Socialism*, Lange embraced Walras' mathematical model of general equilibrium as a good representation of how markets operate, showing that the Walrasian auctioneer (crier) can be easily substituted with a central planning authority (Mirowski, 2002, pp. 232–235). Not all researchers working with the

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<sup>81</sup> For an exposition of the impossibility of unifying neoclassical and Marx's economics, See Lebowitz's 'Is 'Analytical Marxism' Marxism?' and 'Analytical Marxism and the Marxian Theory of Crisis' (2009, Chapters 4, 14).

Commission were antagonistic to economic planning, and they saw Lange's work as an opportunity to unite markets, planning and mathematics (ibid., p. 242).<sup>82</sup> This was not the only excursion of Marxist economists into the neoclassical field. Several generations of Marxist economists accepted the charge by Bortkiewicz that Marx's theory was riddled by an unfixable error, the inability to calculate the relation between values and prices. The result was rejection of several key aspects of Marx's theoretical framework.<sup>83</sup> The acceptance of mathematical formalism and Walras' concept of general equilibrium constituted an "apologetic adaptation of Marx to neoclassical theory", resulting in a situation wherein "Marx's scientific political economy has lain buried while economics as a whole, including most of its Marxist component, has been less and less able to account for the main development in the world economy" (Freeman, 1996, pp. 2–3).<sup>84</sup> Michael Lebowitz, however, has little appreciation for any of the participants in those debates. Given the scarce resources, he writes, battles around the falling rate of profit and the 'transformation problem' are the "tragedy of Marxist economists" due to the limited intellectual resources put to such tasks (2009, p. xv). My position on this is mixed. While I agree with Lebowitz's assessment to a large degree, it seems to me that there is a lot to learn and take from those debates for the construction of my analytical framework. Therefore, although I share his criticism, it is necessary to engage with those debates.

Equally, it is too early to tell what kind of insights the research into economics developed in socialist states will provide. For now, it is important to note a few points on the link between socialist states and their economists. The left was a powerful political force in the 20<sup>th</sup> century. The economists of that time in socialist East Europe were able to setup their own research centres and programmes. However, at least in the case of Yugoslavian socialism, regardless of having setup many institutes for economic research, the Marxist economist Branko Horvat,<sup>85</sup> for many years the director of a Yugoslav Institute for Economic Research, wrote extensively about the lack of economic theoretical works and not a single economic monograph being published there in the first fifteen years of socialism (1962). Although the situation did drastically improve, and there are

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<sup>82</sup> Kenneth Arrow's work has been inspired by the vision of market socialism (Mirowski, 2002, p. 298). However, the socialist beliefs of Lange were expressed through adherence to neoclassical foundations, and the American military, involved both with the Cowles Commission and RAND, provided an environment where the "virtues of the market cohabited cheerfully with the most vaunting ambitions of centralised command and control, without ever provoking any hand-wringing about conceptual consistency or soul-searching over freedom" (ibid., 256).

<sup>83</sup> See *Interpretations of Marx's Value Theory: Contrasting Implications* for a comparison of how different readings affect key elements of Marx's theory (Kliman, 2004).

<sup>84</sup> For an opposing view, see Laibman (2004). For an introduction see Freeman and Carchedi (1996).

<sup>85</sup> For Horvat's life and work, see Stipetic (2003).

signs of interesting theoretical works still awaiting contemporary research and evaluation (Horvat, 1964, 1983), there is very little to suggest that we can hope to find important broad economic or socio-economic theories similar to what I am developing here. Perhaps the situation is different in other ex-socialist states in East Europe. However, partly due to limited access to source materials, largely due to space and time constraints, it is beyond the scope of this research to give an assessment of those economic debates.<sup>86</sup> One of the key aspects of the loss of power by the left in the East Europe was failure to account for its own development with economic theories that could have provided foundations for an affirmative ideological developmental narrative, which might have helped to soften the blow of various economic crises which contributed significantly to erosions in the belief in the further development of then existing socialist states and the egalitarian principles behind them. Given the centrality of Marx's work for egalitarian ideas and practices, and given the lack of development of theories that can challenge capitalist economics and political theory in the 20<sup>th</sup> century, this suggests that there could be something crucial that is missing in Marx's work as it has been received and developed thus far. Assessing society in its totality from an egalitarian and labour standpoint and creating a conceptual framework to counter mainstream economics is one such missing element.

## **4.2 *Beyond Capital and Following Marx – key arguments***

Lebowitz speaks of the need to develop a political economy of the working class, wage-labour, or the political economy of use-value as he sometimes calls it, by going beyond *Capital*, by developing theories from the standpoint of labour. The importance of this is far from merely theoretical: the lack of an ability to assess the economy and the wider array of “non-economic” activities from the perspective of the working class limits our ability to understand productivity, wealth and ultimately the possibility to consider alternatives to capitalism (2003, p. 199). Most

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<sup>86</sup> Alec Nove's studies and collaborative publications contain useful insights (Nove & Nuti, 1972; Nove, 1993). Robert Allen's study challenges the usually held view on the inefficacy of the USSR economic model, also providing some insights useful to our thesis here (2009). In a broadly conceptualized reader of developments in economics and sociology in East and Central Europe, many contributions, but particularly those by Tadeusz Kowalik and Jože Mencinger, provide useful histories of the influence of neoclassical economics in Poland and Slovenia from the 1960s, and the decline in the use of Marxist economics in respective countries (Kaase & Wenninger, 2003). An incredibly broadly and densely documented narrative on the role of socialist economists is provided by Johanna Bockman. She argues that economists in socialist states in East Europe participated in the development of neoliberalism and neoclassical economics to the extent that we “we must separate neoliberalism and neoclassical economics and leave behind the common assumption that neoclassical economics is a science of capitalism”, since the origins of neoclassical economics are deeply rooted in the works of socialist economists too. While I do not agree with the main conclusions, her research provides many useful insights and references (Bockman & Eyal, 2002; Bockman, 2011).

Marxists mistook *Capital* as the only, or the by far the most important, model to work with, as opposed to looking at Marx's work in totality, as Lebowitz has done. The consequence of sticking with the standpoint of Marx's *Capital*, Lebowitz writes, is equivalent to "the abandonment of the theoretical struggle", while failure to develop alternative concepts amounts to "subservience to capital's concepts" (ibid., p. 133). To make a point about what is to be overcome, what is needed to go beyond in order to complete Marx's work, Lebowitz starts his book with Marx's quote: "It is the ultimate aim of this work to reveal the economic law of motion of modern society" (1990, p. 92). Although Lebowitz acknowledges critics of Marx's work as having some powerful and coherent arguments – Andre Gorz, Jean Cohen, Claus Offe, Cornelius Castoriadis, E.P. Thompson, who, broadly speaking, held a view that Marx got stuck within the discourse of political economy that he set out to critique – he does not side with them (ibid., 20–26). Yes, *Capital* has its critical silences, whose overcoming is essential for future development of left analytical frameworks, Lebowitz agrees, but no, Marx's work was not about another closed system of economic logic. Instead, Marx's work in its totality is incomplete. *Capital* was initially planned as a six book series. Although there are many diverging views on whether Marx gave up on the plan, not only were books on wage-labour and state never written, these topics were not treated in the rest of *Capital* (ibid., pp. 28–30).

### 4.3 Marx's methods

Before I turn to Lebowitz's work in more detail, it will be useful to briefly consider Marx's methods. To overcome exploitation and construct egalitarian social relations, existing social relations have to be comprehended as a totality. Lebowitz follows Lukács in understanding orthodoxy in Marxism through two characteristics: first, Marx's methods of investigation, which understand society as a totality, was correct; second, Marxism has to be an autonomous body of thought that does not need anything external (2003, p. 26). Following those two key attributes will mean continuing in a manner that is consistent with Marx's work. A key aspect of Marx's method is emphasis on the whole (ibid., ch.4), opposed to the methodological individualism that neoclassical economics is based on.

The first issue I will address is Marx's "emphasis on the 'whole'" (M. Lebowitz, 2003, p. 52). To challenge the methodological individualism which is one of the methodological foundations of neoclassical economics, where grasping the whole starts from consumers and individual elements in society (Fine & Milonakis, 2008, p. 14, ; Patnaik, 2009, pp. 70–77), Lebowitz

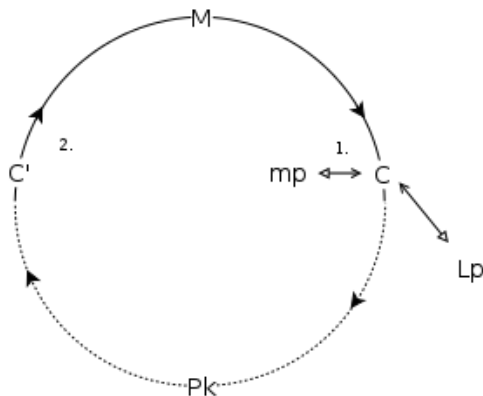
starts with a critique of the Cartesian heritage, where the parts are ontologically prior to the whole, with their own intrinsic properties. Following Levins and Lewontin, whose work in biology has for decades argued for a dialectical approach to all sciences, biology included (1987), Lebowitz puts it in quite extreme and analytically productive terms: “for Marxism, the parts have no prior independent existence as parts” (M. Lebowitz, 2003, p. 53). Application of ready-made abstract systems of logic is not possible; instead we must start with a careful study of real society as “the point of departure for observation and conception”. Only after we have studied the concrete can the understanding of totality be developed: “One must begin with the ‘simplest determinations’ and concepts and proceed to deduce logically a conception of the whole ‘as a rich totality of many determinations and relations’ (Marx, 1973, pp. 100–101)”. According to Marx’s elaboration of the method of political economy developed in his notebook drafts in 1857-8, later published under the name *Grundrisse* this was “the scientifically correct method” (M. Lebowitz, 2003, pp. 54–55). When we are stuck, Lebowitz argues, when theory does not seem to match our observations – quite different than is the case for Hegel who gets stuck in the realm of ideas – “for Marx it is the defect in the theory relative to the concrete totality which propels the discussion forward”. As long as something critical to understanding the concrete is not contained within the thought-totality, dialectical deduction must continue (ibid., p. 57). However, the categories cannot appear just like that, they must be derived step-by-step to ensure that object of study is explained without elements external to the system of explication. Finally, it is also important to keep in mind that the order of historical importance and appearance of economic categories does not have to be the order by which they are used to explain society. It is rather relations between the elements that determine that order (ibid., p. 58). To know Marx, according to Lebowitz, is to know that “(1) that the whole is not the sum of the individual parts taken separately and (2) that the way things appear to the individual actors actually involved – even if the events in question occur over and over again – cannot be the basis for our understanding of the whole” (M. Lebowitz, 2009, p. 7).<sup>87</sup>

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<sup>87</sup> Michael Heinrich’s reading of Marx provides two very useful additions to the way to understand Marx’s methods. Engels called Marx’s method “nothing but the historical method, only stripped of the historical form and of interfering contingencies” (MECW 1987c, p. 475). Heinrich objects to this: the historical context and contingencies do not constitute the theoretical account, they complement it; we are still dealing with a theoretical work, and not a historical one. Although, especially in comparison with economics, which pretends that the universal rules it aims to

## 4.4 Circuits of reproduction

According to Marx, capital as a whole has to go through a continuous circuit of self-expansion. Lebowitz expressed the basic well known formula: money M – commodity C (means of production MP, labour power LP) ... process of production of capital Pk ... commodity containing surplus value C' – money with surplus M'. In short, the formula is written:  $M - C (Mp, Lp) \dots Pk \dots C' - M'$  with a diagram representing the circuit of capital as a whole (2003, pp. 60–61):



demonstrate through mathematical models apply everywhere and at any time, Marxism is not ahistorical. The historical period in which a mode of production occurs is crucial for Marx's understanding of the economics and social relations that come into being with it. Hence, although they start from an analysis of a particular society, the categories of capital are historically determined (Heinrich, 2012, pp. 30–32). Besides this clearing up of the role of history in Marx's method, Heinrich gives one of the most convincing readings of how categories emerge in *Capital*: "in the course of the presentation the individual categories are unfolded from one another, they are not simply presented in succession or alongside each other ... their interrelationship (how one category necessitates the existence of another) is made clear." More importantly, "the structure of the depiction is therefore not a didactic question for Marx, but has a decisive substantive meaning" (2012, p. 37). This use of interwoven categories with clear understanding of their relationships is the key for Heinrich. Hence, it is only logical that he holds a view that dialectics in Marx is not at all about the application of a ready-made method. Rather, what we have in *Capital* is "categorical critique", which "presumes an exact and detailed familiarity and engagement with the substance of a field of knowledge to which the categories refer" (Heinrich, 2012, p. 38). While some of Heinrich's views differ radically from the way Lebowitz understands and deploys Marx's methods, I will leave dealing with those contradictions for future work. Furthermore, while for Lebowitz the separation of essence and appearance seems an important methodological aspect, it is Slavoj Žižek's reading of Hegel, rather than the one deployed by Marx and inherited to a large extent by Lebowitz, that seems a more accurate way to deploy those abstractions. Since I lack space to develop this in detail, the shortest way to explain the difference is to borrow the explanation Žižek uses often: instead of essence and its appearances existing as separate objects of investigation, two separate realms, one might say, essence always appears within an appearance. Or, put differently, the difference between the essence and appearance is always internal to appearance (Žižek, 2006, p. 106).

*Figure 1 The circuit of capital as a whole (the first circuit)*

This I call the first circuit of reproduction, the circuit of capital as a whole. For Marx, Lebowitz points out, the concept of reproduction is essential for his understanding of society. In Volume I of *Capital*, in Chapter 23 on ‘Simple Reproduction’, the following opening words are found: “Whatever the social form of the production process, it has to be continuous, it must periodically repeat the same phases. A society can no more cease to produce than it can cease to consume. When viewed, therefore, as a connected whole, and in the constant flux of its incessant renewal, every social process of production is at the same time a process of reproduction” (Marx, 1990, p. 711). The reproduction models from Volume II of *Capital*, Lebowitz notes, are “a demonstration of the way in which the two departments of production (means of production and articles of consumption) produce the necessary material presuppositions for reproduction” (2003, p. 62). In the opening sentences of Volume III of *Capital*, where the concept of reproduction and circuits is extensively used throughout, Marx states that “the capitalist production process, taken as a whole, is a unity of the production and circulation processes” (Marx, 1991, p. 117). That the system has to continuously reproduce itself is not for Marx specific to the capitalist mode of production, it is the universal feature of any productive system, the feature that ensures its continuity. Through reproduction, specific material conditions, social relations and all their presuppositions, all those elements that production requires to happen, have to be continuously renewed in each cycle. In Marx’s words: “Like all its forerunners, the capitalist production process proceeds under specific material conditions, which are however also the bearers of specific social relations which the individuals enter into in the process of reproducing their life. Those conditions, like these social relations, are on the one hand the presuppositions of the capitalist production process, on the other its results and creations; they are both produced by it and reproduced by it” (1991, p. 957). Given all this, Lebowitz points out the key issue: although Marx shows convincingly the interdependence of all elements necessary for the reproduction of the capital, not everything is accounted for; the reproduction of the working class is missing. Marx’s well known couple of short sentences – “The maintenance and reproduction of the working class remains a necessary condition for the reproduction of capital. But the capitalist may safely leave this to the worker’s drives for self-preservation and propagation” – are all we get on this topic, Lebowitz writes. In other words, he concludes: “The totality presented in *Capital* remains incomplete – incomplete at the very point that the reproduction of capital is revealed to require something outside of capital” (2003, p. 63). To follow Marx’s methods, to capture the totality of



social relations and all of the key elements on which the reproduction of capital as a whole depends, it is not enough, Lebowitz insists, to brush aside the reproduction of the working class. Without it, it cannot be said that the circuit of capital is complete. Hence, Lebowitz adds the second circuit of wage-labour, representing the process of the reproduction of workers:

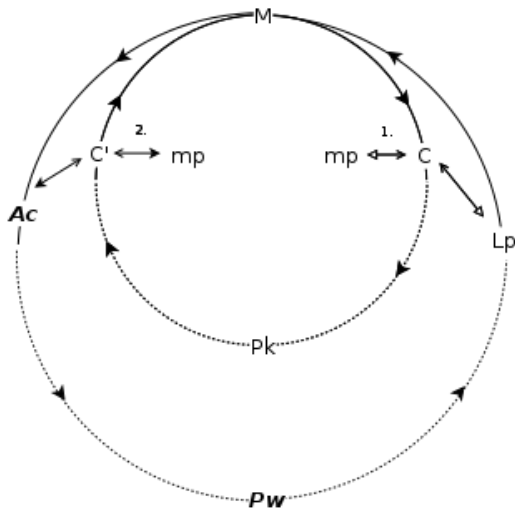


Figure 2 The circuits of capital and wage-labour (the first and second circuits)

This I call the second circuit of reproduction, the circuit of wage-labour. Marx mentions the production of labour-power only in passing, stating that it belongs to the section on wages, in other words, in the missing book on wage labour. Thus, Lebowitz concludes: “the system can only be complete by positing explicitly another process of production, a second moment of production, the process of production of wage labour (Pw), distinct from the process of production of capital – one in which labour-power is produced in the course of consuming articles of consumption. Thus, the circuit of capital necessarily implies a second circuit, the circuit of wage-labour” (ibid., p. 65).

The question is: what happens in the second circuit? Worker consumption is for Marx the same as the reproduction of labour-power, where it is made ready for the needs of capital and to ensure own reproduction. Simultaneously, workers transform themselves in their free time, developing own interests. It is apparent already in *Grundrisse* that Marx clearly saw that emancipation from capital rests on workers’ ability to productively utilize their free time, to deploy surplus labour themselves instead of being under the command of capital: “the mass of workers must themselves appropriate their own surplus labour”. By doing so, the measure of required labour time would adjust to workers’ own needs, and not to the needs of capital: “necessary labour time will be measured by the needs of the social individual, and, on the other,

the development of the power of social production will grow". That would in turn create wealth based on the needs of all, "for real wealth is the developed productive power of all individuals". The importance of time would shift, from that available to capital, to that available to activities of workers themselves, bringing with it a shift in the measure of wealth too, ending the degradation of workers to being merely a passive element in the self-expansion of capital: "The measure of wealth is then not any longer, in any way, labour time, but rather disposable time ... entire time as labour time, and his degradation therefore to mere worker, subsumption under labour" (Marx, 1973, p. 708). Here it can be seen that Marx understood how from the perspective of workers, their needs and development, the category of wealth would change, as would the use and understanding of time. Being focused exclusively on capital and its needs and development, he did not manage to develop the side of workers in *Capital*. In Lebowitz's words: "the critique of the political economy of capital is completed only by the realization of the political economy of the working class – a communist society" (2003, p. 202). This is all extremely useful and convincing on the level of an incisive textual analysis. The problem Lebowitz detects is that this does not appear anywhere in *Capital*. The labour process of the production of worker in capitalism could be described with:  $U, Lp \dots Pw \dots Lp$ . "where labour-power is both an input and output and use-values (U) are means of production which are consumed in this process of production" (ibid., p. 69). These use-values, crucially for the aims of this thesis, are, amongst others, food, shelter, education, health care, child and elderly care, and similar aspects of life of essential importance from the perspective of workers. Lebowitz is fully aware of this: "these use-values, which significantly are not also outputs of this process, include both those produced directly as commodities and others that may not be produced under capitalist relations" (ibid., p. 69). As can be seen from the labour struggles over the length of the working day, in *Capital* "the wage-labourer as being for itself" is missing. Put bluntly, "class struggle from the side of wage-labourer" is not there. Contrary to what is presented in *Capital*, workers' own need for development is a strong driving force in society (ibid., p. 73). The only way to get the complete picture, though in an undeveloped form, is in *Grundrisse*, thanks to those volumes of Hegel that ended up with Marx, after Bakunin apparently had no need for them (ibid., p.79). The obvious question as to why we get such a one-sided account in *Capital*, Lebowitz answers with the fact that Marx did not even manage to finish published books on *Capital* (Engels did it), not to mention other planned books (ibid., p.73).

The paradox of such an unfinished project is that the missing side, the side of the worker, was far from unknown to Marx, contrary to many critics. Lebowitz points to it most clearly in the ‘Inaugural Address’ of the First International (written at the time of working on *Capital*), where Marx suggested that there were two, not one, political economies. The two great victories of the ideas from the political economy of the working class were for Marx the Ten Hours Bill and the co-operative movement. Thus, Lebowitz asks, “What is this political economy of workers which contests the political economy of capital?”, followed by the declaration of the purpose of *Beyond Capital* “to attempt to reconstruct and unveil by analysis the alternative political economy” (ibid., p. 81). Let us summarize and comment briefly: it is workers’ political economy that I am concerned with here, the circuit of the reproduction of wage-labour being the focus. However, wage-labour is still a concept quite specific to the circuit of capital. In Lebowitz’s terms, it is one-sided, since wage-labourers enter the circle of capital not because of the needs of capital, but for their own goals (ibid., p. 139). To keep the concept in the circuit described here, would be to retain a foreign element, one imposed by the needs of capital, not desired by workers. The replacement of the concept would require the existence of a non-capitalist mode of production capable of replacing the wealth that the capitalist mode produces. Until such time, or the appearance of conceptual innovation which could demonstrate a different concept of wealth and value from workers’ perspective, thus being able to designate forms of productive labour different to commodity producing wage-labour, some capital-centric concepts have to stay in the analytical framework. In the following section, I will show it is precisely the lack of categories like wealth, wage-labour and productive labour from the workers’ perspective that limits our ability to advance theoretically towards an egalitarian workerist political economy.

#### **4.5 One-sided Capital and the missing considerations**

In this section I look at several concepts which, although crucial from the standpoint of workers, do not exist in *Capital*. Most problematic from the perspective of this thesis, is that tendencies which emerge from workers own need for development are entirely absent from *Capital* (ibid., p. 81). The problem we face, Lebowitz argues, is economism, with the following key characteristics: consideration of the development of forces of production as autonomous; the neutrality of technology; and most importantly, looking at the questions posed in the context of wage-labour *in-itself* (political economy of capital), rather than that of wage-labour *for-itself* (what might be called a political economy of the working class) (ibid., p. 123). This reversal of the standpoint is

the most important point Lebowitz makes, not just in this book, but throughout his work. Everything else stems from it. There are several one-sided concepts in *Capital* that Lebowitz discusses.

#### 4.5.1 The degree of separation

The movement when “the workingman presses in the opposite direction”, Lebowitz writes, is not the object of examination. One of the main obstacles against workers to struggle collectively against capital is their separation – Lebowitz derives his argument from the fact that capital gains from the socialization of labour, by bringing in workers to produce collectively in factories, because it controls the form that socialization and cooperation take (*ibid.*, p. 84–7). Trade unions are an example of the reduction in the degree of separation through collective action of workers, which brings about better working conditions and increases wages (*ibid.*, p. 91). The biggest achievement of the political economy of the working class listed by Marx, the Ten Hours Bill, comes only through political movement, a movement of the class facing capital as whole, something that no individual struggles can do (*ibid.*, pp. 97–8).

Finally Lebowitz concedes to of the charges of Marx’s left critics (E.P.Thompson), i.e. that in *Capital*, Marx did to an extent fall into the trap of political economy. “Without determination of the standard of necessity by class struggle”, Lebowitz writes, “Marx was led away from a focus on workers as human beings and in the direction of explanations both naturalistic and functionalist. Like the political economists he criticized in his youth, he “could advance the proposition that the proletarian, same as any horse, must get as much as will enable him to work’ (MECW 1987a, p. 241)” (*ibid.*, p. 119). This is something that needs to be improved on, since without examining the struggles of workers and their role in the development of capitalism one can easily fall into the trap of taking “capital’s tendencies as objective, even technical laws inherent in its own essence”. A key question, “what prevents workers from capturing all the benefits of productivity gains” (*ibid.*, p. 122), is not answered with a mere technicality by Lebowitz. Instead, we get a broad statement that it is “the degree of separation among workers that is a critical variable” that allows capital to claim the benefits of any attempt to “*decentralize, disunite and disorganize*” workers.<sup>88</sup> While I lack space to develop this analysis further, it is important to link it briefly with previous

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<sup>88</sup> Lebowitz develops the degree of separation as a new important variable further, although I am not convinced as to how useful the direction he takes there is (2006). Ben Fine mounts a serious challenge to the degree of separation, challenging its explanatory power (2008).

chapters. Software and networking communities – discussed in detail in the two chapters on open processes – developed ways to cooperate outside of forms of cooperation organized by capital. That is, their mode of production with strong egalitarian elements was not been derived from the needs of capital. Until the emergence of a business-friendly open source movement, capital struggled to valorise the labour of significant parts of those communities. Once that was resolved via open software’s relaxing of ethical commitments to the egalitarian aspects of sharing, the problem was mostly eradicated from the standpoint of capital. From the standpoint of this thesis, two questions remain open. First, how to use organizational practices through which the degree of separation gets reduced for the organized struggle of labour against capital. However, that is still a view from inside the circuit of capital. Hence, it is the second question that matters more: how to use the massively improved means of cooperation and communication for workers’ own development within the totality of the three circuits of reproduction; or, put briefly, how to utilize qualitatively the quantitative changes in communication-cooperation from the standpoint of workers’ development and their struggle with capital.<sup>89</sup> To look at the issue affirmatively, one should consider speaking about the “degree of cooperation”, as something that is desirable to increase and foster, as opposed the “degree of separation”, which capital wants to impose on us.

#### **4.5.2 Reproduction of wage-labour**

In order to set up the analysis on a certain level of abstraction, and to see what happens when other elements are allowed to vary, Marx temporarily fixed the ‘subsistence bundle’. This assumption was to be removed in the book on Wage-Labour. However, the result is that in *Capital*, there is “no discussion at all about workers struggling to increase the standard of living”. While there is a detailed treatment of capital’s drive to increase the rate of surplus value, “there is no treatment of wage-labour’s tendency to reduce the rate of surplus-value” (M. Lebowitz, 2003, p. 83).<sup>90</sup> However, the reproduction of wage-labour is crucial for capital in respect to the supply of labour power and consumption of commodities. Again, the other perspective, that of wage-labour for itself – although implicitly present in Marx’s categories, such as exploitation and

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<sup>89</sup> While capital and the state functions that serve it have found various uses for those changes, theories and practices of labour struggle to move beyond the extremes of idealizations (new technologies as saviours) and dismissiveness (technologies are always developed and deployed by capital to exploit workers).

<sup>90</sup> Capital strives to realise surplus-value. Worker’s do not, they care about their own self-development. From the standpoint of workers’ own self-development, I develop the initial conceptual and empirical analysis in the last chapter, through a reading of UK national statistics on rental of dwellings.

consideration of labour as the only source of value – is missing, Lebowitz insists. While “for capital the value of labour-power is a means for satisfying its goal of surplus-value, for the wage-labourer, it is the means of satisfying the goal of self-development” (ibid., p. 127). What is peculiar to labour-power as a commodity, and what gets forgotten, warns Lebowitz, is that it is in the interest of wage-labour for the price of its commodity to rise, so that workers’ social needs can be met better. All of this suggests that reproduction of worker has to be explored “in its own right, rather than just noted as a condition for the reproduction of capital” (ibid., p. 129). This is what Lebowitz calls a critical asymmetry: “what the capitalist wants is the growth of value (indeed, the growth of surplus-value); what the worker wants, on the other hand, is the growth of use-value” (ibid., p. 130), which brings us to the third one-sided concept in *Capital*, wealth.

### 4.5.3 Wealth

There is “an essential difference” in the concept of wealth for capital and workers. One is based on extraction of surplus-value through the exchange value, while the other is about use-values. However, it is important to remember the overlap; commodities have use-values too. Although there are many instances of Marx referring to workers’ own need for development, it is conceptually non-existent in *Capital*, which only makes sense if one considers the goal of the various volumes of *Capital*. Lebowitz hints at the work of Amartya Sen and the concept of ‘capacities’, or capabilities as possible directions to develop the concept of wealth from workers’ standpoint (ibid., pp. 130–2). This is highly problematic, as will be seen later in the discussion on the Human Development Index and macroeconomic measures in general, and what Lebowitz correctly calls in his later work, “a liberal reformist perspective” (2010b, pp. 47–8). It is at end of this brief consideration of the one-sided concept of wealth in *Capital* that Lebowitz makes perhaps the most important point from the perspective of this thesis:

What Marx did in *Capital* was to identify and analyse the nature of capitalist wealth. He revealed that wealth from the standpoint of capital (and thus from that of the political economy of capital) was the result of the exploitation of the wage-labourer. Nevertheless, the subsequent failure of Marx’s disciples to articulate the alternative conception of wealth is equivalent to subservience to capital’s concept. The absence of an alternative class concept of wealth allows the conclusion that wealth emerges only in and through capital. To permit the unchallenged rule of the one-sided concept of wealth is tantamount to abandonment of the theoretical struggle. (ibid., p. 133)

Although it is clear that wealth from the perspective of workers has to do with their own self-development, which includes a whole array of needs – like food, shelter, security, health, clean environment, education, care, leisure, transport, socialization, continuous participation in decision-making at workplace and in political bodies – developing it substantially cannot be done in a rush here. What is required is an analysis of the concept of wealth through the history of economics, labour movements and political struggles, and its links with the circuit of capital – the two are closely connected. Only through such a broad and historic reading can the concept be given the treatment it requires. Wealth is of course closely linked with the concept of value. The previous chapter showed how neoclassical economics radically narrowed down the concepts of wealth and value. Not only did they remove the entire social context narrowing it down to the moment of exchange of commodities, they removed both space and time from the considerations of the exchange itself. Their focus, as the economists often put it, moved from the supply side, from production, to the demand side, to exchange, markets and prices. Instead of value being anchored in labour and processes of production, prices, the only moment of expression of value for neoclassical economics, are formed in a perfect harmony (recall that markets always reach general equilibrium). Subjective judgments of consumers (recall cardinal utility and lists of preferences without interpersonal comparison) and the magical act of coordination by a non-existing auctioneer (crier) that performs price announcing (recall Walras’s auctioneer) are two key moments. This, and the Chicago School of Economics’ blind faith in and protection of the concept of competitive markets (recall, no matter what eyes and ears tell them, the notion stays), are the conditions in which present themselves when discussing possible alternative concepts of wealth and value. National accounts, a set of far more useful understandings of economics and data on economies, whose roots also owe something to Marx’s work, will, along with Marx, be our starting points in the last two chapters.

#### **4.5.4 Productive labour and national accounting**

Productive labour, labour that produces wealth and value, Lebowitz notes, has provoked a huge number of debates among Marxist. Similar to many other contentious issues, he rejects critiques that Marx’s concept of productive labour was incorrect. Instead, like many concepts from *Capital*, the concept is for Lebowitz insufficient, one-sided. What makes Marx’s productive labour insufficient for the struggles of wage-labour is that “what we are presented with is productive labour for capital, labour which serves the need and goal of capital – valorisation”. Once it is

recognized that there is also the standpoint of workers, one not at all present within categories developed in Marx's system, there is a clear need to develop a distinct concept, "productive labour for the worker". Lebowitz's definition of such labour, "labour which produces use-values for the worker" (ibid., p. 134), follows E.K. Hunt and Paul Baran, where productive labour for the worker should be labour "that fulfils a real human need that would be important to fulfil even after the triumph of a socialist regime". Examples of such activities are for Lebowitz health, education, household labour and "any activities which nurture the development of human beings". Yet, for Marx, they are designated as unproductive, due to the consideration being made from the standpoint of capital (ibid., p. 135). As long as those conceptual issues are unanswered, Lebowitz concludes, "it will not only be found wanting by feminists", it will represent a failure to recognize the class characters of one's own concepts, and failure to challenge capital. This is another key point for this thesis; I will come back to it in detail in the last chapter. For now, a brief pointer to the problems with this issue is to look at one of the most intriguing works of Marxist economics, Anwar Shaikh and Ahmed Tonak's *Measuring the Wealth of Nations* (1996). Throughout their work, which painstakingly develops a Marxian view of national accounts, the authors consider value strictly from the point of view of Marx's understanding of productive labour as that which produces surplus value. A possible different standpoint does not get acknowledged, classifying all the labour in health and education sectors as unproductive, and all the money spent as expenditure of value created elsewhere. In comparison with most mainstream national accounting practices, where such sectors are counted as value producing, their value being equal to the sum of their costs (A. Vanoli, 2005, p. 248), this is a rather conservative position to take. Following through the logic of his arguments, the heavy charge Lebowitz lays down for generations of Marxists – mistaking *Capital* "for a presentation of the inner nature of capitalism as a whole", Marxists have created one-sided Marxism – and this applies to this long and detailed treatment of national accounts. Having such a broad and detailed reading and translation of national accounting into the categories assembled from the perspective of wage-labour, especially with an egalitarian emphasis, would be of an enormous benefit for left policy, and for better understanding of national economies. I deal with Shaikh and Tonak work in more detail in later chapters. It is fairly self-explanatory that from the standpoint of workers, it is meeting a wide array of human needs – provision of nourishment, housing, education, care (health, elderly, children), to name a few basic ones – that ought to be seen as productive. However, a broader discussion on a series of questions, starting with what constitutes workers'



self-development and the full development of human capacities of all and how it is measured, is necessary to engage with the question of needs. Without this discussion, appearing in following chapter, it is impossible to provide enough conceptual clarity that will allow the categorization of labour as productive/unproductive from the perspective of workers and the human development of all.

#### **4.6 Teleological absurdities and Marx's responsibility**

In the previous section, I discussed the one-sidedness of the categories in *Capital*, developed further by many Marxists who mistakenly took the logic of capital for the logic of the society as a whole. Or, as Colin Barker has put it, "generations of Marxists have more or less uncritically accepted, that", in the first circuit, the circuit of capital, "we have a closed social input-output system in which nothing is 'exogenous'" (2006, p. 5). However, the blame for this poor use of intellectual resources cannot be attributed solely to authors following Marx. Instead, it has to be acknowledged that there is a "teleological absurdity" in important aspects of Marx's work, which stems from the absence of wage-labour for-itself from *Capital*, and which is part of the reason for one-sided Marxism. The first absurdity, Lebowitz writes, is "to suggest that the value of labour-power contains provisions for the maintenance of children because capital needs future recruits – rather than because workers have struggled to secure such requirements" (M. Lebowitz, 2003, p. 136). The second absurdity it is that the limiting of the workday corresponded to capital's requirements, making "all those struggles by workers of the working class, celebrated by Marx, apparently demonstrate how capital works." It is due to the "inherent functionalist cast to the argument that flows from Capital", that "Marx himself must bear responsibility for some the absurdities of his disciples". Hence, the following twisted logic attributing all advances beneficial to workers to capital:

As a result, in one-sided Marxism, if the workday declines, it is because capital needs workers to rest. If the real wage rises, it is because capital needs to resolve the problem of realization. If a public healthcare system is introduced, it is because capital needs healthy workers and needs to reduce its own costs; if a public school system, capital requires better-educated workers. If sectors of an economy are nationalized, it is because capital needs weak sectors to be operated by the State. (ibid., p. 137)

Instead of following real workers and "their expressed needs and aspirations", one-sided Marxism replaced reality with "the theoretical form in which the master had sublimated it" (ibid., p. 138).

Switching perspective to following workers and their struggles as Lebowitz invites us to do, provides plenty of opportunities to develop the key categories highlighted in this chapter further.

## **4.7 Sharing the surplus and a change of perspective**

Before I begin to consider the second and third circle of production, a brief reading of Marx's understanding of the surplus and its distribution is required. This will help to address the criticism of Lebowitz that Marx does not at all deal with political parties, especially social-democratic ones, which were often the agents through which class struggles were conducted, and through which many aspects of the sharing of the surplus, in the form of the welfare state, were introduced (Panitch & Gindin, 2006, pp. 129–30). While I do not go into a direct analysis of political parties, trade unions and other historic (e.g. Friendly Societies) and less institutionalized (self-help) forms of working class organization, an aspect that also according to Lebowitz belongs to the circle of production of wage-labour, assessing the economic foundations helps to frame the discussion. Doing so can improve our understanding of political struggles and their often reformist character, albeit beneficial to the working class.

### **4.7.1 The dangers of one-sidedness from the changed perspective**

In this section I briefly look at the dangers of such a changed perspective. Lebowitz's clash with analytical Marxists (Cohen) – where he takes issue with the insistence on the crucial role of forces of production, as developed by Marx in the 1859 Preface to 'A Contribution to the Critique of Political Economy' – serves as an example. The "march (or failure to march) of productive forces", as Lebowitz calls it, is a conservative interpretation of Marx's text, although the text itself does leave space for such an interpretation. However, Lebowitz asks, what if we reverse the thesis, considering that it is "the needs of socially developed human beings that are central in determining the course of historical change." (2003, p. 163) To support the idea that capitalism cannot meet such needs, he quotes Marx: "Capital therefore takes no account of the health and the length of life of the worker, unless society forces it to do so" (Marx, 1990, p. 381). This is perhaps true on the level of the individual capitalist. However, there are also other elements to account for. They become visible if the level of abstraction is changed to capitalists as a class, when the state as a mechanism through which health, length of life, quality of housing, and even education of workers, is taken some care of by capitalists as a class. My arguments falls into two broad categories.

First, although the activities of working class organizations – Friendly Societies, Workmen’s associations, trade unions, and political parties – were crucially important for the emergence of the welfare state, there are other key elements to acknowledge. Capitalists’ need for workers capable of performing work efficiently, nation states requiring populations healthy and strong enough to serve in the military, governments’ instrumental use of concessions to workers to reduce the popularity of radical political solutions and organizations – none of these can be left out of the discussion if the aim is to account for the forces that lead to improvement in living (Beito, 2000; Dutton, 2002; Hay, 1978; Mooney, 2000).

Second, in the wave of the neoliberal commodification of the welfare-state it was seen that capitalists and the state can create commodity forms in health, education and care sectors, where again capital finds new ways to exploit labour and extract surplus-value, this time with improved health and longer life, unequally distributed on a class basis (according to ability to pay). In other words, the ability of capitalists as a class to improve aspects of life for large sections of population whilst both expanding and increasing its power over the same population should not be underestimated.

Both of these points demonstrate that even when the perspective from that of capital is changed to that of workers’ reproduction and the human development of all, it cannot be blind to the force of capital, nation states and governments. In other words, the mistake of the categories in *Capital* must not be repeated. The categories I develop, although observed from the developmental-egalitarian perspective, have to account for all the major political and economic forces that operate in the field analysed. Doing anything less than that might again present many teleological absurdities, albeit from a different perspective.

#### **4.7.2 Consumption levels and exploitation can continuously rise together**

Marx’s argument in *Capital* was that the labour-time necessary to produce a bundle of commodities consumed by a worker underlies the value of labour power. As he states: “In a given country at a given period, the average amount of the means of subsistence necessary for the worker is a known datum”; workers have to reproduce their labour power and this includes bringing up children who are the future labour power that will replace the workers who die (1990, p. 275). As can be seen from the mention of a “given country at a given period”, and in general from Marx’s other writings, he never considered the workers’ consumption bundle to be fixed for good. Quite the contrary, he held a firm view that needs are social, relative to the wealth of a

given period. Yet, Marx's arguments, especially regarding the falling rate of profit, were criticised on the false premise that he did in fact hold the consumption bundle to be fixed (Robinson, 1974, p. xvii; Samuelson, 1972). Marx was assuming it to be fixed temporarily as a methodological step to be able to discuss other parameters, while he considered the changes in the bundle to "belong altogether to the chapter treating wage labour" (M. Lebowitz, 2003, p. 46). Lebowitz demonstrates that Marx pointed out repeatedly how in order to study the logic of capital, he needed to temporarily keep the needs of workers as fixed, constant. It is known from the history of governments in the advanced world that there is a possibility that workers will see a chance to use the state to create capitalism with a human face, to get what they want within the capitalist mode of production (M. Lebowitz, 2003, p. 168). This is the political side of the possible, and in social-democratic times implemented, class compromise. Marx understood that the development of capitalist social relations and inequalities can continue to grow while accommodating compromising scenarios with workers. Assuming other things being equal, the rise in quality and quantity of commodities a worker can appropriate for his or her constant wage means a rise in his or her living standards.

In this case, Marx demonstrates that both workers and capitalists benefit in different ways. When productivity grows, the rate of exploitation and living standards can grow simultaneously and continuously: "Indeed, relative surplus value might well rise continuously and the value of labour capacity, hence the value of average wages, fall continuously, yet despite this the range of the worker's means of subsistence and therefore the pleasures of her life could expand continuously. For this is conditioned by the quality and quantity of the use values (commodities) he can appropriate, not by their exchange value" (1987d, p. 245). In other words, although the share of value of capitalists keeps increasing, while the value received by workers as wages for its labour-power falls, the quality and quantity of what workers can buy with their share rises. Exploitation grows together with the living standard of workers. Therefore, "The worker's life situation would have improved despite the fall in the value of his labour capacity" (1987d, p. 250). In Volume I of *Capital*, in the chapter 'Changes of Magnitude in the Price of Labour-Power and in Surplus-Value', Marx discusses several other possible changes in relative surplus value. One is when both wages and value keep falling, with the simultaneous rise in quality and quantity of what worker can buy with wages. Marx writes: "it is possible, given increasing productivity of labour, for the price of labour-power to fall constantly and for this fall to be accompanied by a constant growth in the mass of the worker's means of subsistence. But in relative terms, i.e. in

comparison with surplus-value, the value of labour-power would keep falling, and thus the abyss between the life-situation of the worker and that of the capitalist would keep widening” (Marx, 1990, p. 659). In this situation, inequality grows together with a fall in the wages and value the worker obtains. Or, in a slightly different scenario: “if the productivity of labour were to be doubled without any alteration in the ratio between necessary labour and surplus labour, there would be no change of the magnitude either of the surplus-value or of the price of labour-power. The only result would be that each of these would represent twice as many use-values as before, and that each use-value would be twice as cheap as it was before” (Marx, 1990, p. 659). If this logic is extended to society as a whole and all producing sectors (Marx in one of his examples states the case of “doubling of productivity which is universal, covering all branches of production” (1987d, p. 245), a society-wide effect is achieved. This, Marx correctly observed, means that on an aggregate level, a capitalist society can become wealthier, while individual workers also obtain more goods and services with of wage. However, the value of workers’ labour power and their share in the overall wealth can keep falling. It is not a surprise that in such scenarios with growing, or stagnant exploitation and a falling workers’ share of overall wealth (a fall in necessary labour time), workers are unlikely to look at capitalism as a whole critically. Living standards are likely to appear to be growing from their perspective, regardless of the growing gap in wealth and their reduced or stagnant share. As Simon Kuznets, the economist responsible for the first modern national income accounts, argued: other aspects of life highly prized by the population, like freedom of expression, democratic rights, working conditions, may also decline while consumption grows (1953a, p. 177). In other words, although consumption levels play a key part in living standards, the earlier assumption, that the rise in quality and quantity of commodities consumed by workers can be equated with living standards, does not hold.

The problem is now a lot clearer: irrespective of the possibility of a falling share in the overall wealth due to growing productivity, workers can easily get continuously confused and blinded by the growing quality and quantity of their consumption bundle.<sup>91</sup> The effect of the confusion is a failure to see and understand exploitation in capitalism, concepts of wealth and value and relative differences in wealth. For example, it seems entirely impossible for not only workers, but for the most sophisticated theorists alike, to see how it is that despite of an increase

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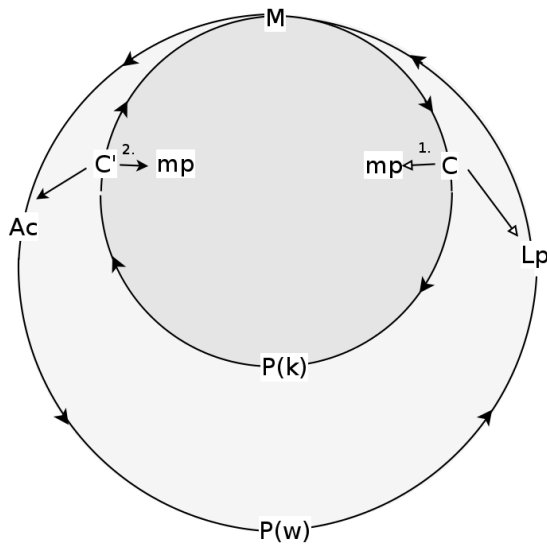
<sup>91</sup> A more convincing example that the stark reality of the contemporary situation with decades of rising inequality and minimal labour resistance is clearly not needed.

in productivity and technological growth, working hours have not declined beyond the original eight-hours-a-day working week class compromise. How is it that benefits in the production of material goods do not translate in more leisure time, more material security, less stress about meeting needs, or more participation of workers in their affairs, both at their workplaces and in political institutions? Marx was the first to understand this paradox of a simultaneously growing quantity and quality of commodities obtained from the wage, and the growth of exploitation. And why does this matter for this research and its aims? Because if it is so difficult to grasp what is wrong with the capitalist mode of production from the perspective of workers, figuring out concepts of wealth, value and productivity from the perspective of full development of human capacities of all is likely to be even harder. In short, as long as those categories and views of productive activities are not developed, nothing other than mainstream economics concepts are available, which cannot demonstrate anything other than what Marx has already shown, using his own categories and long before the meaning of many of mainstream economics concepts in use today had been established as the logic of the capitalist concepts of wealth and value.

Given that it is so difficult to grasp the reality of the relation between labour and capital, between workers and capitalists, what needs to be done to allow the perception of the changes in positions in relation to capital easier to grasp correctly? How do we make it easier to see the changes as they affect us in the relation to the totality of social wealth, rather than in relation to our immediate experience of the consumption bundles observed in everyday lives (our own bundle, and those of people we interact with)? For sure not by looking at GDP and other standard macroeconomic measurements uncritically, as they have been developed from the perspective of capital serving primarily the interests of capitalists as a class. It is beyond the scope of this research to answer those questions extensively, but I will provide a discussion and some opening pointers in the following chapters. A closer look at the history and diverse practices and doubts and debates on national accounting may provide some starting points on the reuse of data and existing practices. That is, once some acceptable starting views on what constitutes wealth and value from this changed standpoint have been developed.

### **4.7.3 From wage-labour to workers, and the self-developmental standpoint**

As was seen at the start of this chapter, Lebowitz leaves us with two circuits: circuit of capital and of wage-labour.



Explaining the addition of the wage-labour circuit, the process of reproduction of labour power was represented with the following:

U, Lp ... Pw ... Lp,

“where labour-power (Lp) is both an input and an output and use-values (U ) are means of production which are consumed in this process of production” (2003, p. 69). Crucially, Lebowitz notes, use-value inputs in this process “include both those produced directly as commodities and others that may not be produced under capitalist relations.” For the construction of the second circuit, Lebowitz leaves those details out. However, if one is to continue with Marx’s method of accounting for the entirety of the reproduction processes as complete wholes, as he aimed to do in *Capital*, one has to add to the circuits at the very minimum use-values from the second circuit. This is also crucial if one is to follow Lebowitz in his commitment to Marxism as a body of knowledge that does not need anything external. Given that the concern here is not following the logic of capital alone, but in agreement with Lebowitz, a focus on human beings and their self-development, or as he calls it in other places the political economy of wage-labour, workers’ needs and self-development in their own circuit of reproduction must be accounted for. In the circuits of reproduction as presented so far, workers are present only as consumers of articles of consumption and providers of labour-power to capital. Thus, although Lebowitz added the second circuit, the circuits must be developed further to account for the reproduction and development of workers from their own standpoint.

## 4.8 Conclusion

In this chapter I followed Michael Lebowitz's argument about *Capital* and Marx's work. The key insight concerns the one-sidedness of Marx's *Capital* and the necessity to reassess those topics from the perspective of wage-labour and human development, the standpoints entirely missing in *Capital* and in most Marxist works that have built extensively on these same categories. I provided a close reading of Lebowitz's arguments, focusing on circuits of reproduction. While the extension of the category of wage-labour to a broader category that includes all those who contribute work from the perspective of workers is textually present in Lebowitz's writings, I take a step further by specifying the worker as a broader category with concrete different types of labour, thus preparing the groundwork for further conceptual development and empirical studies. As Lebowitz notes elsewhere, the supreme goal of the political economy of capital is the growth of capital, while the political economy of the working class has for its supreme goal the full development of human capacities (2012, p. 144) – these differences inform my approach. The circuits of reproduction are modified, adding a new, broader category of worker, elements crucial for workers' needs, self-development and the state. Similar to this new broader category of workers, the workforce, although the needs and elements of society important for human development are present throughout Lebowitz's writing, I create a broad list that will furnish the discussion in the next chapter with further analytical developments, empirical studies and considerations of measurements and aggregation.



## 5. The third circuit and the egalitarian mode of (re)production

### 5.1 Introduction

The goal of Marx's study, understanding the logic of the capitalist mode of production, a mode of production specific to a historic period, dictated that the object of study is observed as seen from the standpoint of capital. Although I take Marx's work as the starting point from which to approach the object of study, from the perspective of the workforce, there are less well-founded concepts for this than there are for the capitalist mode of production. Most importantly, two important phenomena have to be accounted for: the rise of public spending and the welfare state in advanced countries; and the past and the present of actually existing socialist states. There are two principles that have been at the centre of historic egalitarian struggles for the full development of the human capacities of all, and "from each according to their ability, to each according to their needs". These are called developmental-egalitarian principles. Their aim is reproduction and development of human beings through what I call the egalitarian mode of production. Instead of market distribution and affordability according to individual ability pay in the capitalist mode of production, products are allocated according to needs i.e. "to each according to their needs". The egalitarian mode of production thus strives to the human development of all. To conceptually capture the elements of the egalitarian mode of production and units of measure, or at least to capture their tendencies and ratios, the concepts of value, wealth and productivity used as standard in economics have to be amended and broadened by additional measurements and indicators. However, given how strongly capital-centric most of the economic concepts are, it is likely that many key concepts will have to be redefined to a significant extent. While in Marxism there are developed studies of capital and its logic of self-expansion and unequal distribution, an affirmative analytical apparatus for the reproduction and development of the workforce is lacking. Without such framework, several key theoretical steps cannot be undertaken.

First, one cannot qualitatively or quantitatively judge the achievement of workers' struggles within capitalism throughout history. To take the United Kingdom as an example. Although the UK public health system was made in the image of worker self-organization and the collective approach to health care of South Wales miners, where pooled resources were allocated by the "to each according to needs" principle, such state activities are seen only as class

compromises with capitalist states, typical of social-democratic political forces.<sup>92</sup> That is how we have ended up in a situation where public health, the largest public sector, is not treated as a victory of workers' struggles and their egalitarian activities and spirit. Given that measurable socio-economic categories to demonstrate the creation of wealth and value in public health via allocation according to needs have not been developed, it is not a surprise that such services are nowadays easy prey for expansion of the capitalist mode of production through privatizations. If egalitarian production cannot be seen as value and wealth creation, if it is seen as merely a class compromise, as spending of value and wealth created in the private sector as the only value and wealth creating sector, then it is trivial to argue for privatizing the sectors with egalitarian production. If pro-capitalist forces argue for more value and wealth production through privatizations, other than calling for a continuation of the class compromise that played a huge part in the creation of public services and relying on political arguments, what can the proponents of the public sector argue for? How can they express their claims that public services are valuable to society in terms which can parallel the strength and apparent scientific rigour of the economists? In a better example, national accounts traditionally show the value of public sectors to be equal to the costs, what comes out equals what comes in. With such an approach, the positive contribution of the sector to society has started to be considered through outcomes, although these efforts are still sporadic, marginal and have a minimal influence on policymaking and public debates.<sup>93</sup> Equally problematic, building a hospital, a school, or military equipment is all classified as Gross Fixed Capital Formation (GFCF).<sup>94</sup> As mentioned in the previous chapter, where Marx's categories have been applied in the context in which they were developed in *Capital*, the most advanced Marxist studies of national accounting showed health and education sectors as pure expense, as sectors which consume value produced elsewhere.<sup>95</sup> From my developmental-egalitarian perspective, there are several problems with this. Investments cannot be treated in the same way. Schools and hospitals, elements essential for reproduction and development ought to be treated differently from military investments, while investments in

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<sup>92</sup> For the history of health services in Wales and the history of the NHS, see (Borsay, 2003; Hart, 2010).

<sup>93</sup> OECD is attempting to measure outcomes. In the education sector, quantity is measured as the number of hours that students and pupils spend being taught, adjusted for two measures of quality: measuring knowledge in various disciplines (PISA), and spending per student adjusted for purchase power parity (OECD, 2012b, Chapter 8). The PISA project has its problems and critics, see (Hopmann, Brinek, & Retzl, 2007; Wuttke, 2008).

<sup>94</sup> For the recent status of military spending in national accounts, see (OECD, 2013, Chapter Investments). See also the classification of military equipment (United Nations, 2010, p. 122).

<sup>95</sup> Shaikh and Tonak (1996), see Harvie for a detailed critique of their position (2005).

profitable entities have to be treated separately from both. Currently, all three types are categorised as GFCF, thus obliterating fundamental differences in those activities. From my perspective, only the later falls into that category. It is also not enough to say that developmental-egalitarian elements, public services in this case, contribute to society in a manner equal to their cost of production. Instead, I wish to show how both government spending and its value added has to be differentiated and treated according to contribution of each sector and sector elements to fulfilment of development-egalitarian principles.

Second, Marxist economics is based on the critique of capitalist mode of production and produced from the standpoint of capital. However, without an affirmative framework, the analysis of the welfare state and socialist states is impossible from the perspective of the workforce and developmental-egalitarian principles. For example, there are no categories and measures which could be used to demonstrate the growth of egalitarian relations in a socialist country when the industries are socialized and public services distributed according to needs, or indeed when public services like health and education in the UK, are privatized. In other words, we lack analytical frameworks to show the dynamic of equality, its increases or decreases. Consequently, the same goes for socialist states turned capitalist, where we lack the ability to demonstrate the destruction of egalitarian relations. Therefore, comparative studies are resigned to using aggregate macro-economic measures designed to measure the advances in the interest of capital.<sup>96</sup>

Third, there is not yet a way to integrate into one analytical framework all that the workforce, the broader working class, needs for its own reproduction and development. That is why it should not come as a surprise that many left economists express solidarity with household labour and care activities, only to completely leave them out when it comes to calculating value, wealth and productive labour in society.<sup>97</sup> To address those deficiencies, we need a theoretical framework which Michael Lebowitz calls the political economy of wage labour, of the working class, or sometimes a political economy of use-value. With those names, Lebowitz signals that

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<sup>96</sup> This does not at all mean that many elements of the existing macro measures (PISA, Eurostat, OECD, national accounts in general, etc.) cannot be utilized – quite the contrary. To ascertain which elements to use and how, a detailed and thorough understanding of the genesis, history and contemporary uses of statistics, national accounts and their categories is needed.

<sup>97</sup> These problems are usually explained away by two arguments: Marx studies only the logic of capital; Marx was not working on imagining future egalitarian social orders. Although both arguments are factually correct, the logic of their use as a defence of Marx and Marxist works misses the point.

contrary to exchange value which is the focal point for capital, the workforce is interested in use-value, benefits in use and in consumption of goods and services.

But, what is the purpose of use and consumption and how do is it to be measured? From the perspective of capital and exchange value, the answer is simple: capital strives to self-expansion. Profits, interest and rent, expressed in money, are its goals. By measuring them, we can see the dynamic of capital and private property enlargement in all sectors where capital is active. From the egalitarian perspective of the reproduction and development of the workforce, there are no accounting units, or proxies and composite indexes that would enable aggregation across the sectors where the workforce operates. Furthermore, unlike capital, it is hard to pin down what workers strive for. Finally, while capital operates only in sectors and areas of human activities where profits can be obtained, the workforce operates both in the capitalist mode production, in the public sector and in reproductive activities in households. However, not all such activities are productive for the reproduction and development of the workforce as a whole – military industry is an obvious candidate. So are the legal public services and increasingly private industry of incarceration.<sup>98</sup> On the opposite end of the spectrum, it is easy to agree that meeting key needs – nutrition, clothing, housing, health, education, care and security – has to be at the centre of the analytical framework. Equally important, to move towards the “from everyone according to their abilities” principle, the production of goods and services satisfying a broad set of needs has to be planned, measured and allocated according to need.

To restate the question: how do we measure increased benefits to the workforce and reduced benefits to capital, when all that we have are capital-centric frameworks and units of measure? Privatizing a hospital or a university is a good example. In the first post-privatization accounting period, proponents of capital can claim that there is new value created: the volume of consumed final goods and services and profits (hence, GDP too) will grow. As a result, accumulated capital will be either saved, invested, or consumption of luxuries by capitalists will grow. Simultaneously, due to pricing of goods and service, instead of distribution according to need with no (or economically insignificant) payment by the end user, allocation will turn to the principle of individual ability to pay, i.e. according to one’s private wealth and class position, resulting in an individual and aggregate reduction of equality. From my development-egalitarian

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<sup>98</sup> From our standpoint here, the starting premise would be that prisons are destructive activities. Those who might argue differently are likely to base their arguments on the necessity of security and the protection of private property.

perspective, the total cost of reproduction of the workforce, which necessarily includes health and education, will thus grow.<sup>99</sup> In short, the growth in volume of market distributed paid-for goods and services, and the growth in profits and private wealth, will at minimum have an effect of increased insecurity of the workforce, while it is almost certain that the cost of the reproduction of workforce will also increase. Furthermore, the possibility of democratic control over the production and distribution of those goods and services is lost once they become private – that is another loss from the perspective of the development of the workforce which necessitates forms of self-management and growth of worker knowledge necessary for participation in management (finance, law, management, accounting, planning). Here two different logics, capitalist and egalitarian, are in an antagonistic relationship. While the consequences of privatization are assessed as positive from the standpoint of capital, from the standpoint of workforce, the whole number of changes cannot be easily conceptually understood nor accounted for: reduction of equality and solidarity; narrowing of the opportunities for self-development to a smaller subset of population; services formerly free at the point of use get assigned prices, thus making the reproduction of workforce more expensive; removal of possible democracy at the workplace and insights in accounting books – to name a few. In other words, when the capitalist logic conquers new spheres and territories, there is a whole set of categories, accounting practices and ways of thinking about it, a whole apparatus of rational thinking that shows the plausibility of the claims that the spread of capitalism is a desirable scenario, due to the increases in well-being it brings about. The central issue this work addresses is establishing contours of an analytical apparatus which will enable us to do the same from the perspective of the egalitarian logic.

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<sup>99</sup> Amongst the central arguments of the proponents of capitalism is the claim that privatizations bring about efficiency and productivity gains. However, to judge by recently published research commissioned by the UK government during Tony Blair's government, assessing the proclaimed aims and financial gains which should have followed from privatizations, economic efficiency has not increased in Britain (Parker, 2012, pp. 524–6), nor across Europe (Parker, 1998). Therefore, the criteria for success established by the heavily capital-centric economics have not been satisfied in those examples. The left, Wilks concludes, was right when they held privatization to be a political campaign with the purpose of further installations of the markets as the dominant principles of the British economy (Wilks, 2013, Chapter 6). In the wave of privatizations, the portion of state corporations in the GDP has been reduced in the UK from 10.5% in 1979. (Wilks, 2013, p. 122) to 1.9% in 2000 (Clifton, Comín, & Díaz Fuentes, 2006, p. 743). In the same period, distribution according to needs gets significantly reduced in certain sectors – see the analysis of housing below.

## 5.2 Marx's framework, the first two circuits of reproduction: capital and wage labour

Michael Lebowitz's reading of Marx has been in the making for decades, with the focus on developing categories from the standpoint of workers and human development. It's a good foundation for what I am trying to do here. However, the question arises: why Marx? This seems especially important given that Marx did not witness the growth of the welfare state and socialist states, both of which to different extents, and in different ways, partly introduced the egalitarian mode of production. They did so through the socialization of the means of production, allocation according to needs, removal of profit as the aim of economic activity in some of the sectors meeting needs, and by introducing more planning and coordination. To start with, it is important to keep in mind that Marx was not aiming to capture the logic of particular historical forms of phases of capitalism. His goal was to understand the internal organization of the capitalist mode of production, especially its ideal average (Heinrich, 2012, pp. 29–32; Marx, 1991, p. 970).<sup>100</sup> It follows from this that we cannot reject Marx's analysis only because it does not cover key differences of historical and geographic examples of capitalist societies – such was never his goal, quite the contrary. During the past few decades, the neoliberal phase of capitalist expansion provides more evidence across many nation states on how productive Marx work was when considering its core intention to show the tendency of capital to self-expand, to seek profits, to do so at the expense of workers, and its crisis tendencies. Using his model of the capitalist mode of production, all of the different formations capitalist societies take can be explained. The success in abstractly capturing the logic of capital, Marx's egalitarian political stances and the methods of his analysis are considered primary reasons to take Marx's analytical framework as a starting point. How far it can take us, given the huge shift in the standpoint from which I assess everything, is the question that can only be answered through future research.

While Lebowitz follows Marx's model across Marx entire body of work through a close reading, he leaves aside Marx's theory of value and capitalist crisis, focusing instead on what can

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<sup>100</sup> For example, „The general rate of profit exists indeed only as an ideal average figure, in so far as it serves to estimate the real profit; it exists only as an average figure, as an abstraction, in so far as it is established as something which is in itself complete, definite, given. In reality, however, it exists only as the determining tendency in the movement of equalisation of the real different rates of profit, whether of individual capitals in the same sphere or of different capitals in the different spheres of production“ (Marx & Engels, 1990, p. 459). Other than this central level of analysis, we have to keep mind that in Marx, and especially among Marxists, there are other levels that we need to engage with, like analysis of concrete capitalist social formations and stages of capitalist development.

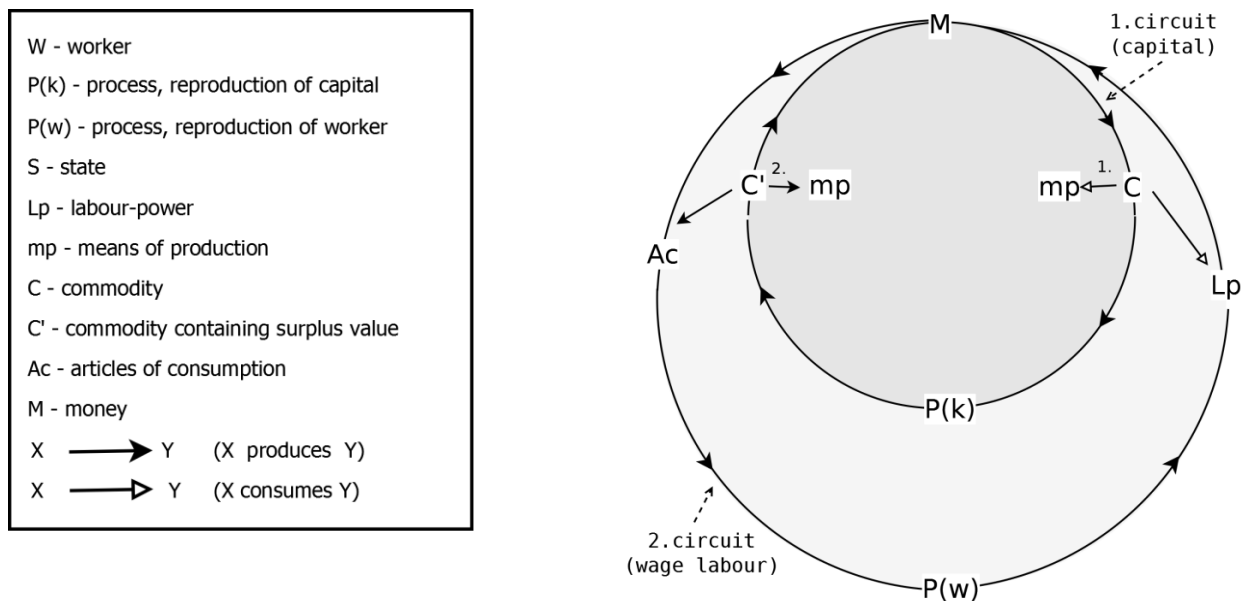
be learned from Marx's work from the standpoint of workers. For many Marxist economists, such reading of Marx is likely to be entirely unacceptable due to the centrality of the theories of value and crisis to Marx's work. However, although my intention is not to leave those two aspects unanswered, the new standpoint dictates that categories of value, crisis, wealth and productivity take both a significantly different meaning and research path, one that cannot be developed straight away, or tackled directly. As the work progresses, establishing those categories from the standpoint adopted here will be done by engaging with theories by which those categories were established from the standpoint of capital, with a primary focus on Marx's theory of value and national accounting.

It is the unity of the production and circulation processes, Lebowitz writes, capital as a whole in its totality, which Marx constructs in *Capital*. To be "seen as a whole, we recognize that capital must move through a continuing circuit, which can be expressed in several ways" (M. Lebowitz, 2003, p. 60). The circuit of money-capital is Marx's basic model. In more detail: money (M) buys two kinds of commodities (C), means of production (mp) and labour power (Lp), in order to engage in its self-expansion, to seek profit, to seek surplus value. In the following process of production, P(k) in the below diagram, new commodities containing surplus value (C') are produced. Commodities can be either the means of production, which will be used in the next round of production, or articles of consumption for mass consumption (Ac). They have to be sold in order to return to the money-capital form. Although the circuit can be observed from different starting points – we can start and end with P(k), or with commodity-capital, beginning and ending with C' – only by seeing capital as a whole in the form of the circuit, in which reproduction of all of its elements occurs, can the capitalist mode of production be understood (ibid., pp. 61–2). The central argument in Lebowitz's reading of Marx work is the following: *Capital*, from which Marx's central analytical framework is derived, lacks the circuit of the reproduction of wage labour as seen from the standpoint of workers. In Lebowitz's own words: "the system can only be complete by positing explicitly another process of production, a second moment of production (Pw), distinct from the process of production of capital – one in which labour-power is produced in the course of consuming articles of consumption. Thus the circuit of capital necessarily implies a second circuit, the circuit of wage-labour" (ibid., p. 65).

Lebowitz's key argument for the addition of the second circuit is that Marx's criteria for modelling capitalist mode of production was to include all necessary conditions for the reproduction of capital. Therefore, he concludes, not only are *Capital* and its concepts one-sided,

but by Marx's own standard, the model cannot be complete without the inclusion of the reproduction of the working class (ibid., p. 66). To address this, Lebowitz adds the second circuit of reproduction – to an extent present in Marx's work, but with minimal development from the standpoint of workers.<sup>101</sup> In the circuit of wage labour, workers sell their labour power for a wage, which they use to buy articles of consumption. By those purchases, they simultaneously make the reproduction of their labour power possible and they realize the surplus values contained in those commodities for the capitalists as money-capital.

Figure 3. Two circuits of reproduction: capital and wage labour



Lebowitz accepts that a certain amount of responsibility for what he calls one-sided Marxism, for Marx's followers continuing to use and developing one-sided concepts from *Capital*, has to be attributed to Marx (ibid., p. 137).<sup>102</sup> Following the long discussion of one sided concepts embodied in *Capital* – reproduction of wage labour, wealth and productive labour (ibid., pp.

<sup>101</sup> For example, "Besides the productive consumption of M (money), transformed into L (labour power) and mp (means of production), the circuit contains the first link of M-L, which for the worker is L-M = C-M. Of the worker's circulation L-M-C, which includes his consumption, only the first link falls into the circuit of capital, as the result of M-L. The second act, i.e. M-C, does not fall into the circulation of the individual capital, although it proceeds from it." (Marx, 1992, p. 155), and "M-L is L-M or C-M from the point of view of the worker, i.e. the first phase of the circulation that mediates his individual consumption: L-M-C (means of subsistence)" (ibid., p. 138).

<sup>102</sup> Lebowitz refers to Marx's plan to write six books. There are differing answers offered to the question whether Marx abandoned the plan. Whatever the right answer is, consideration of the whole theoretical field *Capital* deals with is almost entirely missing from the standpoint of wage-labour (missing book). Roman Rosdolsky, Makoto Itoh and Enrique Dussel provide discussions of Marx's plans for the books (Dussel, 2001, Chapter Author's Introduction; Itoh, 1988, pp. 55–59; Rosdolsky, 1977, pp. 10–57).



124—36) – Lebowitz provides a succinct summary of the why this matters politically and how it limits an understanding of wealth:

What Marx did in *Capital* was to identify and analyse the nature of capitalist wealth. He revealed that wealth from the standpoint of capital (and thus from that of the political economy of capital) was the result of the exploitation of the wage-labourer. Nevertheless, the subsequent failure of Marx's disciples to articulate the alternative conception of wealth is equivalent to subservience to capital's concept. The absence of an alternative class concept of wealth allows the conclusion that wealth emerges only in and through capital. To permit the unchallenged rule of the one-sided concept of wealth is tantamount to abandonment of the theoretical struggle. (2003, p. 133)

I try to address the problem first by modifying the existing circuits, adding the third circuit and the missing elements.

### **5.3 Modifications: third circuit, the state, workforce, their needs and development**

It is important to emphasise key differences from the start. In the circuit of reproduction of capital, from the perspective of capital, workers are only a component in the expansion of capital and its drive for realization of surplus value. From the standpoint of the workforce's needs, their reproduction and development take the central position. Analysis and especially the way the object of investigation presents itself thus differ from what is seen from the standpoint of capital. This in no way means that the importance of the two circuits of reproduction is small; it means that they are assessed differently, through concepts and categories by which the object of study is grasped and connected together in an analytical whole. On the one hand, restructuring of concepts and categories and their relations must not be the subject of arbitrary or voluntaristic analytical decisions. On the other hand, although there are huge obstacles to developing the analytical framework discussed here – interweaving of circuits, high dependency of the third circuit on the first two circuits, relatively small amount of research into the third circuit by the relevant theoretical disciplines from the perspective of the reproduction and development of workers – I treat them as surmountable, rather than terminal problems.

Perhaps the most obvious example of the interwoven circuits from the perspective of workers is the wage as income. While wage labour is without doubt a key component for obtaining use values necessary for the process of reproduction and development of the

workforce, it is in no way the only, or a sufficient one. The process includes number of various forms of unwaged labour. Hence, the category of those who exercise work – wage labourers in the circuits of capital – has to be significantly broadened. Michael Lebowitz highlights this in a lot of places in his work. Here I take it further towards a detailed development of the category, with the end goal to enable measurement and commensurability, an accounting perspective in short.<sup>103</sup> Let us start from children, youth and students. They are not only the future workforce, but a source of joy and the focal point of the development of the human race. Young people often end up doing formal unpaid work as volunteers. While doing so, the cost of living, the cost of reproduction of their labour power has to be paid for by someone, often their family. On the other side of the age span are the retired and elderly. An important contribution they often make in the reproduction of workers is informal childcare arrangement. Due to the history of egalitarian demands and practices of workers' movements, and collective work on reproduction within families as basic collective social units, those who are not able to perform work, or whose special needs to perform the work are not met, must also be included.

Putting together all the forms of work important for the reproduction and development of workers, presents a new category of workers, or workforce, consisting of the following sub groups: the future workforce (children, youth, students), the former workforce (pensioners, elderly), the informal workforce (household labour, care), the formal unwaged workforce (interns, volunteers) and those deprived of opportunity to work (disabled, unemployed). From the standpoint of this broader category of workers/workforce (W), the research field expands to vast proportions. Instead of the narrow focus on market-based articles of consumption, I include a large variety of use-values, goods and services that workers consume in the process of their reproduction and development. An example is household labour (2003, p. 145).<sup>104</sup> The process of

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<sup>103</sup> Public sector labour also significantly contributes to the development and reproduction of the workforce. Debates around the indicators of public health and education have been a part of national accounting for a long time. Final goods and services produced (outputs) cannot tell us enough on their own, the need qualitative correction and integration with outcomes. However, outcomes are often multiple, often splitting into direct and indirect ones (Schreyer, 2010, fig. 2.1 4.1).

<sup>104</sup> Each of these types of labour requires its own treatment. Household labour is perhaps the most demanding one, due to its volume and centrality to the reproduction: calculation of time-use for Australia in the period 1970-2000 shows that roughly half of the total labour performed is unpaid, with women doing nearly double the amount of unpaid work of men (Duncan Ironmonger & Soupourmas, 2002). While feminist materialist literature is the obvious place for undertaking conceptual work (Costa & James, 1975; Federici, 1975; Hennessy, 1997; Vogel, 2000; Jacquilyn Weeks, 2011), plenty of economics literature offers starting points too (Eisner, 1988; Folbre & Wagman, 1993; Duncan Ironmonger & Soupourmas, 2002; Marical, d' Ercole, Vaalavuo, & Verbist, 2008; Murphy, 1978; Waring, 1999).

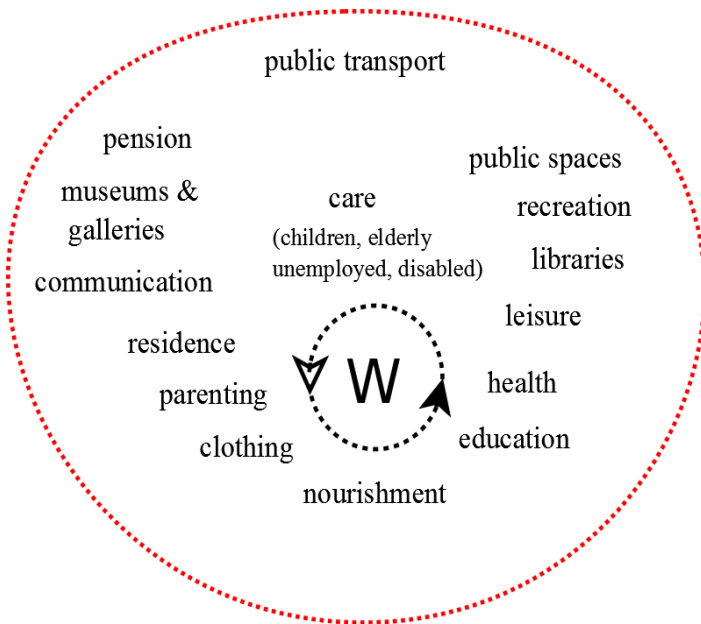
production and consumption of such goods is represented in the following diagram as the third circuit of reproduction; a process which does not have to depend on market distributed commodity. The third circuit cannot be analysed in isolation from other circuits of reproduction on whose elements it depends. The circuits are highly interwoven, household labour is difficult to imagine without modern energy supply, technologically advanced tools, and often without the capability to pay the cost of housing (mortgage on the dwelling, rent).

*Figure 4. Third circuit of reproduction (use-values) of workers/workforce*



To indicate in more detail how the workforce meets its own needs and development, I add to the diagram a list of the elements it requires. The list is tentative, it is not fully developed, nor conceptually rounded. Although the function of the list is only an initial mapping of the research field, of the terrain that has to be analytically grasped, it is necessary to construct it at this stage of research. The list is based around workers and their third circuit of reproduction. Many elements overlap with other circuits too. A good example of something that can belong to all circuits is recreation. To start with, it can be performed with a relatively small direct involvement with the first two circuits: outdoor sport in the wild, clothing and other equipment still supplied as commodities. Egalitarian production can play a part if it is performed at the publicly maintained sites whose use can be allocated according to needs or some other egalitarian principle. It can also take place at a private sports ground where both the sport facility and additional services (trainer assistance) exist in the form of commodities.

*Figure 5. Elements of the reproduction and development of workers from all three circuits (standpoint of workers/workforce)*



A large number of the elements of the reproduction and development of workers are partly or entirely produced and distributed through state institutions, local, regional or central ones. Elements which seem crucial from the reproduction-development worker standpoint are already present in figure three above. That still leaves out many of the state produced elements. Given that no circuit of reproduction could function without those elements, they are added to diagram along with the state (S) as a separate group. The same note goes for this list of elements: it is an initial mapping of the terrain, at this stage of research necessarily tentative and incomplete.

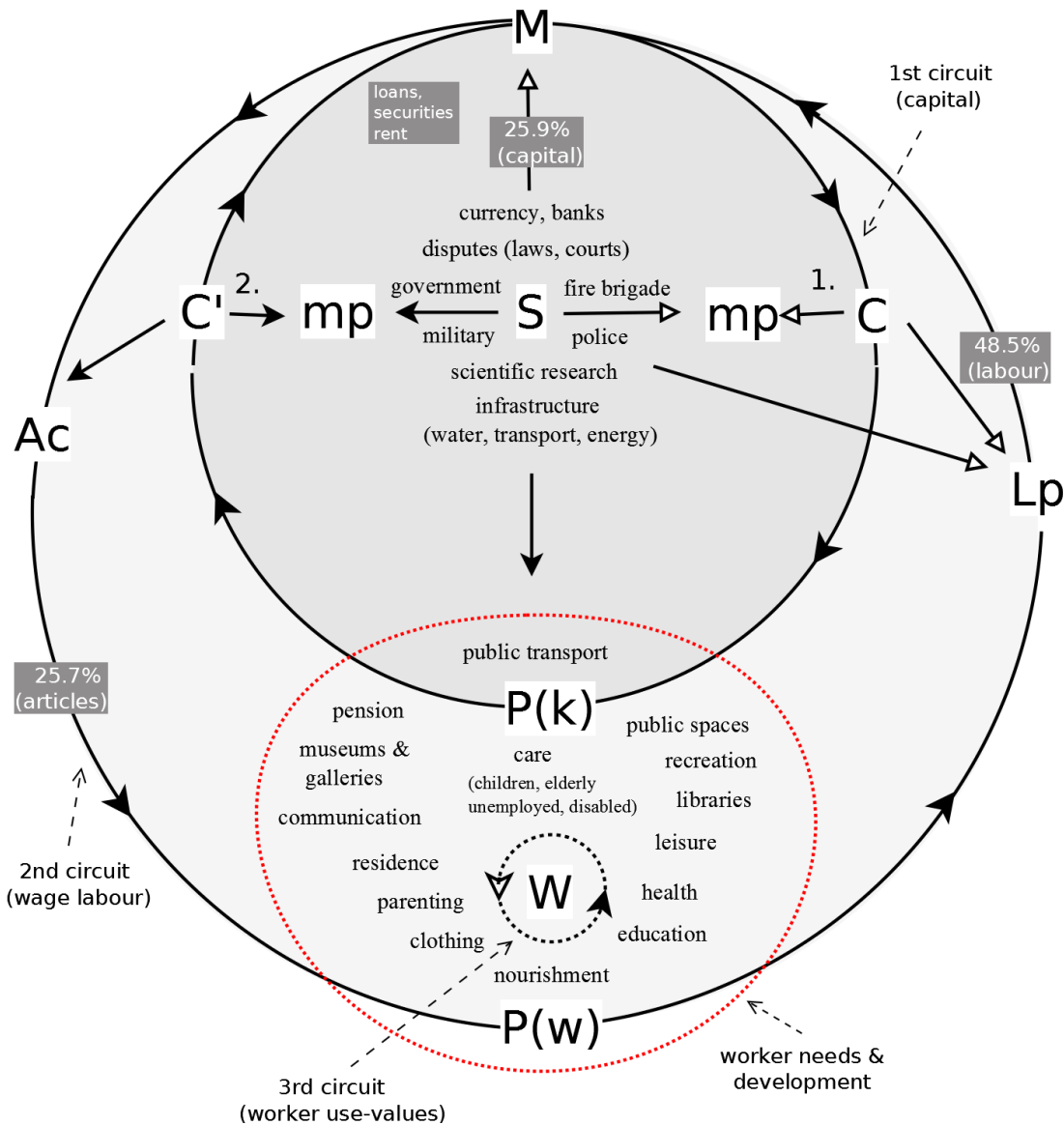
*Figure 6. Elements of the state, reproduction of capital and wage-labour (standpoint of capital)*

currency, banks  
 disputes (laws, courts)  
 government **S** fire brigade  
 military police  
 scientific research  
 infrastructure  
 (water, transport, energy)

To reduce the possibility of misinterpreting this categorization: elements in figures three and four are for different reasons important to both capital and workforce/workers – I determined the position of each element according to which aspects of its functions seem to be the dominant ones, i.e. which standpoint, capital or workforce, gains more from the element. For example, workers also require infrastructure and other elements present in figure four. The military is

perhaps the only exception wherein its use to workers is not evident.<sup>105</sup> Now all the circuits of reproduction can be looked at in their combination.

Figure 7. Three circuits of reproduction: capital, wage labour (standpoint of capital) and workers/workforce (their own standpoint)






<sup>105</sup> Although I reject such an evaluation of the military, a case can be made that it serves the protection of workers and thus improves the conditions for their reproduction and development in the following way: conquering other countries, gaining control of material resources, installing desirable political regimes and gaining sources of income. See also (Degrasse, 1983; Riddell, 1988; André Vanoli, 2006).

Added to the diagram are sources of taxes divided along Marx's key categories (articles of consumption, capital, labour power), again to help with the initial mapping of the terrain – taxes are the main source of society-wide collective funding for many of the elements from the circuits of reproduction, and as such will require a detailed treatment.<sup>106</sup> In the following table I list the changes when compared with Lebowitz's two circuit diagram. Although the last three columns are almost entirely empty, they are placeholders, a reminder that the goal of those additions resulting from the standpoint switch is to integrate elements into the model as a whole. For example, wage labour is partially present both in Marx's  $M - C - (Lp, mp) - C' - M'$  model and in Lebowitz's wage labour – capital – wage labour model ( $WL - K - WL$ ) (2003, pp. 72–6). In Marx's circuit of capital, the form it takes is that of labour power in the process of reproduction of capital. In Lebowitz's further development, it is the standpoint of wage labour in the second circuit and the standpoint of the workforce for their own aims (no longer as only an element within the reproduction of capital) in the third circuit. The standpoint of wage labour and the standpoint of the workforce are the start and end points in the second and third circuits, while the reproduction of capital is from those standpoints seen as the mediator for the reproduction of wage labour (second circuit) and the workforce, the broader category of workers (third circuit).

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<sup>106</sup> My initial categorization of taxes uses Marx's categories: capital, labour, articles of consumption. See the appendices for data sources, tables and categorization. Traditionally, taxes have been seen by many economists and national accountants to belong to distribution of already produced value. However, in today's mainstream national accounting, taxes are treated not as part of the value added by the producer of the good or service taxed, nor as a product of government, but as a component of the purchasers' price imposed by the government. Ambiguity and lack of clarity on taxes and government goods and services, present and unsolved throughout the history of national accounting, remains its weak spot (A. Vanoli, 2005, pp. 254–60).

Table 3. Changes in circuits of reproduction and their place in models

Changed	Type of change	Symbol	Comment	In the circuit model?		
				1. capital	2. wage labour	3. workers
worker	addition	W	Our analysis is conducted from the standpoint of worker, hence the necessity of its inclusion in circuits.	yes	-	-
wage-labour	expanded to worker	-	Participation in the circuit of reproduction of workers goes much wider than wage-labour.	partially	partially	-
worker needs & development	addition		Capital strives to profit, workers to fulfil needs and to develop, dependent on all three circuits.	-	-	-
state, its funding and functions	addition	S	Crucial for production and delivery of goods and services that play key roles for the reproduction of capital, wage-labour, and development of our broader category of workers. The state consumes labour power and means of production, produces mostly use-values and some means of production.	-	-	-
3rd circuit of reproduction	addition		Use-values -> production -> use-values; e.g. public services; friend or family member child minding; household labour in general.	-	-	-
UK tax 2012/13 projection	data		Categorised according to the Marx's categories in the circuits of reproduction. Helpful to assess the role of the state.	-	-	-

A significant justifiable objection to these circuits could be that with the introduction of the workforce and their needs, by broadening the category of workers, money is lost as the accounting unit of measure, and with it the possibility of aggregation across all the activities taken into consideration. Translated into Marx's categories, commensurability is lost through the loss of abstract labour: significant sections of the work in the third circuit are not valorised in money, hence they remain concrete labour according to Marx's definition, which means that it is not known in which relation every such concrete labour stands to the abstract labour socialized through wages and market exchange.<sup>107</sup> However, as soon as Michael Lebowitz introduced use

<sup>107</sup> Werner Bonefeld provides a very useful summary of various understandings of Marx's concept of abstract labour (2010). See also Bonefeld (2011) and Saad-Filho (1997) for further insights into a kind of understanding of abstract labour that seems the most potent one from the perspective of this thesis.

value ( $Uv$ ) to demonstrate the process of reproduction of the workforce in the third circuit –  $Uv$ ,  $Lp \dots P(w) \dots Lp$  – commensurability through money is already lost. Here the consequences of the two step shift in standpoint and the changes it introduces in the analytical frameworks can be noted: from the standpoint of capital (as analysed by Marx), the analysis has shifted to that of wage labour (still Marx, workers for capital, as the key element of the self-expansion of capital), further to that of workers for themselves (Lebowitz's key point), before finally arriving at the broadened category of workers (workforce) and the corresponding standpoint. The loss of aggregation is a necessary consequence of the inclusion of use values. This in no instance means that the loss is permanent. Quite the opposite, development towards reestablishment of measurement units, commensurability and an overall accounting framework is not only necessary; the very success of this extended framework critically depends on it. Nevertheless, imposing the existence of the accounting unit and aggregation as the essential condition from the outset is an unnecessary obstacle which hinders the gradual development of the analytical framework.

#### **5.4 The level of abstraction required for modelling is determined by the class struggle**

An important issue, which cannot be resolved here, but which has to be raised, is the question of the analytical level of abstraction. The key question being whether the elements added belong at the same level of the abstraction as Marx's basic M-C-M model. Arguments in favour of a negative answer are strong: despite the gains of worker movements and their organizations (friendly societies, mutual help, unions, political parties) made in the 20<sup>th</sup> century (public services in most advanced capitalist states, socialist states), the capitalist mode of production has significantly extended its reach to new spheres and territories. The argument that follows is that although the reproduction of workers and the state are important elements that capital requires, they are not part of its logic; they are its conditions.<sup>108</sup> While those arguments can be accepted, the problem of what to do with the elements omitted by operating at such a high level of abstraction, remains unanswered. To follow the thesis that the formation of public services, the rise of the welfare state, is of significant importance from the perspective of the workforce, especially given that

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<sup>108</sup> "The maintenance and reproduction of the working class remains a necessary condition for the reproduction of capital. But capitalists may safely leave this to the worker's drives for self-preservation and propagation" (Marx, 1990, p. 718). Marx uses the term 'necessary condition' in several places. It seems that he uses it to categorize elements which capital requires, but which are not part of the core logic of the capitalist mode of production.



those aspects of production use up a large portion of overall social wealth (see our graphs and tables below), inclusion of those elements in the model seems necessary for better understanding their relations to other parts of overall social reproduction and expansion through new value and wealth added. The question that arises is the following: what is the purpose of economic and economic-like modelling? Is it to capture the logic of the dominant mode of production at its highest level of abstraction, so that the number of elements is as few as possible? Or, is it to simultaneously capture the most important political-economic changes and their dynamics? To accept the answer that the task of modelling is to achieve the highest level of abstraction, it is clear that such an approach would lose the results of centuries of struggles for the pooling of resources and widening of allocation according to needs at the level of community (public health, education, social care, social housing). Those elements constitute the egalitarian mode of production. They are both the legacy of workers' struggles and are today the key mechanism for the reproduction and development of the workforce. Leaving them out is not an acceptable option. Hence, perhaps the question of whether additional elements, necessary conditions as Marx called them, ought to be added to his model of capitalist reproduction, is the wrong question to ask.

The right question is a political one. From the standpoint of workers, especially if the egalitarian aims of full development of human capabilities of all are taken into consideration, the level of abstraction that is required at the centre of the analytical framework is not a matter of individual assessments and judgements, it is determined by the politics and class struggle. Following such criteria, although Marx's model captured the core of the capitalist mode of production extremely well at the highest level of abstraction and at its ideal average, it does not meet the requirements set by the class struggle itself. The distance of Marx's model from the object of study renders invisible precisely those elements that are from the perspective of the workers the most important ones. Since *Capital* examines "the essential determinants of capitalism, those elements which must remain the same regardless of all historical variations" (Heinrich, 2012, p. 31), another way to look at this is to consider Marx's objects of study to be different from the objects analysed here. There is no doubt that understanding the logic of capital and refining those insights will be necessary as long as the struggle of the workforce with capital lasts. However, the focus and task of modelling used here, its rationale, is the analysis and understanding of social reproduction as a whole from the perspective of what the workforce

strives and struggles for politically. In that sense, what is presented in *Capital* and what I am putting forward here are best seen as two complementary research projects.

The level of abstraction of the object of this study has to be the highest level achievable that still allows for the core elements of the class struggle to appear from the perspective of egalitarian development. Considering that the task of every theoretical work is abstraction from the object of analysis, the maximum level of abstraction is given by the last level at which the aforementioned core elements still remain visible and distinguishable. If, on the one hand, a level of abstraction is set too high, if one zooms out too far from the object of study, elements of the class struggle disappear from the view. The key elements that would remain visible would be elements of capital. This, in turn, limits possible interpretations of all the changes in the social order to changes caused by the interests and movements of capital and its components. If, on the other hand, the level of abstraction is set too low, if one does not zoom out enough to get the right distance from the object of study, too much detail remains in view, making it difficult to capture the key categories that define the field of struggle and its core actors.

Explaining the problem of one-sided Marxism, the phenomena of attributing all social changes to capital Lebowitz explains as the result of an “inherently functionalist cast to the argument that flows from Capital”, the roots of which lie in the absence of workers as a subject in *Capital*. Therefore, Lebowitz concludes, it logically follows that all achievements of workers’ struggles can only be attributed to capital and its activity (2003, pp. 137–8). If one applies the logic of Lebowitz’s arguments to the question of the level of abstraction, it makes sense to ask whether the overly-high level of abstraction of Marx’s modelling of the capitalist mode of production is one of the reasons for the wide prevalence of one-sided Marxism.

## **5.5 Towards developmental-egalitarian principles and categories**

I do not consider economics to be a neutral science, or a neutral discipline. Its development is closely connected with the development of advanced capitalist countries and their interests, as I have shown in previous chapters. While capital strives for profit, with money as the accounting unit by which the results of capital’s activities are aggregated, the goals of the broader category of workers/workforce are a lot more difficult to establish. I use workers’ movements, especially their practices, as well as the theories working in such a direction as a basis to establish egalitarian principles. The history of workers’ movements is packed with struggles for the pooling of resources and distribution according to needs. To name the most important examples: the

socialist states; the long history of the development of organizations like friendly societies; early public institutions exemplified by the Tredegar Medical Aid Society that became the model for the establishment of UK universal health care (Borsay, 2003; Hoffman, 1921; Mooney, 2000). I start from the principle or goal of the full development of the human capacities of all (Lebowitz, 2012, p. 144) – for easy reference, I call it the initial developmental-egalitarian principle. I derive two other principles from the socialist motto: “from each according to their ability, to each according to their needs” which Istvan Meszaros calls “the orienting principle of socialist accountancy” (1995, p. 817). Since humans can only contribute according to their abilities when their needs are met, the order of the maxim has to be reversed. My first developmental-egalitarian principle is therefore “to each according to their needs”, followed by the second one, “from each according to their ability”. The history of worker self-organization in the UK testifies to the importance of those principles for the reproduction and development of the workforce.<sup>109</sup> The second principle is a lot harder to achieve, and it has often been forgotten in the history of socialist states and egalitarian movements (M. Lebowitz, 2010b, pp. 78–81). While economics largely assumes the primacy of private ownership of the means of production, and while it treats wage labour contracts as a matter of free choice for workers, the goal is to capture the characteristics of a social order of production that would influence workers to contribute according to their abilities.<sup>110</sup> Given that it is highly unlikely that this can be expressed in monetary terms alone in a satisfactory manner – the abstractions that money imposes on production reflect closely the dynamic of the capitalist mode of production and its aims – the analysis will have to turn to composite indicators (and proxy variables when data are scarce) for quantitative and qualitative measurements (Nardo et al., 2005). From the internal perspective of individual productive units like firms, having socialist oriented accounting principles would necessarily include measurements of various models of workers’ self-management where possible.<sup>111</sup> Since the impact of self-management critically depends on workers’ knowledge about the necessary financial and legal aspects of managing firms, the education of workers within firms would be an essential

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<sup>109</sup> For the history of friendly societies, see (Cordery, 2003; Gosden, 1963); for a left political perspective on their importance in the history of struggles, see (Edward Palmer Thompson, 1963), and for the history of British public health, see (Borsay, 2003; Hart, 2006).

<sup>110</sup> For an analysis of specific features of labour contracts and the inability of economics to qualify them with more precisions, see (Varoufakis et al., 2011, pp. 62–5).

<sup>111</sup> David Harvey uses nuclear power plants as an example of what cannot be run by workers, via direct democratic methods. For a defence of worker self-management even in such extremely complex and highly technologically advanced organizations, see (fkschulze, 2013).

requirement that would have to be measured. Furthermore, the workforce would have to be educated parallel to work, which would be another prerequisite for changing positions/roles in the workplace.<sup>112</sup> From a broader social perspective (local, regional, state, international associations), developmental-egalitarian principles would also necessarily have to include organizational possibilities and workforce capabilities to manage the core aspects of their societies for the purposes of planning and insight into business processes, which implies access to all the business labour processes, documentation and accounting books.<sup>113</sup>

*Table 4. Developmental-egalitarian aims and principles*

	Name	Note
0	full development of human capacities of all	the goal of production, allocation and consumption
1	to each according to their needs	the orienting principles of socialist
2	from each according to their ability	accounting

For Lebowitz, not all education has the same attributes; most of it reinforces the subservient position of the workforce in relation to capital and private interests. Hence, according to him, only some education should be seen as positive in our balance sheet (2010b, pp. 48–50). Here, I differ slightly. Standard education still has to be highly valued, but special priority, a much higher weighting in the composite indicators, should be given to those forms of education necessary for knowledgeable participation in self-management and direct democracy across all sectors of social

<sup>112</sup> Lebowitz's short, but sharp commentary on the problems of self-management in Yugoslavia are a good reminder (M. Lebowitz, 2010a). Birkbeck College in London is a good example of an institution born through the historical struggles of workers, especially women, for education. Birkbeck has a nursery to assist parents while they attend the classes in the evening.

<sup>113</sup> Branko Horvat reminds us of Ernest Mandel's demand for the opening up of the books as a necessary prerequisite of worker management (1984, p. 142), while Lebowitz holds the transparency of firms' conduct and the opening up of accounting books as a precondition for stopping tax avoidance, and hence for the distribution of the fruits of social production (2010b, p. 134). Although these are currently to a large extent capitalist-friendly movements, open data, open source, open knowledge and open government are important to the development of the workforce's insight into documentation and procedures of organizations.

reproduction.<sup>114</sup> Lebowitz in his book *The Socialist Alternative* gives the best arguments for this kind of differentiation of education, where he defines the notion of human development further. Again following Marx, and Paulo Freire, Lebowitz insists that only through their own practice can workers develop their capacities fully. In the liberal notion of human development, there is no emphasis on the practices of human beings. In capitalism and in the liberal concept of human development, education can only be a gift bestowed from above. Workers are alienated both from labour processes and from the wealth that the work produces. Contrary to this, in Marx's and Freire's concept of human development, problem-solving and managing their own labour processes, both at the workplace and in educational settings, decisively shapes humans (*ibid.*, pp. 50-57). Therefore, skills of self-management, that allow participation in productive social activities, ought to be given a special importance. Lebowitz develops the socialist triangle concept, the three sides of an organic whole of the socialist social order being: one, social ownership of the means of production; two, social production organized by workers; three, the goal of productive activity being satisfaction of communal needs and purposes (2010b, pp. 105–6).

Although I cannot formulate the egalitarian mode of production in detail at this point, to assist in developing it, I will formulate the following thesis: all activities which on a macro level and to a significant extent contribute to the implementation of developmental-egalitarian principles will be considered as elements of the egalitarian mode of production.<sup>115</sup> Unlike Marx who analyses the capitalist mode of production at its ideal average, for the reasons outlined above, when discussing the level of abstraction, I start from the idea that the analytical framework should be able to capture two distinct levels. First, it should capture the universal, underlying logic that provides the reasoning by which to judge reliably whether or not one can speak of an egalitarian mode of production. Second, it should also capture the different social formations that occur when developmental-egalitarian principles are put into practice.

As previously stated, the construction of the developmental-egalitarian aims and principles and the accompanying analytical framework has to improve theoretical potency in

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<sup>114</sup> In national accounting, outcomes of education are debated without much agreement on how to assign weights: "The lack of clarity on outcomes leads to special challenges on the estimation of weights with which to aggregate measures of educational output." (P. C. Smith & Street, 2007)

<sup>115</sup> Lebowitz's development of the notion of "contested reproduction" is closely related to my discussion of the second, egalitarian, mode of production, which struggles with the capitalist mode of production, and does so in different ways in different capitalist states (through welfare systems), or in socialist states (2010b, pp. 98–100, 121–7).

several respects: qualitative and quantitative judgements of the achievement of workers' struggles within capitalist states throughout history; assessments of past and present socialist states in politically productive and economically nuanced ways; moving closer to the integration of all that the workforce needs for its own reproduction and development into one analytical framework. I am especially concerned with production outputs which typically do not have their value expressed through a price at the point of final consumption and use. Here, however, one faces a huge problem: whether it is a school of mainstream economics, classical political economy, or Marxist economics, key concepts, like value, productivity and wealth are nearly always analysed and constructed from the perspective of capital and private gains. It is therefore unrealistic to expect that the project partly outlined here can happen in a rush, or on a purely theoretical-conceptual level. In addition to foundational conceptual work, the development of the categories and analytical framework discussed here requires empirical inter-state and inter-regional comparative studies. This is especially the case for the role of the state and its public sector outputs. Given how broadly and comprehensively capital dominates human activities nowadays, it is not surprising that nearly all economic schools, the exception being national accounting, do not consider outputs delivered by the public sector to be of economic value.

## **5.6 Value, wealth, productive labour**

Throughout the history of research into production, distribution, allocation and consumption, concepts of value and wealth have gone through significant changes. From mercantilists, obsessed with foreign trade and gold, through Physiocrats who considered agriculture as the only surplus value producing sector and the only form of productive labour, to Adam Smith and the establishment of labour as such as the source of all value (Blaug, 1985, Chapters 1–2; Marx, 1973, pp. 103–4). Although Marx never developed these categories from the perspective of workers and equality, related comments can be found throughout his work. On the one hand, writes Marx, “bourgeois wealth, is always expressed ... as exchange value, where it is posited as mediator, as the mediation of the extremes of exchange value and use value themselves” (1973, p. 331), while “political economy has to do with the specific social forms of wealth, or rather of the production of wealth” (ibid., p. 853). On the other hand, real wealth from the perspective of workers consists in taking over their own surplus labour, measuring necessary labour time by the needs of the social individual, and increasing their productive power and disposable time (ibid., p. 708). The quotes were from *Grundrisse*, Marx's manuscript from 1857-1861, written in preparation for the

work on *Capital*, and published for the first time in 1939 in German, with the first English edition appearing in 1973. In *Capital*, Marx devotes himself completely to the analysis of value from the standpoint of capital, which leaves his occasional affirmative insights about the future modes of production under the control of workers incomplete and open to various interpretations. Since at the time of Marx's life egalitarian productive elements like public sector outputs and socialist states, and activities like hacking and free software did not exist, it makes sense that he did not engage widely in guessing what those might look like. However, today there is a long history of those actually existing egalitarian practices to research.<sup>116</sup> The example I deal with here is the question of surplus labour and surplus value. Namely, if workers fully assume control over labour processes, the aim of economic activity would no longer be accumulating capital, meaning that surpluses would no longer appear in the same forms in which they appear under the capitalist mode of production: as profit on capital, split between returns on capital, rent, and interest (1969, pp. 85–6). The following questions arise, if the goals are developmental-egalitarian, what is value and in what forms do surpluses appear? What is production and what is consumption i.e. where does the *production boundary* lie and why? Production boundary, “boundary between activities that count as production (economic activities) and activities that do not count as production”, one of the key concepts in national accounting, is crucial for this research (Jackson, 2000, pp. 120–34). In other words one could say that, since defining which activities are value creating and which consume value produced elsewhere is what the notion of a production boundary does, one of the central points of my research is the radical displacement of this boundary, that results from the shift in the standpoint from which activities are evaluated.

As can be seen in the figure seven above, the state participates in all three circuits of reproduction in different ways. Its production covers several sectors and takes different forms. Many of them cannot be classified together easily; they need to be simultaneously approached individually, but also as a part of a whole. For now, I will not consider state industries competing within markets. i.e. ones that produce commodities and compete with capital. They will be introduced back into the analytical framework at a later stage. I will focus primarily on the state's use of funds in sectors whose final products are mostly used in the reproduction of the workforce.

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<sup>116</sup> For histories of the growth of public spending, see (C. Lee, 2011; Lindert, 2004; Middleton, 1996, 2005). While there are empirical studies demonstrating through the concept of a social wage that labour pays for the social benefits it receives through taxes, and while this research has to engage with those works in more detail (A. Shaikh & Tonak, 2001; A. Shaikh, 2003), it is the allocation mechanism “according to need” that I focus on.

The dominant form of such production is public sector outputs free at the point of use, although partial payment by end users at the time of consumption is not excluded. In the UK, there are cases of end users being charged partial (NHS drug prescriptions, housing, higher education) and full market prices (some medical treatments) within public services production.<sup>117</sup> In the vast majority of cases, such production still does not take the commodity form, thereby suggesting the need to alter Marx's schema wherein the commodity takes central place. To begin with I will use the terms useful entity, an egalitarian useful object, or E for short,<sup>118</sup> to refer to both outputs of the egalitarian production and to money used for egalitarian production.

Table 5. Capitalist and egalitarian modes of production: production, consumption, surplus, outcome

circ uit	standpoint & mode of production	Production		consumption		surplus value		overall aggregate outcome
		model	Process	form	Final	form	accounting unit	
1	capital; capitalist	M - C (Lp, mp)	... P(k) ...	C'	M'	profit , rent	currencies	capital accumulation
2-3	worker; egalitarian A, no end user pay	M - E (Lp, mp)	... P(w) ...	E'	-	?	?	growth of egalitarian social relations & egalitarian accumulation
2-3	worker; egalitarian B, end user partly pays	M - E (Lp, mp)	... P(w) ...	E'	M	?	?	egalitarian accumulation

Thus the egalitarian mode of production can be written as:<sup>119</sup>

$$\begin{array}{ll} \text{Model A.} & M - E (Lp, mp) \dots P(r) \dots E' \\ \text{Model B.} & M - E (Lp, mp) \dots P(r) \dots E' - M \end{array}$$

The problem of accounting for egalitarian entities and their value (model A), or when they are combined with a partial monetary payment (model B), is immediately visible. An example of

<sup>117</sup> In addition, there is peer-to-peer production, which in the case of digitally storable outputs frequently makes its outputs accessible free of charge. I discussed free software and open source production, often produced in peer-to-peer manner, in the first two chapters. See also the Journal of Peer Production <http://peerproduction.net>.

<sup>118</sup> Assigning a single word, short name seems important. E as *egal* comes to mind.

<sup>119</sup> State production can be in the circuit of capital too. A good example is the arms industry, which partly produces use-values for the state and partly exports its products for profits.



model B is public housing, where only a portion of the cost is paid for by the end user. This raises an immediate key question: can one speak of value and of surplus increases of consumption of useful entities without full end user payment? An immediate answer would be no, if speaking of value as conceptualized by Marx and Marxists. However, it seems to me that there cannot be any doubt that in the egalitarian mode of production, processes of a similarly high social abstraction to that of commodity production take place. Therefore, to answer the questions on value, wealth and surplus resulting from egalitarian production requires a separate research project. For the present moment, I prefer to pose the question the other way around. The key features of economic activities are that they are purposeful and expansive: more is created than is used up. One of the choices available is to abandon the concept of value, and speak only of wealth on the consumption side. The problem is one is left without a concept that can help account for the abstraction that occurs with money being an essential element of the overall provision of useful entities in both the capitalist and the egalitarian modes of production. At this stage of the research, it seems that I should try to keep concepts of value, wealth and surplus to conceptualize the egalitarian mode of production. For if one cannot speak of value and surplus, how does one conceptualize the operation and the outcomes of the public health system in the UK, the largest single annual expenditure in the British economy? If there is no economic value and surplus in public health provision, and indeed in public education, why would European states spend on average 13.5% of GDP on health and education in 2011,<sup>120</sup> employing a significant portion of the workforce to do so?<sup>121</sup> Although many historians rightly emphasise that drastic growth of public sector production, partly allocated according to needs, can to a significant extent be explained by political decisions to keep the workforce away from radical left ideas and political parties, that also seems to be an argument in support of our thesis on the existence of economic value and surpluses. Since, if public sector production is how capitalism was made more desirable to the workforce, if that was required in order to keep them obedient and participating in the capitalist production, then that makes public services useful and desirable from both the standpoints of the workforce and capitalists.<sup>122</sup> Of course, something being considered useful and wanted in the

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<sup>120</sup> Eurostat, General government expenditure by function (COFOG), EU27, 2011 average.

<sup>121</sup> In the 3rd quarter of 2012, 19.4% of the total workforce in the UK worked in the public sector (Carless, 2013). For a better presentation of 2011 data, see <http://www.guardian.co.uk/news/datablog/2011/nov/21/public-sector-employment-uk-map#data>

<sup>122</sup> For women's struggles for collectivization of part of the cost of reproduction and for egalitarian allocation in the UK and the US, see (Fousekis, 2011; Wilson, 1977).

common sense meaning of the terms does not make it automatically have value in an economic sense. However, my argument in favour of considering public sector outputs as having value both from the standpoint of the workforce and capitalists, albeit in different ways, is twofold here. First, public sector outputs are central for the reproduction and development of the workforce. Second, in the states where health and education are not provided through public sector, they are provided as highly priced commodities through the capitalist mode of production, thus producing economic value. Whether whatever gets produced from the standpoint of the workforce can be conceptualized as value in some sense related to economic value in the capitalist mode of production, or whether it escapes the boundaries of the research field that economics covers, is an additional question to consider.

*Table 6. Capitalist & egalitarian modes of production: surplus value in the form of outcomes*

circuit	standpoint & mode of production	distribution-consumption		<u>surplus</u>		overall aggregate outcome
		Form	final	Form	accounting unit	
1	capital; capitalist	C'	M'	profit, rent	money, currencies	capital accumulation
2-3	worker; <b>egalitarian A</b> , no end user pay	E'	-	<b>OUTCOMES</b>	[ <b>EDUCATION</b> ] standard: <i>increase</i> ; finance, legal & management (firms and macro) literacy: <i>increase</i> (positive weighing)	growth of egalitarian social relations & egalitarian accumulation
2-3	worker; <b>egalitarian B</b> , end user partly pays	E'	M		[ <b>HEALTH</b> ] injuries at work, depression: <i>decrease</i> [ <b>HOUSING</b> ] % total housing stock publicly owned: <i>increase</i> ; M: <i>decrease</i>	

In the column *accounting unit*, I give some examples of the positive outcomes from the standpoint of the workforce. The format is as follows: [SECTOR] indicator: *desired direction of change*. For example, [HOUSING] % total housing stock publicly owned: *increase*; M: *decrease*, should be read thus: in the housing sector, the first indicator is the percentage of total housing stock publicly owned, the goal is for it to grow; the second indicator is end user monetary

payment, the goal is for it to decrease. As mentioned above, not all education is equally important from the developmental-egalitarian standpoint, hence the inclusion of those specially important skills with an additional positive weighting as an indicator of surplus in the value they create (2010b, p. 134). The same could be said for health, where illnesses at the workplace could be treated as especially important through weighting. With public health products (outputs) distributed according to need and without payments by the end user at the point of use, all three developmental-egalitarian principles are satisfied. First, good health is one of the key parameters for moving towards full development of the human capabilities of all. Second, health products are in the case of the UK to a large extent allocated according to need. Third, allocation according to need contributes to everyone being in a better position to contribute to society according to their abilities. If exactly the same health products were provided through commodities on the market, with profit as the goal, according to Marx's model of the capitalist mode of production, value would have been produced. If one accepts the claim that public delivery of the same useful entities in the form of public services is not value and surplus creating, it creates a problem, or perhaps a paradox, with various possible explanations.

The first option is that economic value and a surplus arise only when useful entities take the social form of commodities, produced specifically to be exchanged on markets in order to make a profit. In that case, economic value and its surplus would be a feature of things – commodities – particular to the capitalist mode of production, a feature not applicable to all things that satisfy needs by providing useful entities to consumers. Furthermore, to explain what occurs when a different sort of useful entities – public goods and services delivered without payment by the end user at the point of delivery – meet needs, when the provision is not capitalist, but egalitarian, one would need a different understanding of value, or a different category all together.

The second option is that the category of economic value is a universal feature of things that meet needs through a provision of useful entities, even when the processes through which this delivery occurs significantly differ. Given that public services in advanced countries today do provide a significant portion of total final goods and services, which are not commodities, it seems that to account for the delivery of all goods and services in those advanced states consistently, a single concept of value is needed. This is not possible if one sticks with the first option, since it would mean to give up the possibility of value as a measure of human activities under various simultaneously existing systems of provision for the meeting of needs. In other words, with the

first option, one cannot account for the large portion of actually existing economic-like (public sector) and other human activities (household labour).

A possible way out of the understanding in which the capitalist mode of production is the only value and wealth creating provision of goods and services and thus the only way of meeting needs which can be systematically accounted for, is to acknowledge the existence of another mode of production, in which both value and surplus occur. In national accounting, public sector and its branches do create value, but there is no surplus, the value created equals the total cost of production. The most widespread treatment of the public sector among Marxist economists is to apply Marx's modelling/schemas of the capitalist mode of production upon it, thus seeing the sector as a set of activities that spend the value produced elsewhere, and seeing its labour as unproductive. This fits somewhat in the first option mentioned above. Although it is consistent with Marx's work in *Capital*, it does not help resolve the issues raised here, such as: what do workers strive for; what is value (or value-like abstract category, if it is required at all) and wealth from the developmental-egalitarian perspective, how is it measured, how is egalitarian accounting done? Instead, it presents an account of human activities from the standpoint of capital, and with a view that, from the standpoint of the workforce and human beings, accounts poorly for goods and services delivered by public sector and household labour. Other than governance and tax collection itself, state sectors during Marx's life were limited to oppressive services, like the military, police, and the courts. As graphs in the next chapter show, looking at the UK national statistics from over the last two hundred years, there was nothing vaguely similar on such a scale during Marx's lifetime. The phenomena studied here – egalitarian provision, that is, society-wide funded production distributed largely according to needs – came to existence in the 20<sup>th</sup> century. Hence, Marx could not have studied it, nor accounted for it. After an entire century of the development of such production and allocation of goods and services, and a long period of various forms of socialist states in existence, at the very least the possibility of such production producing economic value, wealth and surpluses should be explored.

## 6. Towards Egalitarian Measurements

### 6.1 Introduction

After providing the conceptual mapping for my analytical framework of the egalitarian mode of production from the perspective of the workforce and the full development of the human capacities of all, in this chapter I look at the issue of measurements. For the capitalist mode of production, measuring is done relatively simply through profits as the measure of success or failure of a productive organization. From an egalitarian perspective, there are no parallel simple ways to measure it. That is not a surprise, as the two modes of production differ in their goals, operating principles and outcomes. Monetary aspects do play a crucial role, as, depending on how far state production extends, a large portion of inputs for such production are obtained from capitalist sectors. It is important to note that in socialist countries, where the vast majority of inputs would be obtained from the state, or socially owned organizations, monetary aspects still played a significant role, but in a different manner – I will deal with the socialist states in future work as I lack the space to do so in this thesis. However, since the goals of productive organizations are to meet needs, and to make a profit, the question of measuring their successful operation remains open. A similar question arises when comparing hackers' and capitalist software production. While capitalist productive organizations can be measured by profits obtained through sales of software and services, how might hackers' software produced along the developmental-egalitarian aims and principles be measured? There are major differences between public sector egalitarian production and hackers. The former has its roots in workers' self-organizations, although nowadays it is created by political decisions in the form of institutionalized formal organizations. The latter is mostly self-organized, but with a distinct advantage of open labour processes, thus enabling contributions from everyone according to their ability within the limits of the capitalist mode of production that dominates the organization of the society as a whole. Like with socialist states, due to the limited space in the thesis, I leave for future work the question of measuring the value of hackers' production where the final product is not in the form of commodity, but offered to everyone to be used according to needs.

I look for ideas on how to measure public sector egalitarian mode of production in the concepts, theories and measurements used in national accounting. The major problem faced is that constructions of macroeconomic measurements have from their inception been done from

the standpoints of capital and nation states.<sup>123</sup> Although strictly speaking the accounts show flows from the productive system expressed in monetary terms, in public discourse these have often been interpreted as measures of well-being, quality of life and the progress of nations. Simon Kuznets noted already in 1948 that consumption levels can rise simultaneously with many aspects of lives deteriorating (1953a, pp. 176–80). In the previous chapter, I made a similar argument through Lebowitz’s reading of Marx’s work, showing how consumption levels and exploitation may also grow simultaneously. As political decision-makers have become aware that national accounts do not readily yield valid measures of the quality of life, particularly when compared between nations, several large projects and alternative measurements – Beyond GDP by OECD, Sarkozy’s commission, the Happy Planet Index, the Human Development Index (HDI) and the Genuine Progress Indicator (GPI) – have attempted to address this.<sup>124</sup> While many of those projects do address some aspects that are useful to my standpoint, GPI being perhaps the best example, their perspective seems to remain rooted within the capitalist mode of production. Instead of the standpoint of capital, as discussed in previous chapters, I take the standpoint of what I broadly call the workforce, or the category of workers extended by assessing the needs of workers’ reproduction and of the full development of the human capacities of all.

## 6.2 Common resources & investments: perspectives of workers and capital

What happens when the state spends?<sup>125</sup> Categorizing spending as an expense, or as an investment depends on whether the spending can be said to be productive, i.e. whether it falls within the productive boundary, within what national accounts consider to be economic activities. If it is productive, how do we measure the results of spending? Here I follow not just Lebowitz, but also Simon Kuznets, who systematically criticized the developments of national accounting for

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<sup>123</sup> For two comprehensive histories of national accounting, see Studenski (1958) and Vanoli (2005).

<sup>124</sup> There are many examples of such work: Ironmonger’s challenges of valuations of women and household labour in general, backed up by large amount of time-use studies (2000; 1996, 2007); PhD’s (Ogle, 2000; Stanton, 2007); wide range of OECD studies (Allin, 2007; Chadeau, 1992; Freudenberg, 2003; Land, Michalos, & Sirgy, 2011; OECD, 2011; Schreyer, 2010; Scrivens & Iasiello, 2010; Trewin & Hall, 2010); overviews and case studies of alternative macro measures: Happy Planet Index (New Economics Foundation, 2009), GPI and ISEW (Anielski, 1999; Berik & Gaddis, 2011; Lawn, 2003; Neumayer, 2000; Pulselli, Ciampalini, Tiezzi, & Zappia, 2006), green national product (Asheim, 2002; Cobb & Cobb, 1994), and other overviews and critiques (Common, 2007; Costanza, Hart, Posner, & Talberth, 2009; Osberg & Sharpe, 2002).

<sup>125</sup> Although I lack the space to do so in this thesis, taxes will need to be dealt with in future work, both conceptually and within the model. They are an important aspect without which this analytical framework cannot be complete. While material covering taxes from egalitarian and left political perspectives is lacking, John Tiley’s edited series *Studies in the History of Tax Law* offers plenty of mainstream perspectives.

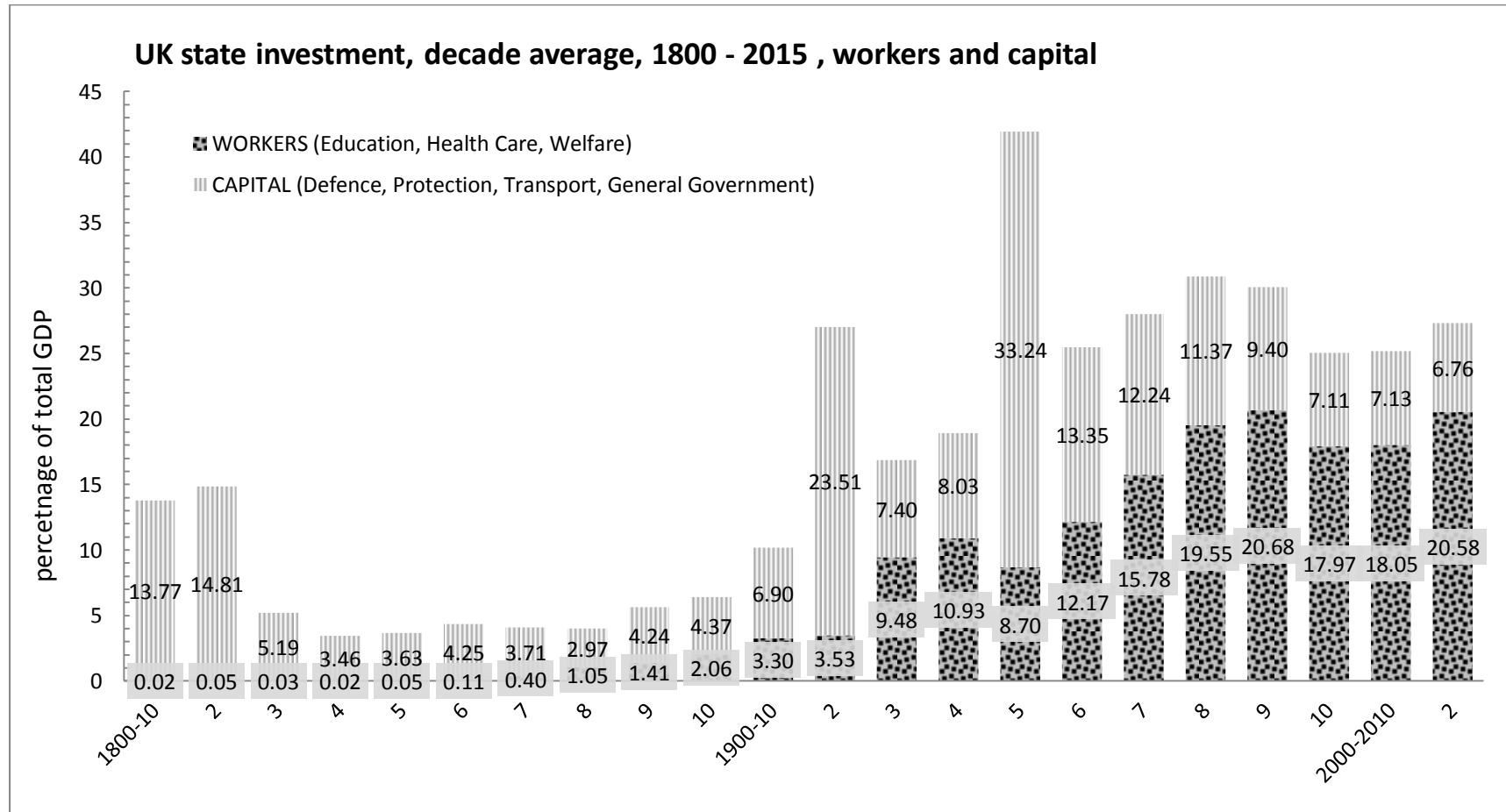
failing to explicitly define the purpose of economic activity.<sup>126</sup> Hence, my answer would be: it depends on the standpoint, the perspective from which one observes economic activity and the purpose one assigns to it. To understand better the character of the public sector and its branches, I will look at public spending in the UK over the last two hundred years. Although data categorization is not entirely harmonized with the standard ESA95 national accounting of government expenditure by function,<sup>127</sup> the overlap is significant and good enough for purpose. I split the categories into two sets, those that contribute more to the development of workers (education, health care, welfare), and those that are more desirable from the perspective of the development of the capitalist mode of production (defence, protection and security, transport, general government). Although transport is a very important need, and an element of the reproduction and development of the human capabilities of all, especially public transport where allocation according to needs is possible, it seems to me that it is the interests of capitalists as a class that dictate investments in transport, and that it is capital that gains most from such public investments.<sup>128</sup>

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<sup>126</sup> Kuznets has insisted throughout his work that in order to assess economic activity, the activity has to have the purpose assigned (1953b). By refusing to acknowledge the purpose of economic activities in capitalist countries, pro-capitalist economists hide their political bias inside the objectivity of macroeconomics and national accounts. See also the 1948 debate Kuznets-Gilbert (Gilbert, Jaszi, Denison, & Schwartz, 1948; S. Kuznets, 1948), and (Kane, 2012).

<sup>127</sup> General public services; Defence; Public order and safety; Economic affairs; Environmental protection; Housing and community amenities; Health; Recreation, culture and religion; Education; Social protection.

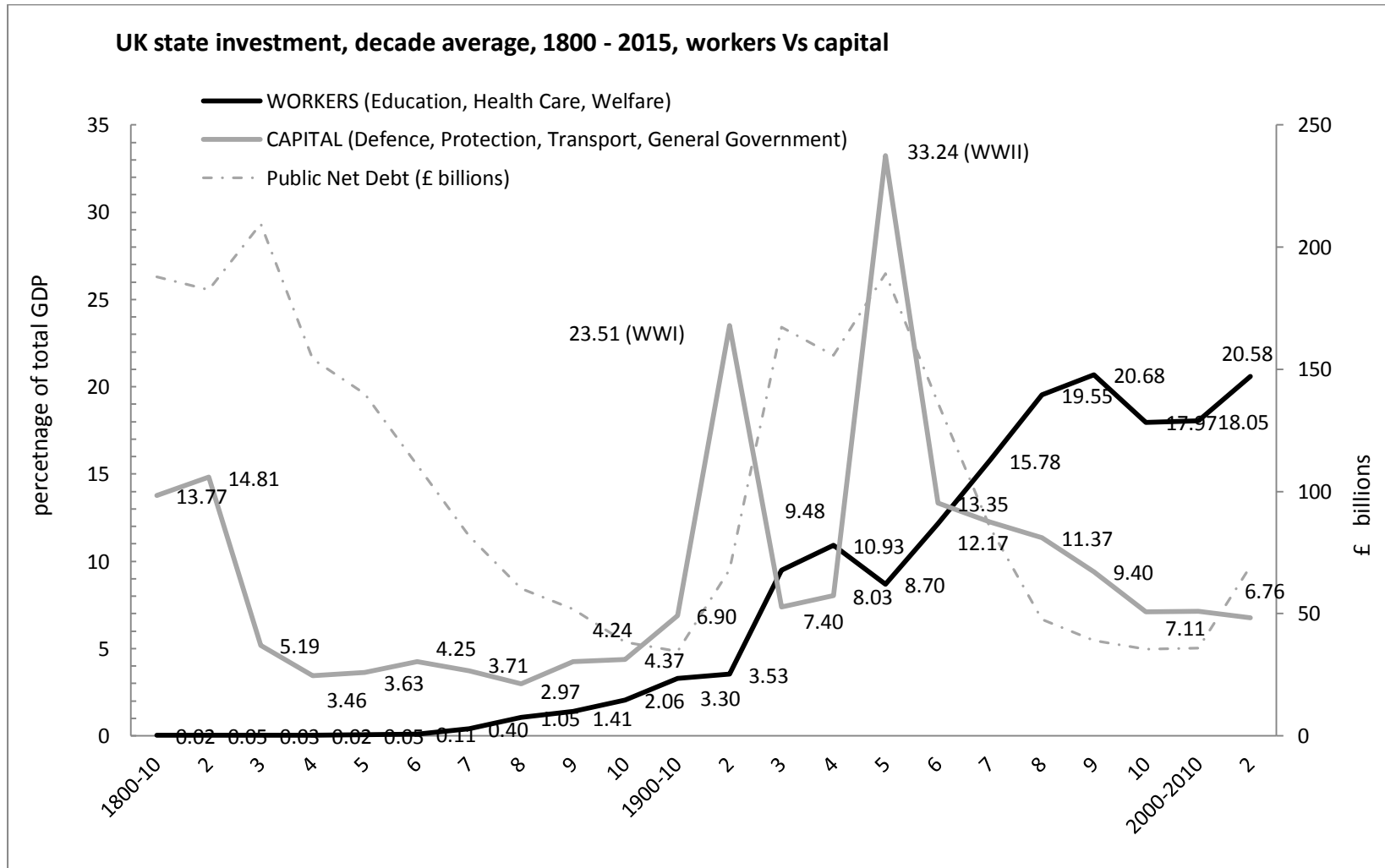
<sup>128</sup> Separate research will be required for all sectors and categories. Classification of transport into capital-centric group seems the most problematic one.

Graph 1. UK state investment, decade average, 1800 - 2015 , workers + capital (cumulative)<sup>129</sup>

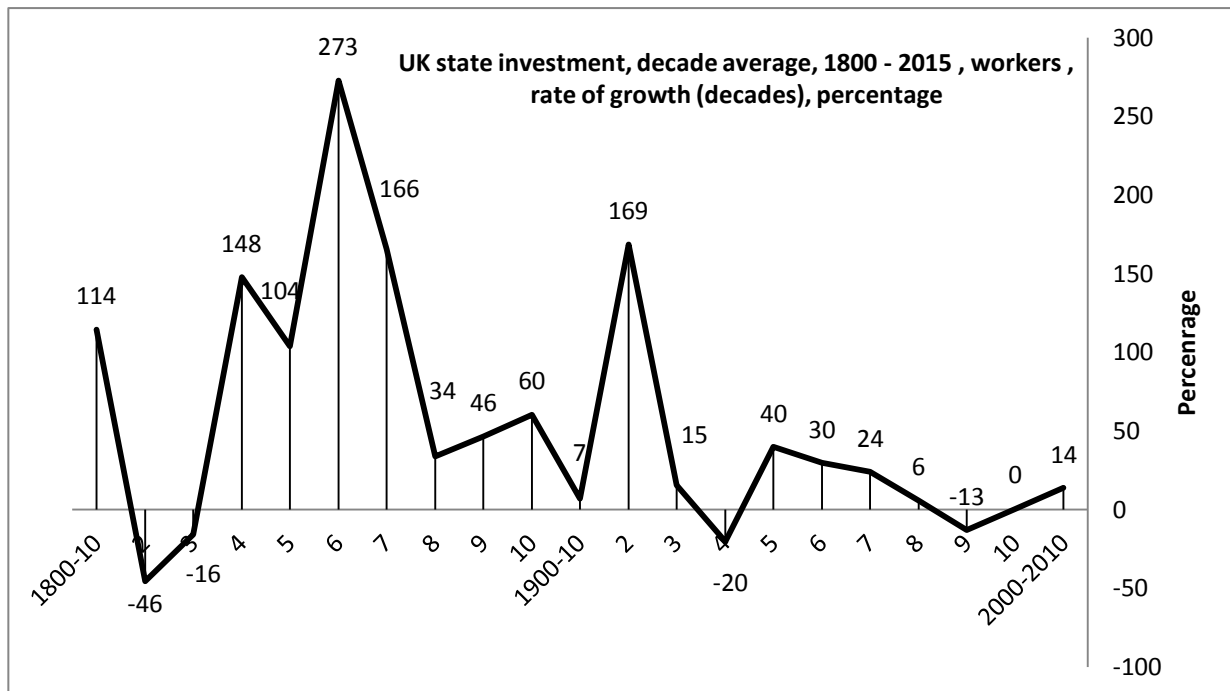
<sup>129</sup> Data for Graphs, 1, 2 and 3 is from <http://www.ukpublicspending.co.uk/>. For their combined sources, see <http://ukpublicspending.blogspot.co.uk/2009/04/sources-for-public-spending-data-series.html>



Graph 2. UK state investment, decade average, 1800 - 2015, workers versus capital



Graph 3. Rate of growth by decade (percentage), UK spending on worker-centric categories (Education, Health Care, Welfare), 1800 - 2015



A few comments are required. First, state administration, called general government in the data used above, plays a decisive role from both the perspective of workers and capital. Since it is the capitalist mode of production that dominates the overall provision (production, allocation, consumption) occurring in society, the functions of state administration are much more important to capital. The dominant mode of production could not keep its dominance without the aid of the state administration in its reproduction and expansion. Second, a significant portion of public spending occurs via cash transfers (OECD, 2011, pp. 311, 330). While they are allocated to meet needs, obtaining commodities with those transfers links the intended egalitarian allocation straight back to the capitalist production and its logic. This seems the most significant issue that ought to be taken into account when reading the classification in workers/capital sets, as it affects the data presented here by reducing the volume of egalitarian production. Third, a small portion of activities from the categories assigned to workers get carried out by private firms, thus importing the logic of capital.<sup>130</sup> Fourth, one has to consider and factor in that a small amount of value used up in delivering goods and services allocated to workers according to needs does not

<sup>130</sup> In the total public spending in 1995 (38.73% of GDP), the private sector delivered 10.84% of public services (4.2% of the total GDP). In 2011 public spending was 45.31% GDP; the private sector delivered 12.36% of public services (5.6% of the total GDP) (Author and Oxford Economics, 2008).

reach end users. I leave those questions open for now. It can be seen from graphs 1 and 2 that although the volume of investment favouring workers became the largest part of the overall public provision, this happened in the 20<sup>th</sup> century.<sup>131</sup>

From the perspective of most economic schools, one is dealing here with public expenditure: the state spends in advance part of the newly created value from the next year by estimating the taxable revenue; at the end of the tax year it withdraws the funds it spent from circulation by collecting taxes.<sup>132</sup> From the developmental-egalitarian perspective, the standpoint of the reproduction of the workers and the full development of the human capacities of all, one is dealing with productive investment in goods and services.

My starting thesis is that from the developmental-egalitarian perspective such production creates new value, through a mode of production that in several key aspects significantly differs from the capitalist mode of production under whose domination it operates. In the production phase, costs are collectivized on the wider level (organizations, cities, regions, nations). As can be seen in graphs 1 and 2, capital is no longer the only initiator of production, nor the only manager of the division of labour; the entire production process is no longer profit driven, while gains are not expressed in the forms of profit, rent or interest. Instead, a large portion of the production process is goal driven, set up and managed mostly by the state and with the purpose of economic activity being meeting needs by delivering use values. Final products are to a significant extent allocated by practicing the “to each according to their needs” egalitarian principle. Outcomes increase the well-being of the recipients in various aspects. Due to the egalitarian allocation mechanism, focus on needs, increase in solidarity in society (visible in the UK on the example of public health) and outcomes that increase human capabilities of all (loosely speaking, the category of citizen still hinders many), one can speak of the egalitarian mode of production embedded into the dominant capitalist mode. A plethora of valid questions arise when such a thesis is advanced: whether one can speak of value and surpluses and in which forms they appear,

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<sup>131</sup> The rate of growth uncovers that economic crisis and wars played an important role for the changes in government expenditure. We calculated the correlation coefficient between public net debt and capital categories to be 0.22; positive, but weak. While between public net debt and workers categories, it is -0.34, moderately negative. Contrary to the narrative about the crisis dominating the media and mainstream economics, this means that when the public net debt grows, capitalist-centric investment grows, while worker-centric one shrinks. As we already mentioned in the chapter on the problems of economics, Mark Blyth provides an account of how – across the countries he looked at – governments and pro-capitalist forces managed to turn the narrative about the private sector caused 2008 crisis around, claiming that it was the state excessive workers-centric investment that was the major problem that has to be dealt with (Blyth, 2013).

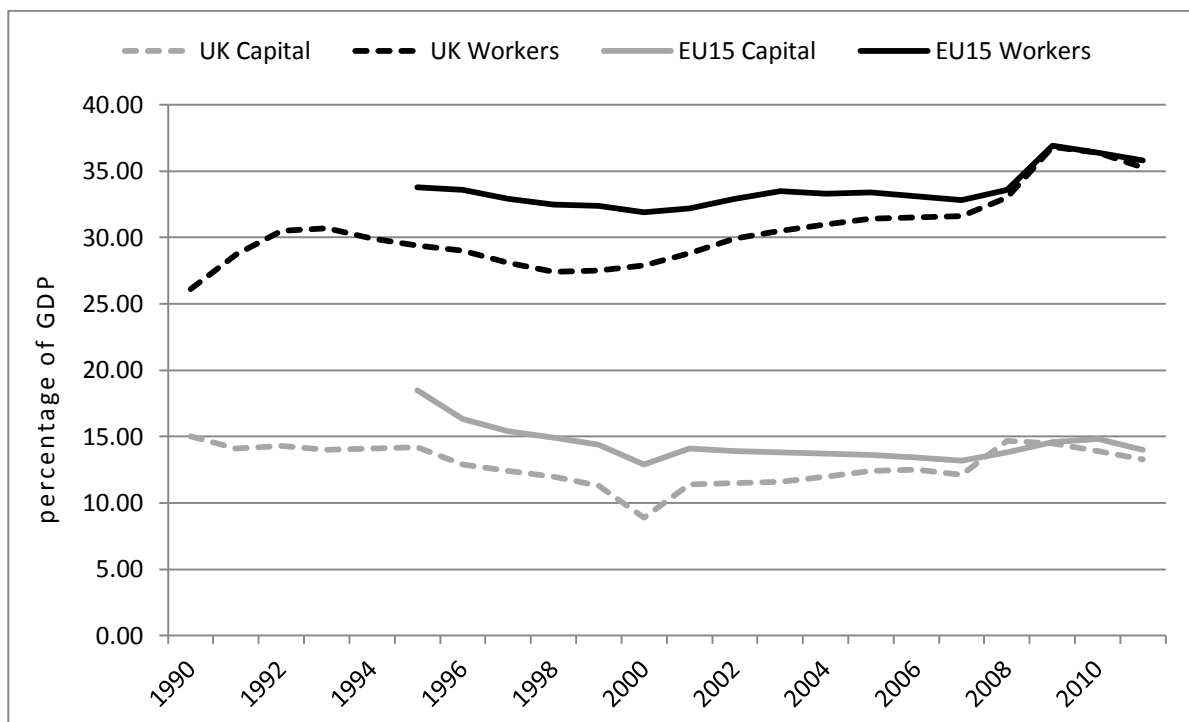
<sup>132</sup> This way of looking at taxes is based on a historical reading of tally sticks (Baxter, 1989; Cook, 2013).

to mention just two of them. At a minimum, my aim is here to carve open those questions for further research, hopefully demonstrating that they are worth asking and that the thesis put forward here is worth developing further.

The more society allocates according to needs, the less recipients depend on their ability to pay individually, and the less the individual accumulation of wealth accrued mostly through profits from the capitalist mode of production has a negative impact, by either being held passive, or by being used as capital. Here one observes two antagonistic logics of economic activity, the egalitarian and capitalist one, fighting over the spheres of reproduction.

To check the situation in other countries, I looked at the Eurostat data with correct ESA95 categories, split into sets for workers (Environmental protection; Housing and community amenities; Health; Recreation, culture and religion; Education; Social protection) and capital (General public services; Defence; Public order and safety; Economic affairs). The results broadly confirm what we saw from the UK historic data, keeping in mind that higher figures are due to pensions being under Social protection ESA95 category. Given that pensions are monetary payments based on individual earnings during the working life, they do not fulfil the criteria for the egalitarian production of allocation to meet the needs directly.

Graph 4. Eurostat, General government expenditure by function (COFOG) [gov\_a\_exp]



Albeit lower than the above EU countries, another example of the high level of worker-centric investment can be seen in Croatian national accounts for 2011, where 24% goes to worker categories, in comparison with 35% in the EU15 countries.

Table 7. Croatia spending 2011, workers and capital<sup>133</sup>

(millions of Kuna)		GDP 2011		
		2011	333956	
			% of total public spending	% of GDP
7	Total public spending	121425		36.36
701	General public services	14059	11.58	4.21
702	Defence	5008	4.12	1.50
703	Public order and safety	7827	6.45	2.34
704	Economic affairs	12954	10.67	3.88
Capital			33	11.93
705	Environment protection	641	0.53	0.19
706	Housing and community amenities	1398	1.15	0.42
707	Health care	19762	16.45	5.92
708	Recreation, culture and religion	1661	1.37	0.50
709	Education	10483	8.63	3.14
710	Welfare	47628	39.22	14.26
Workers			67.36	24.43

### 6.2.1 Needs and national accounting categories

I return for a moment to the circuits of reproduction to check how needs, the most fundamental constitutive elements of the reproduction and development of the capabilities of human beings, overlap with national accounting's ESA95 categories. I will also look at how needs are met in terms of the developmental-egalitarian principles (table 4). The first column in Table 8 shows needs from the circuits of reproduction; the second column shows forms of public financing of those needs; the third column shows ESA95 government expenditure by function (COFOG), categories that the need from the first column belong to, while the last two columns are very rough estimates of the portion of the total cost of the need coming from public funds and the portion of that public funding that gets allocated according to need.

<sup>133</sup> Source: Annual Report of the Ministry of Finance for 2011, Table 2.5. Public spending, classification according to function, period 2009 – 2011 (2011).

Table 8. Workers' needs, reproduction and development and ESA95 categories

	need	public finance	General government expenditure by function (COFOG) [gov_a_exp] ESA95	publicly funded portion	portion allocated according to need
1	housing	local, state	Housing and community amenities	small	large
2	nourishment	State	Social protection	very small	medium
3	health	state	Health	very large	very large
4	clothing	-		-	-
5	parenting	state (cash)	Social protection	small	large
6	care	state (cash)	Social protection	small	medium
7	libraries	local, state	Recreation, culture and religion	very large	large
8	recreation	local, state	Recreation, culture and religion	small	-
9	public space	local, state		large	-
10	public transport	local, state	Economic affairs	large	small
11	pension	state (cash)	Social protection	large	very small
12	communication	state	Economic affairs	small	-
13	museums, galleries	local, state	Recreation, culture and religion	large	small
14	education	state	Education	large	medium
15	leisure time	-		-	-
16	energy	state	Economic affairs	small	-

I do not have the space here to enter into a detailed analysis of such a broad range of needs, but a few things are visible straight away. The second column (public finance) indicates that a large number of needs are publicly financed, usually through a combination of local authorities and central state funds – further details on local authorities funding can be obtained from Eurostat. One can see in the third column that the vast majority of needs overlap with the EA95 categories. Exceptions are energy, communications and public transport, which belong to the Economic affairs category. The last two columns are the most important ones for understanding the role of public finances in meeting a certain need, and for developing the egalitarian mode of production thesis. In a situation when the publicly-funded portion is large, but the portion distributed according to need is small, aggregate value is small from the developmental-egalitarian

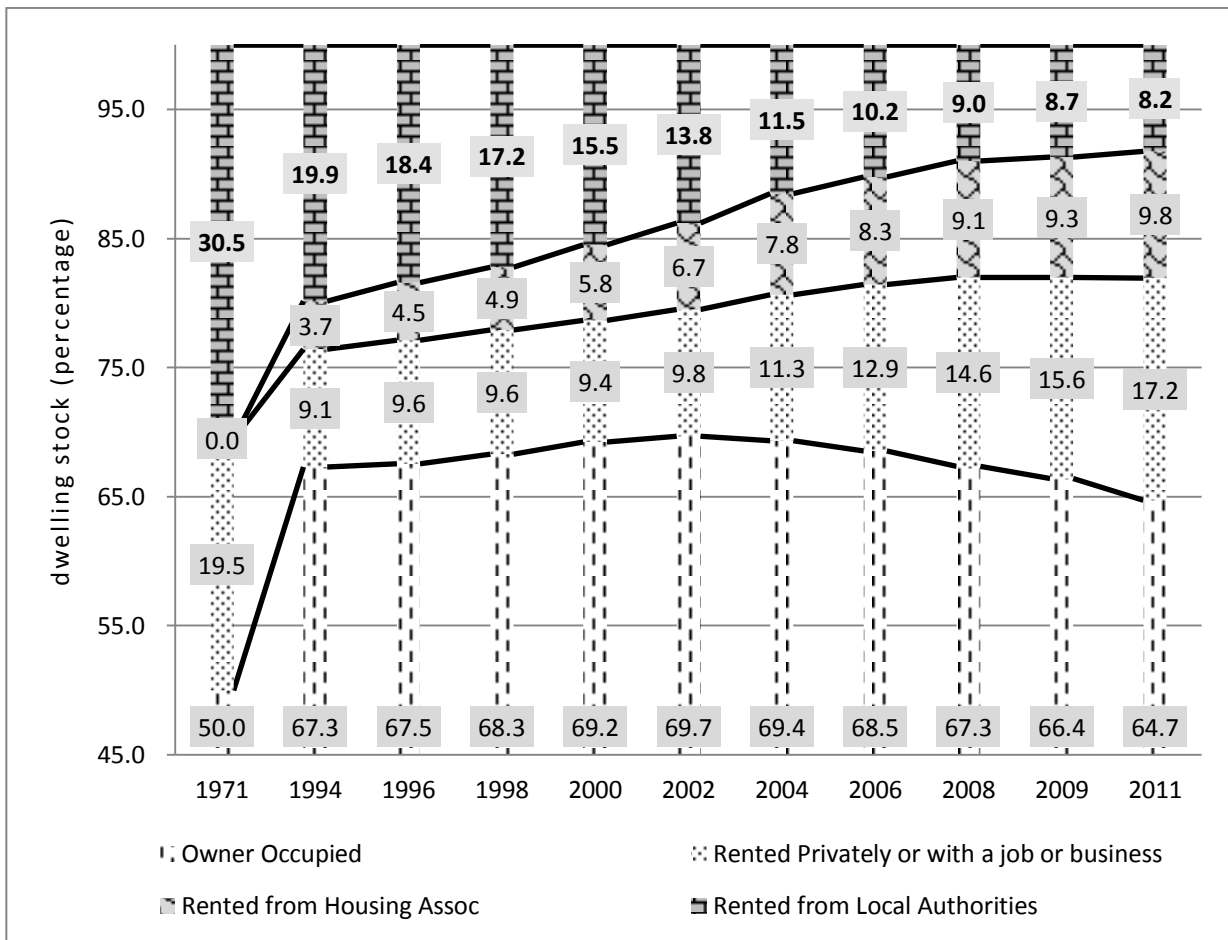
perspective. A good example is public transport in London in the UK, where although the portion of public funding for it is large, distribution according to needs is relatively small: over sixty and under sixteen year olds are entitled to free use of public transport, while students have a discount. Thus the majority of inhabitants use the service according to their individual ability to pay, regardless of their needs. Such a distribution mechanism is discriminatory, especially toward the poorer sections of society, who have to give up a significant portion of their weekly budget to travel. That in turn significantly reduces their ability to develop their human capacities, and is hence against the developmental-egalitarian principles.

### **6.2.2 Negative effects of privatization of public housing on workers**

Housing is a sector where the changes are quite visible in the UK. Aggregate data on the tenure type shows enormous structural changes in the past forty years. Given that in the 1970s the portion of publicly owned housing stock distributed according to need was a significant part of the total housing stock, I am interested to find out how those changes influenced the cost of reproduction from the perspective of workers individually and the workforce as whole, and what happened with the allocation.



Graph 5. UK dwelling stock (1971, 1994-2011), by tenure



One can see that in 1971, 30.5% of the entire housing stock was rented from the public sector, while in 2011 it was only 8.2%.<sup>134</sup> Unlike privately rented and privately owned dwellings, where the allocation mechanism is determined by one's ability to pay, or increasingly according to inherited individual wealth, public housing in the UK is distributed according to need, by assessing candidates on a number of criteria.<sup>135</sup> Housing is one of the most elementary needs and the largest single cost for the purposes of reproduction. It is therefore highly desirable from the developmental-egalitarian perspective to have an as large as possible portion of the total dwelling stock distributed according to needs, which mostly means some sort of social ownership and allocation according to planning and assessment, and not according to markets and private

<sup>134</sup> The statistics come from the British Department for Communities and Local Government, Dwelling stock (including vacants), Table 101: by tenure, United Kingdom (historical series) <https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants>

<sup>135</sup> For the role of inheritance in inequality, see the following studies: France (Piketty, 2011), Britain (Harbury & Hitchins, 2011) and the US (Bowles & Gintis, 2002).

wealth. A more detailed insight can be gained by comparing criteria for the assessment, across local authorities and across countries.<sup>136</sup> According to the statistics from 2009, the national average weekly cost of renting from local authorities was £66.86, while the same cost when renting privately owned dwellings was £139.80.<sup>137</sup> In other words, when renting privately, workers paid individually more than double than if they had rented from the local authorities, while the allocation for all those privately rented dwellings was obviously not done according to needs and priorities.

*Table 9. Rental dwelling cost, public and private difference, 2009. (average)*

	weekly rent		Difference	housing ratios	
	public	private		private	public
England	£66.86	£139.80	109%	1.09	-0.52
London	£82.38	£221.89	169%	1.69	-0.63

The negative impact on households is by far the worst in London, where the workforce paid 169% on top of public housing rental costs. According to the OECD, housing is the largest single individual cost in a monthly household budget, accounting in the UK on average for 23% of the gross adjusted disposable income (OECD, 2012c). What one sees here from a developmental-egalitarian perspective is that when a large portion of housing stock in the UK switched from the egalitarian to the capitalist modes of production, two negative aspects arose simultaneously: the enormous rise in the cost of provision of housing occurred alongside an enormous fall in allocation according to needs. To develop this analysis further, many more aspects should be accounted for: provision and use of mortgages; workers' individual and public sector financial gains from the sales of the local authorities housing stock; taxes from the private rental sectors as gains to public funds; property and funds inheritance as another non-egalitarian allocation of wealth and dwellings; the changes in location, type and quality of the dwelling stock when the

<sup>136</sup> Socialist states in East Europe had widespread housing programmes. In socialist Yugoslavia, dwellings were mostly built and allocated within socially owned firms. There is programme of social housing under way in Venezuela today. In Romania, the results of public provision in socialism were mixed: "nationalization raised the occupancy rate and intensified the usage of existing housing, desegregated centrally located neighbourhoods, turned some residential space into office space for state institutions, facilitated the degradation of the existing housing stock and gradually produced a socialist gentry" (Chelcea, 2012). In future research, I will look into public provision of housing in socialist countries (Buckleyand & Tsenkova, 2001; Tsenkova, 2009).

<sup>137</sup> Source: author calculation and Cambridge Centre for Housing and Planning Research, *The Guide to Local Rents* (Dataspring, 2010).

provision moves from the public to private sector; comparison of the mobility of tenants and its impact; the cost of production of new housing in the public sector – all of these are possible and in most cases necessary directions for future research. However, it seems to me that even such a basic empirical analysis as this one provides a strong indicator of the winners and losers in the privatization of public housing. It is not impossible, though it seems highly unlikely, that once all of the mentioned aspects that ought to be added to the analysis are included, the high increase in the monetary cost of renting dwellings from the perspective of workers and developmental-egalitarian principles will be offset by the benefits coming from newly included elements.<sup>138</sup>

### **6.3 The egalitarian mode of production and the form of value**

The example of housing shows the conflict and antagonism between the workforce and capital. The question raised here is the following: while capital strives for profits and self-expansions, what does the workforce strives for? I began to answer this question by looking at the history of worker movements and egalitarian principles of allocating according to needs. As seen in the history of Friendly and Mutual Aid Societies, egalitarian principles were practiced through a collective approach to health, one of the most precious elements of the development of human capabilities, and through the reduction of risk by pooling of resources. The British National Health Service, I claim, is one such example and the expression of such a spirit on a grand scale. Put differently, on the macro level of economic-social activity, there is a clash between the capitalist mode of production and human development, expressed through the egalitarian mode of production. If the workforce is striving towards collective approaches, the pooling of resources and distribution according to need, how does one capture such activities? Which categories and units of measure does one use to follow the dynamic of the egalitarian mode of production and the forms it takes under various social formations?

Discussing it as a concept in economic sense, Robert Heilbroner defined the general problem of value as “the effort to tie the surface phenomena of economic life to some inner structure or order”. The work on value, he continues, has two distinct tasks: first is the “empirical investigation into the provisioning process”, and the second is on a “level of abstract inquiry – an inquiry directed not at the ‘facts’ of economic life, but at some structure or principle ‘behind’ the

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<sup>138</sup> Our focus in future research in housing will be its class role (C. Allen, 2008; Michael Berry, 1986; CDP, 1977; Edwards, Gray, Merrett, & Swann, 1976; Glynn, 2009; Henderson & Karn, 1987) and its political economy (Ball, 1983; Clapham, 1996; Clarke, 1975; Ginsburg, 2005; Hegedüs, Tosics, & Mayo, 1996; Melling, 1980; Whitehead & Scanlon, 2007).

facts. In this second of its tasks, economics deals with empirical data only as indications – necessarily incomplete and very often misleading – with respect to the object of its investigation” (Heilbroner, 1991). For Marx, one of the main failings of classical political economy was that it never managed, when analysing commodities and their value, to discover the form through which value transforms into exchange value.<sup>139</sup> The value form, Marx believes, is the most abstract and most universal form of the capitalist mode of production. However, quite the opposite to the naturalization of value conceptualized in different ways by classical political economists before Marx and neoclassical economics, Marx left an extremely important insight into this question. Namely, that the value form in the capitalist mode of production is not an eternal, timeless form of social production:

Adam Smith and Ricardo, treat the form of value as something of indifference, something external to the nature of the commodity itself. The explanation for this is not simply that their attention is, entirely absorbed by the analysis of the magnitude of value. It lies deeper. The value-form of the product of labour is the most abstract, but also the most universal form of the bourgeois mode of production; by that fact it stamps the bourgeois mode of production as a particular kind of social production of a historical and transitory character. If we make the mistake of treating it as the eternal natural form of social production, we necessarily overlook the specificity of the value-form, and consequently of the commodity-form together with its further developments, the money form, the capital form, etc. (1990, p. 174)

To make it easier to refer to this further in the thesis, I call this proposition “*The historic specificity of modes of production*”. In my reading, Marx here opens up the space to think both different modes of production and their most abstract forms. To borrow Heilbroner’s terms, these abstract forms are ways in which the inner structure, the inner logic of modes of production appears. For the capitalist mode of production, classical political economists and Marx tie the surface phenomena with its inner order using the term value. In a different mode of production, a different term may be more appropriate to signify this connection. By abstracting away from the specificities of the capitalist mode of production, Marx opens the space to think the production of public goods and their distribution according to needs in its own terms, not entirely tied into the

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<sup>139</sup> Discussions on value in Marx have been on-going for the past hundred and fifty years. While I do not have space here for an overview, the following sources may serve as good entry points into various schools of interpretations of Marx’s work on value (Bellofiore & Fineschi, 2009; Dumenil & Levy, 2000; Freeman, 1997).

categories and logic he used to comprehend the capitalist mode of production and its commodity production. It is worth remembering how Marx opens the first volume of *Capital*:

The wealth of societies in which the capitalist mode of production prevails appears as “an immense collection of commodities”; the individual commodity appears as its elementary form. Our investigation therefore begins with the analysis of the commodity. (Marx, 1990, p. 125)

My thesis here is that through their century-long struggle, workers’ movements and organizations decisively contributed to the construction of the egalitarian mode of production in certain sectors within capitalist societies. Public health, education, care programmes and public housing, all to a significant extent distributed according to the need principle, are examples of the results of those struggles and tendencies – graphs 1, 2 and 3 provide insight into the historic aggregate growth of the overall social wealth assigned to worker-centric public sectors. As the volume and quality of goods and services distributed according to needs grows, egalitarian social relations grow with them, and vice versa. To paraphrase Marx my investigation could be inaugurated by the following statement:

The wealth of societies in which the egalitarian mode of production penetrates, appears as “an immense collection of use values allocated according to need principle”; the use value allocated in such way appears as its elementary form. Our investigation therefore begins with the analysis of the use value distributed according to needs.

This paraphrasing uncovers a problem. The forms in which developmental-egalitarian value is manifest, be it goods, services or outcomes, are quite diverse.<sup>140</sup> The elementary universal form, the way the commodity appears in the capitalist mode of production, may not exist in the egalitarian mode of production in a similar way. Though in antagonism and in struggle with each other, the two modes of production do not have to have the same internal structure, they do not and, given the differences in aims, should not mirror each other in their core elements and relations. This does not mean that systemic features of equality in society, their universality, the logic that propels their inner structuring, their bloodstream, do not appear in recognizable forms

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<sup>140</sup> Nick Dyer-Whiteford discusses ‘commons’ as a form in which products and wealth appear beyond commodities: “a common is a good produced, or conserved, to be shared”, while “solidarity economies create experimental collectively-managed forms of productions” (2007). This useful and welcome contribution to the debate is limited by its approach that, in short, confuses basic income, natural stock, free software and academic outputs. For my research, a more detailed analysis that exposes commonalities and differences in how each of these forms of wealth are produced and allocated is required.

whose quantity and quality can be accounted for in some way. It is precisely Marx's realization that forms (money, value, capital) are specific to different modes of production that opens up the space for an investigation like mine. The political importance – of figuring out what those forms, their tendencies and possible measures may be – is in providing past, existing and future attempts to overcome capitalism in practice with a plausible logic of their own, one that counters the plausibility of the logic of profits and private wealth as the best guarantors of well-being and cooperation.

Marx's theory of value, perhaps his most important contribution due to its demonstration of exploitation and the historic specificity of the capitalist mode of production, was developed through critiques of classical political economy at the time, with an emphasis on David Ricardo and Adam Smith.<sup>141</sup> For the Physiocrats, regarded as the founders of political economy, the surplus appeared exclusively in the form of rent on land. Adam Smith generalized their model to all commodities, hence having surplus appear in the form of three elements (which he calls income): rent on land, profits and interest (1969, p. 85). Although the logic according to which the process of provision (production, allocation/distribution, and consumption) was based on creating surpluses was already discernible in Smith's work, the means of production and capital as the central categories of the model were missing (*ibid.*, p. 87). The means of production, "the fourth element", as Smith called them, remain outside of his three-part mode, which one can describe in short as: variable capital (used to buy labour power) + surplus values added by the workers' labour. The cardinal mistake, Marx explains, was that Smith left out fixed capital. This is especially noticeable when one analyses annual provision: without the concept of fixed capital, one loses the insight that produced values are only a small part of the value of the annual product, since part of the value resides in the constant capital which comes from previous production cycles, from previous years. In short, Smith's error is to equate the value of the annual product (includes value of the means of production, coming from previous years) with the annual value product (product of this year's labour) (1992, pp. 446–53). In other words, "annual value produced is smaller than the value of the product" (*ibid.*, p. 454).<sup>142</sup> Marx demonstrates here that Smith's

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<sup>141</sup> For Marx's immanent critique, the detailed demonstration of the internal contradictions of Adam Smith's analytical apparatus that showed the inconsistency of the entire system, see (Marx, 1969, Chapter 3), especially parts 2-9.

<sup>142</sup> The method of Marx's analysis by which he showed this deficiency in Smith's work is the method of a macro view of economic activities over a long period of time. Such an approach is found throughout the history of national accounts and macroeconomic indicators, while "Capital Volume 2 may be seen in a very real sense as the predecessor

model of the expansion of value is incomplete; an element is missing without which the production cannot happen. If one follows the logic discussed in the previous chapter, the logic of the highest level of abstraction at which the class struggle is still visible, and look at a stage lower than Marx's M-C-M basic model,<sup>143</sup> two large spheres providing goods and services, public and domestic labour, appear – and the question of their contribution to value, the value-form and surpluses loom large.<sup>144</sup>

### 6.3.1 Abstract labour and value, the case of public sector

The question about what form value takes in public sector delivered goods and services cannot be developed here in detail. However, I will point to a few places in Marx's work to open up the discussion for future research. One of the key places where Marx's develops his notion of value is his critique of Ricardo's notion of value. Ricardo held that there is a direct quantitative, supply and demand driven, relation between labour-time and its value, hence he understood value to be a special kind of price that gets formed through equilibrium. In Marx's words, Ricardo's "attention is concentrated on the relative quantities of labour which the different commodities represent, or which the commodities as values embody". Marx rejects such a view, and explains price in terms of social labour: "the labour embodied in them must be represented as social labour, as alienated individual labour [...] the necessity of presenting the labour contained in commodities as uniform

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and initiator of modern aggregation techniques, which were sometimes even directly inspired by the book" (Mandel, 1992, pp. 12–13). In a detailed, though in some aspects mistaken, reading, Studenski argues that Marx came up with a whole range of categories central for national accounting, and accounting in capitalism in general. This is especially the case with the difference between gross and net national income and depreciation of capital. Although Marx did not describe it that way, Studenski writes, through his immanent critique of Smith, Marx was the first to conceptualize gross national products, precisely by making a clear analytical difference between the new value (product of labour of this year alone), and the value of the product, equivalent for Marx to Gross National Product (GNP), which includes all elements used in the production (1958, pp. 18–25). Andre Vanoli claims that although there are arguments to support the thesis that the internalized conceptual basis for the whole French school of national accounting was Marx's work, he disagrees with such an understanding (2005, p. 434).

<sup>143</sup> Although Marx goes into some detail about sectoral analysis in *Capital* part 2 and 3, his sectors are not economic sectors as such, but departments according to Marx's analytical framework (means of production, means of consumption).

<sup>144</sup> Michael Lebowitz avoids the question of value, but it seems to me it cannot be avoided. However, every facing does not have to be frontal, nor does it have to take place in the theoretical territory already marked and packed with centuries-long passionate debates on value. Although this is much easier said than done, it seems to me that in order to open up the possibility for the productive consideration of the question the value, the question ought to be tackled at the terrain that one defines on one's own terms. Again, similar to my views on the development of circuits of reproduction from the perspective of the workers and the workforce, this terrain cannot be a voluntaristic creation. Quite the contrary, creating such a theoretical space requires an extensive treatment of the category of value throughout the history of political economy, its critique and economics, with the focus on its genesis in Marx, on Marxists that developed such view of economic activities, and on national accounting.

social labour, i.e. as money – is overlooked by Ricardo”(1990, p. 318; 1972, p. 131). Money for Marx is not just what facilitates commensurability, but is a necessary structural element of commodity production. Fluctuating market prices, moving below and above the value of the commodity, determine how much labour-time – above or below the labour time necessary for its production at the current level of technological development (socially necessary labour time) – the commodity commands. Alan Freeman explains his reading of Marx’s solution:

Unlike Ricardo, unlike Sraffa, unlike Walras, unlike most Marxists, and unlike almost the whole of economics, Marx treated all prices as forms of appearance of a common substance – abstract labour time – to which they could be qualitatively and quantitatively reduced. The money price of any commodity, at any time, represents a definite magnitude of this abstract labour time, quantitatively distinct from its value. This value is given in production independent of circulation, the price of the commodity is given in circulation after production, and the value-price relation consists of the relation between these two distinct quantities. Value is thus a universal category which applies to all possible market prices. Price, in three words, is a form of value. (1999)

The difference between Marx’s solution and Ricardo’s is that: “A quantity of labour has no value, is not a commodity, but is that which transforms commodities into values, it is their common substance; as manifestations of it commodities are qualitatively equal and only quantitatively different. They [appear] as expressions of definite quantities of social labour time” (1990, p. 322; 1972, p. 135). Put differently, Ricardo’s notion of labour embodied in commodities was still anchored in what Marx would call concrete labour, labour which did not become abstract by becoming social, by being compared to other labours in the process of the exchange, expressed in money through a price. That is why for Marx, this crucial aspect, “the necessity of presenting labour in commodities as uniform social labour, i.e. as money is overlooked by Ricardo” (Marx, 1972, p. 131). Labour, in other words, becomes valued as a uniform social labour at the point of sale:

In the price this representation is nominal; it becomes reality only in the sale.” (ibid., p. 131)... it is only through sale, through its real transformation into money, that the commodity acquires its adequate expression as exchange value. [...] The commodity now exists only as a certain quantity of social labour time, and it proves that it is such by being directly exchangeable for any commodity whatsoever and convertible (in proportion to its quantity) into any use value whatsoever” (ibid., p. 136); ...It is only by being exchanged that the



products of labour acquire a socially uniform objectivity as values, which is distinct from their sensuously varied objectivity as articles of utility. (1990, p. 166)

The emphasis on the moment of sale, on the exchange as part of the process through which the value of commodity becomes known as a quantity of social labour time is clear. For further referencing, let us call this proposition: “*The role of commodities and exchange for value*”. The key question for me is what would this mean for public sectors outputs and outcomes? Is labour in public sectors individual, concrete labour, or is it social labour? Does Marx’s warning about Ricardo – “Ricardo continuously confuses the labour which is represented in use value and that which is represented in exchange value. It is true that the latter species of labour is only the former species expressed in an abstract form” (ibid., p. 139) – apply to public sector labour? Likewise, when Marx asserts the crucial importance of the process of exchange for value creation – “division of the product of labour into a useful thing and a thing possessing value appears in practice only when exchange has already acquired a sufficient extension and importance to allow useful things to be produced for the purpose of being exchanged, so that their character as values has already to be taken into consideration during production” (1990, p. 166) – does such an insight still stand with the public sector?<sup>145</sup> I am not sure it does, it depends on how public sector production is seen. For example, although public sector end products are not produced for exchange, they are produced for others – they are not produced for own use. Furthermore, since the vast majority of the inputs are obtained on capitalist markets via commodities, the values of all those inputs are known during the production. In other words, one need to at least acknowledge that public sector production interacts with capitalist commodities and their values in Marx’s sense. However, to apply the logic from Marx’s last quote directly and strictly, any production that does not produce commodities to be exchanged has no value. Given that Marx did not see anything similar to the state production of public goods to a significant extent distributed according to need, as witnessed today in advanced capitalist countries, it cannot be simply assumed that he would have stuck with this logic of commodities as the only products of labour that “acquire a socially uniform objectivity as values”. On the one hand, assuming he would have maintained such logic to understand public sector production, Marx would have been in breach of his own proposition concerning the *historic specificity of modes of production*. That is,

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<sup>145</sup> Deborah Bryceson provides a strong set of arguments to extend Marx’s theory of value to non-commodity production. Her goal is to reduce the capital-centric nature of the law of value and its dismissal of non-capitalist production by removing some of the inconsistencies in Marx’s treatment of use-value and nature (1983).

he would have not allowed that a different mode of production could have arisen, with a different socially uniform of objectivity, one that would thus also be productive of value. On the other hand, if Marx had considered public production as a historically specific mode of production, one which appears alongside the dominant capitalist mode of production in the advanced countries, he would have stayed in line with this *historic specificity of modes of production* proposition. However, in that case, he would have been in breach of his *The role of commodities and exchange for value* proposition.

Why? In the first proposition, *The historic specificity of modes of production*, Marx asks of his readers the following: when considering “the value-form of the product of labour”, which “is the most abstract, but also the most universal form of the bourgeois mode of production”, we must not make a “mistake of treating it as the eternal natural form of social production”. Since to do so would be to treat it as eternal, “we necessarily overlook the specificity of the value-form, and consequently of the commodity-form together with its further developments, the money form, the capital form”. Instead, Marx argues that the value-form of the product of labour in the capitalist mode of production should be treated “as a particular kind of social production of a historical and transitory character”. The two key arguments are that the value-form in the capitalist mode of production is historical and it has a transitory character. That is, it is not ahistorical, or permanent. On this matter I am entirely in agreement with Marx.

However, in the second proposition, *The role of commodities and exchange for value*, when discussing commodities, Marx argues that “it is only by being exchanged that the products of labour acquire a socially uniform objectivity as values, which is distinct from their sensuously varied objectivity as articles of utility.” I understand this to mean that value is a socially uniform objectivity of the products of labour, achieved only through exchange, and distinct from properties of objects as articles of utility. How do we know that commodities acquire value (a socially uniform objectivity), and what does this objectivity consists of, what does it represent? We know, Marx answers, since when a commodity gets sold and “transformed into money ... it proves that it is directly exchangeable for any commodity whatsoever and convertible (in proportion to its quantity) into any use value whatsoever”. After the exchange, “the commodity now exists only as a certain quantity of social labour time”. So, to give a short answer, having value, acquiring this socially uniform objectivity comes not from having a price alone, but from being exchanged, when the objectivity of value becomes reality. This post-sale objectivity consists of a certain quantity of social labour time.

A problem arises with those two propositions being simultaneously true. To put it in the simplest terms possible, if one accepts the first proposition – modes of production are historically specific; the value-form in the capitalist mode of production is a historically specific form with the transitory character – then, it seems one cannot claim with much certainty that the second proposition – it is only through commodities and exchange that products of labour acquire a socially uniform objectivity as values – holds. That is, if modes of production and its forms (value, commodity, money), especially its value-form, are transitory, the second proposition does not have to be true under a new mode of production. If this was not the case, if the second proposition was universally true, that would mean that the first proposition was false. Since it would mean that the value-form in the capitalist mode of production, and exchange for money, the process by which it acquires value, its socially uniform objectivity, is not historically specific and transitory, but that it is universal, ahistorical and in all cases true. This is why, it seems, that those two propositions cannot hold simultaneously.

One could look for the solution in two directions. The first direction is to argue that, since my thesis is that there is a different mode of production, an egalitarian one, I would have to accept the first proposition. It is precisely by showing the character of the capitalist mode of production to be historical and transitory that Marx makes it possible to think about other modes of production. Since public sector production does not take the form of commodities, one can reject the second proposition as false. In the egalitarian mode of production, or provision as I prefer to call it, useful entities are allocated according to needs, not according to the price achieved in markets through exchange for money. The question is, what happens with the socially uniform objectivity of public services products? Do they ever acquire it? I think so. The vast majority of inputs into public services production are paid for in money, i.e. they pass through the process of exchange, thus becoming values. That is how one can tell what the cost of production of public goods and services is, by knowing its inputs, one knows its full monetary costs. One also knows whether it gets consumed or not. What one does not know, and where the difference with commodities lies, is what would be its final price at the point of sale if the whole process was run by a capitalist firm, and what would be the profit. But since the goal of production in the egalitarian mode is not profit, proponents of the egalitarian mode do not care about that aspect. Quite the opposite, they ought to be delighted that profit does not lead to accumulation of private wealth and that more egalitarian products can be allocated according to needs, as opposed to relying on the capitalist mode of production and markets to make sure that everyone

who needs something gets it by being wealthy enough to be able to afford it. Since that does not happen in the capitalist mode of production, and the differences in wealth are vast without any signs of shrinking, proponents of the egalitarian mode would support expanding as much production as possible into the egalitarian mode.

This brings the discussion to the question of what Marx calls socially necessary labour time, “the labour-time required to produce any use-value under the conditions of production normal for a given society and with the average degree of skill and intensity of labour prevalent in that society” (Marx, 1990, p. 129). I established, following Marx, that for products of labour to have value, they have to obtain a socially uniform objectivity, becoming a certain quantity of social labour time. I argued that it is not necessary for public sector products to be sold as commodities in order to obtain their value, their socially uniform objectivity. Paying for nearly all of their inputs in money, public sector know the value of their total cost of production. What they do not know is whether their value would be drive down by competition, thus reducing the labour socially necessary for its production. In other words, it is not known whether the effects of competition between capitalist producers would be replicated in public sector production. What is known is that public sector production will produce with currently existing technology and labour intensity. It is certain that, for example, public production of health services will not use the technology and labour intensity from the nineteenth century, when health services were in a dire state. That is, capitalist competition is not an absolutely necessary mechanism for technology to spread. This is another aspect which is important in determining whether public sector final products obtain a socially uniform objectivity, whether they obtain value.

The second direction one could take is to claim that there is a buyer for public sector outputs – public sector producers buy their own products, they just do so in bulk and in advance of production. An example that demonstrates this is something I know from family members whilst growing up in socialist Yugoslavia. Although hospitals were free of charge at the point of use, at the point of discharge from some hospitals (I don’t know whether the practice was widespread), patients would be issued with a receipt for the services. The receipt would contain the price of their total treatment, and of individual procedures and elements (e.g. number of days in hospital bed, price per night, price of the procedures they received). The receipt had no use for patients, and was used solely for the internal hospital accounting. One could say that the hospital was accounting for the services it was selling to itself, to its admitted patients. To take this option, to consider public service bodies that deliver their products free of charge to the end user as

advance bulk buyers of their own products, a significant part of Marx's second proposition now stands too: the exchange does happen, thus giving products of labour their value, their socially uniform objectivity, but not through commodities. While one cannot resolve this question within the body of Marx's work, for the future work on the egalitarian mode of production, this is one of the central questions.<sup>146</sup>

In one of his last texts, *Notes on Wagner*, Marx undertakes another substantial exposition of his work. One of the focuses is on the role of value and use-value. Marx tells us that he starts his analysis with "the simplest social form in which the product of labour presents itself in contemporary society, and this is the 'commodity'" (1989, p. 544). He analyses this first "in the form in which it appears". He finds that being a thing for use is the natural form for objects that satisfy human needs, use-value is an alias for such a form. In addition, he finds those objects to also be "bearers of exchange-value". However, "further analysis of the latter shows that exchange-value is merely a 'form of expression', an independent way of presenting the value contained in the commodity". Here Marx explains it, calling it one of his earlier insights:

When, at the beginning of this chapter, we said, in common parlance, that a commodity is both a use-value and an exchange-value, we were, precisely speaking, wrong. A commodity is a use-value or object of utility, and a 'value'. It manifests itself as this two-fold thing which it is, as soon as its value assumes an independent form of expression distinct from its natural form – the form of exchange-value", etc. Thus I do not divide value into use-value and exchange-value as opposites into which the abstraction "value" splits up, but the concrete social form of the product of labour, the "commodity", is on the one hand, use-value and on the other, "value", not exchange-value, since the mere form of expression is not its own content. (ibid., p. 545)

I call this proposition *Commodity as utility and value*. It seems to me that Marx here affirms *The historic specificity of modes of production* notion, since exchange-value is only a form in which value appears, and not the absolutely necessary prerequisite in all cases. In his response to Wagner, Marx puts forward strongly and clearly the argument that value, as he uses it, is an economic, not logical, category (ibid., p. 549). He clarifies what he understands by the social

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<sup>146</sup> There is voluminous literature on the value-form in Marx. Bellofiore and Fineschi's edited book provides a good introduction on the German debates in the 1970s and their impact, an important point in the development of Marxian school that puts emphasis on the monetary aspect of the value-form in Marx (Bellofiore & Fineschi, 2009).

character of labour, adding to *The historic specificity of modes of production* premise the following:

...the 'value' of the commodity merely expresses in a historically developed form something which also exists in all other historical forms of society, albeit in a different form, namely the social character of labour, insofar as it exists as expenditure of 'social' labour-power. (ibid., p. 551)

Following the *historic specificity of modes of production* premise, it could be said that public sector products are another form in which the product of social labour presents itself. However, it cannot be called use-value, since use-value does not describe the social form a product takes. Public sector is a highly complex social production. Still, the form in which its labour gets expressed is not exchange-value, but products, or development-egalitarian outputs in the context of my guiding principles. On the basis on this brief excursion into the question of value in Marx's work, it seems to me that following the logic that Marx himself outlines, there is a case for treating public labour and development-egalitarian goods as value creating. The question of the economic form of value on the consumption side remains. I can now restate our rephrasing of Marx's project more accurately:

The wealth of societies in which the egalitarian mode of production penetrates, appears as an immense collection of useful entities (public sector outputs, free software) allocated according to the need principle; an entity allocated in such a way appears as its elementary form. Our investigation therefore begins with the analysis of useful entities distributed according to needs.

In conclusion, public sector labour is a form of highly complex social labour. It is social not only in its organization, but also in an economic sense, in that the wage labour and all of its inputs (means of production, raw materials) are measurable in money. Thus, production inputs are commensurable as commodities with other commodities and other products of social labour through their monetary expression of value, through the price the state pays when buying its inputs. In other words, although the production of public sectors good and services is done with the purpose of meeting needs, and not with the purpose of being exchanged, its commensurability with other socially produced products is known, nominally through the monetary value of its production costs. The aspect that may seem missing is the change of the prices obtained through markets. The cost prices are visible, but not what Marx calls prices of

production, prices that include the average profit rate.<sup>147</sup> This, however, is understandable. Given that production for meeting needs does not have for its purpose the extraction of surplus value and accumulation of capital, its provision should be expected to have components and relations that significantly differ from those found in the capitalist mode of production.

### 6.3.2 Economic schools in awe of the capitalist mode of production

To illustrate differences in treatments of value, one can take the example of a school or a hospital, focusing on how the understanding of value changes according to the different economic schools. First, however, a few remarks on the table below. 1) In the first and second column are presented the entities running the productive units, a school/hospital in this example. I assume the following: when a productive unit is run publicly, its final products are allocated without any payments from the end user at the time of consumption/use and according to the end user's needs; when the productive unit is run by capital, its final products are allocated through markets, according to the individual ability of end consumers/users to pay. In the first row, units are publicly run in both phases. The comment in the last column indicates that units are always public. 2) In the second row, publicly run bodies are run by capital in the second phase. The comment in the last column indicates that the unit has been privatized. 3) In the middle columns, for each of the three economics schools I note whether the school considers the activity of the productive unit to be a source of value creation in phases one and two, and whether there is a possible surplus. In the second row the school/hospital is run as a public service in phase one and by capital in the phase two. 4) For the economic analysis from Marx's *Capital* the productive unit is not a source of value in the first phase, while it becomes a source of value with possible surplus in the phase two; hence "no, yes (S)" in the cell – (S) meaning there can be surplus value. 5) For national accounting the same productive unit creates value in both phases, hence "yes, yes" in the cell. 6) For neoclassical economics, such a productive unit cannot be a source of value when run as a public service, but it becomes a possible source of value when run by capital; hence "no, yes" in the cell. The exceptions to this logic of presentations are rows five and six, where one is not considering two phases. Instead, I consider a single phase production with a mixed mode of

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<sup>147</sup> "Average profit enters into the production price of commodities as a determining factor and thus already here surplus value [appears to be] not a result, but a condition, not one of the parts into which the value of the commodity is divided, but a constituent part of its price" (Marx & Engels, 1990, p. 512), and "Thus the production price of a commodity equals its cost price plus the percentage profit added to it in accordance with the general rate of profit, its cost price plus the average profit" (Marx, 1991, p. 257).

production, partly run by capital, partly publicly. In the fifth row, the analysis looks at a public service with some functions outsourced to capital, hence “public + [capital]” in the *run by* column – capital is in square brackets since it is subordinated to the overall publicly-run productive unit. As noted in the comment column, here a public production with some functions outsourced is being considered. The sixth row considers a productive unit run by capital, with some functions publicly funded and non-profit (as indicated in the comment column); hence “capital + [public]” in the *run by* column. For the economic analysis from Marx’s *Capital*, the productive unit is a source of value with surplus, while its publicly run elements are not sources of value; hence “yes (S) + [no]”.

Table 10. Modes of production and sources of value

	run by		is source of value creation in phases 1 & 2?			Comment
	phase 1	phase 2	Marx	national accounting	neoclassical	
1	Public	Public	no	yes	No	always public
2	Public	capital	no, yes (S)	yes, yes	no, yes	privatized
3	Capital	capital	yes (S), yes (S)	yes, yes	yes, yes	always private
4	Capital	public	yes (S), no	yes, yes	yes, no	taken into public ownership
5	public + [capital]		no + [yes (S)]	yes + [yes]	no + [yes]	some functions outsourced
6	capital + [public]		yes (S) + [no]	yes + [yes]	yes + [no]	some functions publicly funded and non-profit
7	household		no	no	no	no wage, no monetary measure

Marx’s analytical framework from *Capital* and its modelling is the oldest of the three considered here. The framework and the model consider the provision from the standpoint of capital, its most important distinctive feature being the concept of exploitation, capital appropriating surplus labour and surplus value. Most Marxist economists apply the framework to today’s advanced capitalist states, thus following the notion of no value or surplus being produced when the units under consideration here (a school, or a hospital) are run publicly, yet being present when capital runs the production. Consequently, the labour of public workers in such units is unproductive,



whilst once the production is run by capital the same labour becomes productive. Neoclassical economics holds the same view regarding the value and productivity of labour in those units, with one major difference: although value is added by the provision, there is no surplus. Neoclassical authors hold that all factors of production are adequately rewarded their share of value according to their contribution (Clark, 1899; Jevons, 1871). This insight, developed after the publication of Marx's *Capital*, is perhaps, in term of its political importance, the key argument of all liberal economic theories. John Bates Clark, an economist and one of the founding ideologues behind the claims of the importance of entrepreneurs over the importance of workers, made it clear that this is a matter of class war with enormous stakes. According to Bates, allowing the idea of surplus value and exploitation to take hold can have fatal consequences:

...the stability of the social state depends chiefly on the question, whether the amount that they get, be it large or small, is what they produce [...] if it were to appear that they produce an ample amount and get only a part of it, many of them would become revolutionists, and all would have the right to do so [...], every right-minded man should become a socialist; and his zeal in transforming the industrial system would then measure and express his sense of justice. (Clark, 1899, p. 4)

To remove this possibility, to render Marx's theory of value incorrect, Clark introduces a new role to which he assigns the cause of what Marx called surplus value: "purely coordinating work we shall call the entrepreneur's function, and the rewards for it we shall call profits" (ibid., p. 4). In clear and deliberate contrast to the old egalitarian saying that I adopted as the basis of my development-egalitarian principles, he posits the following thesis: "To each agent a distinguishable share in production, and to each a corresponding reward – such is the natural law of distribution" (ibid., p. 4). To enhance the persuasive power of his thesis, he calls it natural – an old trick of conservative thought to hide social constructs that benefit their class within a pre-given, supposedly immutable, form. When God became insufficient, nature filled his place. Unlike most other pro-capitalist economists, Clark does not mince words when it comes to the tasks ahead of his class: "This thesis we have to prove; and more hinges on the truth of it than any introductory words can state. The right of society to exist in its present form, and the probability that it will continue so to exist, are at stake. These facts lend to this problem of distribution its measureless importance" (ibid). Put differently, with the aid of markets: "free competition tends to give to labor what labor creates, to capitalists what capital creates, and to entrepreneurs what

the coordinating function creates” (ibid). Most important for his goals from the class perspective, Clark’s theory removes the need to study distribution as a distinct aspect of provision: “The entire study of distribution is in this view, a study of production” (1899, pp. 1–3). In a strange way, through his work to make the capitalist mode of production to appear just, Clark moves economic theory further towards Marx’s claim that social relations and inequality stem from the production side of provision.

Marx’s concept of surplus, though hugely important for the analysis of provision from my developmental-egalitarian standpoint, as it enables the understanding of exploitation and accumulation in capitalism, cannot be applied to analyse provision in the egalitarian mode of production. If one applies neoclassical economics’ and Marx’s concepts of value in the capitalist production to public services, one ends up with the following: although a productive unit under consideration here (school/hospital) created no value as a public service, its privatization creates a new source of production of value. In other words, for the logic of capital to assert itself, the material content of the final product does not have to change, it is the form and the process of its allocation that makes it valuable from the standpoint of capital. However, for the logic of capital to assert itself fully, for it to produce as much value as it can, it has to strive to be as profitable as it can. In short, the purpose of economic activity has to be driven not by meeting needs, but by creating surplus value. Therefore, the initial change in allocation will keep trying to assert itself over the entire production, to impose elements of the capitalist mode of production over elements of the egalitarian one – an example of this is the drastic weakening of the position of labour by removal of collective agreements in privatizations of public services. National accounting attributes value to both of these modes of production: value produced in public sector is calculated as the sum of its production costs, while the value produced in private sector is the sum of the sales of all of its final products, which can be higher than its production costs. Therefore, following the logic of national accounts, the private sector can add more value than its public equivalent, thus privileging the capitalist provision and making public sector provision appear less desirable. This type of economic reasoning dictates policy making, as it clearly indicates to policy makers that the more public provision they turn over to capitalist enterprises, the more value there will be created in the national economy. However, as graphs 1-4 show, investment in worker centric public services, many of them allocated according to needs, continued to grow even during the neoliberal period of mass privatizations – this paradox will need a separate study. Although national accounts do not have the concept of surplus, national

accounting as a whole does use an interesting differentiation of outcomes and outputs – those debates will be a key starting point for my attempts to develop outcomes as the forms in which value can appear from the development-egalitarian standpoint.

### **6.3.3 The special case of household labour**

In the last row of table 10, row seven, the special case of household labour can be seen. Silvia Federici, one of the founders of the Wages for Housework feminist campaign, noted: “In redefining housework as work, as not a personal service but the work that produces and reproduces labor power, feminists have uncovered a new crucial ground of exploitation that Marx and Marxist theory completely ignored” (2010). Given its role for the reproduction of the workers and the development of full human capabilities of all, there is little doubt that household labour has to be, along with public sector labour meeting needs, at the centre of future research. Nevertheless, economists have struggled with it. Household labour does not produce value according to any of the schools of economics I have considered. Since a comprehensive review of domestic labour and its role is beyond the scope of this thesis, I will only point to some of its important attributes. While some left theorists have included the issue in their work, it has not been done in a manner which enables inclusion of household labour as productive, so that it can be understood as value, or wealth creating and can be accounted for. Negri and Hardt are among the most widely known left theorists who have put an emphasis on “affective labor”. According to Silvia Federici, such approach “strips the feminist analysis of housework of all its demystifying power. In fact, it brings reproductive work back into the world of mystification, suggesting that reproducing people is just a matter of making producing “emotions” and “feelings”. It used to be called a “labor of love”; Negri and Hardt instead have discovered “affection” (ibid).

Racism is another defining aspect of labour which economics struggles with. Throughout most of U.S. history, different rules applied to white and black women. While white women had the protection of the legal contract, this was not the case with slaves (Kessler-Harris, 1981, p. 25). This brings me to live-in domestic servants, today called nannies, another category of labour invisible to economics and labour laws. Without contract protection live-in servants can be fired at will by the employer. Household unpaid labour was often paid through the arrangements that predate organized wage labour. Little has changed in this respect. The radical demands of the International Wages for Housework Campaign – expressed in various ways, amongst many other authors convincingly by Maria Della Costa and Silvia Federici – was put in Marxist terms by one of

its co-founders, Selma James. She argued that domestic labour produces labour power, without which capital cannot produce surplus value (1975). Critics were quick to point out that according to Marx, household labour is not productive for several reasons: it is not directly working for capital, it is not controlled by employer, it is not timed nor disciplined, and workers cannot be hired and fired (Hamilton & Dallas, 1976).<sup>148</sup> They argued further that if household labour was paid, it would have been a transfer of value from the productive sectors, it would have been an expense. In the defence of the campaign's demands, Irene Breugel pointed out that even if one looked at state pay for household labour in such a way, due to labour being the source of all value, it would represent a transfer of surplus value internal to the working class. Hence, it would be still be beneficial to the working class, because it redistributes according to working class culture and values and not according to market forces (1976).<sup>149</sup> Marilyn Waring distinguishes herself from the Wages for Housework authors by arguing that instead of paying for household work, we should be imputing its value, assigning it fictitious monetary value, in national accounts.<sup>150</sup> This, Waring argues, would make women's labour visible as productive work (and not just as reproduction) and thus placed on an equal footing with other work when considering its contribution to society. An example she gives is that the state would have to change its approach towards women, treating them no longer as welfare cases, but as productive workers. This is not a benign issue, as the history of welfare for single mothers shows. It does not at all follow that what social movements asked for, how they formulated their demands, is what one actually ends up with in state provision of welfare. Focusing mostly on the lobbyists and policy makers, Gordon shows how in the creation of the U.S. Social Security Act (1935), men's inactivity was deemed worthy of insurance for periods of unemployment and during the old-age, while women were reduced to receiving aid, thus being stigmatized as a social expenditure, as spenders of wealth created elsewhere (Gordon, 1994).

To conclude this brief survey of feminist writings, a nearly century old debate in Australia gives a fascinating list of excuses for women's household labour not being paid for. Louie Traikovski surveyed the question of waged household work in the 1920s Australian Press. She

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<sup>148</sup> See also Smith for a comprehensive critique of the request to provide a wage for housework from a Marxist perspective (1978).

<sup>149</sup> This argument is close to our point about the distribution according to needs on the macro level, something that working class can only when acting on the level of society, as public services do.

<sup>150</sup> For the history of rendering nonmarket activities, including household labour, invisible in national accounts, see Byrson (1996).

demonstrated that arguments against paying women for housework are diverse, with a long history: it is unskilled work due to its diversity, contrary to man's focused effort in a single direction which was deemed skilled; it reduces a woman's status down to the same "low status as her domestic servants"; males are breadwinners and they have to provide for whatever women need; if it was the husband who paid women, it would put them in an employee-employer relationship, which has a negative impact on equality of the sexes. A decade-long debate followed the question being debated in the Australian parliament in 1921. One of the winning arguments against such wages was that women get an emotional payment in return for their household work.

Why is it that the left has been unable for so long to understand household labour as productive? It seems to me that the answer has two distinct aspects. The first is that for a century and half the left has focused its analysis of the provision (production, allocation, consumption) nearly exclusively through the extensive use and development of Marx's critique. However, the critique does not contain an affirmative understanding of such provision from an egalitarian perspective. Instead, it provides an understanding of what happens under the capitalist mode of production, the nature of its tendencies (crisis), aims (surpluses, in form of profit, rent and interest) and outcomes (exploitation, many forms of extreme inequality). From *Capital*, it is known that the capitalist mode of production extracts surpluses and stores their value, accounts for it, in the money form. It is also known that the commodification of labour power is a crucial element in this process of extraction of surpluses. Therefore, domestic labour cannot be a place where surpluses are extracted, unless its labour power gets commodified. A significant rise in women's participation in the workforce created new opportunities for capital to do this. In the most advanced countries, families with an adequately high level of income are able to afford to pay for domestic labour. Regardless, even under these circumstances, domestic labour remains a special form of wage labour, hardly regulated, out of reach of labour laws and highly underappreciated in capital's own key measure of value, in monetary terms. However, while this helps to understand the capitalist mode of production, it says little about the development-egalitarian perspective.

The second aspect may or may not be closely linked to the first one, though it is impossible to claim with any reasonable level of certainty what the case is, nor does it matter much. Namely, while focusing on comprehending, expanding and applying Marx's analysis of capital, the left did not simultaneously develop its own qualitative and quantitative understanding of the provision of

wealth from its own perspective. The way Lisa Vogel puts the problem helps to demonstrate the point:

The domestic labor literature identified family households as sites of production. Reconceptualized as domestic labor, housework and childcare could then be analyzed as labor processes. From this beginning came a series of questions. If domestic labor is a labor process, then what is its product? People? Commodities? Labor power? Does the product have value? If so, how is that value determined? How and by what or whom is the product consumed? (Vogel, 2000, p. 153)

The whole theoretical framework changes depending on the standpoint, the perspective from which one asks the above questions. Using different words, Vogel asks here the same thing that Simon Kuznets insisted on as a question that has to be answered in order to create consistent national accounts: what is the purpose of economic activities? The purpose of economic activities determines the productive boundary in national accounts, i.e. what activities are considered productive. If this is answered from the standpoint of capital, which is, regardless of its critical stance, what is found in Marx's *Capital*, one ends up with knowledge about how capital, for its own aims, understands and treats domestic labour. More precisely, understanding what the capitalist mode of production wants, what the purpose of its economic activities is and why domestic labour finds itself in such a position in capitalism cannot tell us much about how to re-evaluate domestic labour as productive from the standpoint of the emancipation of women and their activities and from the standpoint of human development. Since, as is known from Marx's work, provision under the capitalist mode of production is structurally exploitative and undemocratic, once domestic labour becomes productive for capital, it becomes, like the rest of wage labour in capitalism, exploited. This is perhaps why Marxism and feminism had such a hard time trying to unite their emancipatory theories. On the basis of what Marx says about the capitalist mode of production, household labour cannot be understood as being productive in any other sense than being productive of capital, or for capital. The same goes for the egalitarian development of the human capabilities of all: such theories cannot be advanced from the standpoint of the critique of the capitalist mode of production. *Capital* was written for a different purpose, even its subtitle explicitly states so. That seems to be clear to the vast majority of Marxists nowadays. Yet, if this was entirely clear, if no misunderstandings about the aims of Marx's critique and the ways in which his analytical framework can be used existed, how does one explain why discourses trying to combine feminism and Marxism have repeatedly hit a brick wall?

Why is it that generations of feminists have turned to Marx's critique, if it is generally accepted and known that all that one can find in it is what is good for capital, what is productive of capital, and what value is from the standpoint of capital? If generations of feminists knew all this, why would they engage with the critique at all, if all they could find in it is that productive labour is labour productive of and for capital? An explanation that seems plausible is the following: feminists were engaging with Marx's critique and Marxism in a search for a theoretical framework that would be emancipatory from both capitalist exploitation and subservience to men in general. If this is the case, then all the feminists theorists struggling with the notion of value and productivity while engaging with Marxism must have had in their mind at least to an extent the idea that to conceptualize labour as productive, must be achieved in a way that understands value and productivity as emancipatory from capitalist exploitation. That is, in a way that shows how such labour is productive of value from an egalitarian standpoint, from the perspective of the development of human capabilities. If this is not the case – if all that feminists engaging with Marxism aimed at was to demonstrate the role of household and reproductive labour within the capitalist mode of production – it seems to me that the meeting of the two would have been a far easier, far more productive affair than it has been the case thus far. I lack the space here to test this thesis in detail; a whole set of readings of feminist-Marxist debates needs to be undertaken to give a more definite answer.

Feminism seems to me to have been from the start an emancipatory activist and theoretical tradition. Yet the only possible emancipation of household labour from its current position under the capitalist mode of production is to turn it into wage labour, to commodify it. Marxist economics and Marxism in general can help track such developments, but not a lot more than that. If feminists want to work on an understanding of emancipation of household and reproductive labour and the position of women in society in general that goes beyond their integration into the capitalist mode of production, it has to be done from a fundamentally different standpoint. This would necessarily involve a different goal of economic activities to start with, and concepts of value and productivity that follow from it, different to those found under the capitalist mode of production. Whether my thesis will provide ideas towards a conceptual framework that will help such engagements to thrive is impossible to tell in advance. However, I have no doubts that some sort of human-development centric egalitarian theoretical framework has to be constructed for feminist ideas to have a chance to develop in an economic and materialist sense that is emancipatory in relation to both capitalism and the domination of men.

Without it, engagements with Marxism will continue to be frustrating and never satisfactory for feminism. However, not all Marxism remains purely within the critique of the capitalist mode of production. Michael Lebowitz, as I try to demonstrate here, does provide a way to develop on Marx's work as a whole in a constructive manner which makes progress towards creating a theoretical framework hitherto missing from workers' own standpoint.

## 6.4 Conclusion

This chapter started with an initial application of the analytical framework onto two distinct types of data sets. Looking at the last two hundred years of UK national accounts prepared the ground for the discussion. By assigning the categories of government expenditure by function to two antagonistic classes, insights were obtained into the dynamic of changes in state expenditure over time (Graphs 1-3). It was observed that the investment in workers' bundles of expenditure grew throughout the entire 20<sup>th</sup> century. I looked at the same data from Eurostat (Graph 4) and from Croatian national accounts (Table 7). Knowing what portions of those public investments reach the end user and get allocated fully according to needs requires further research in each of the main categories/sectors of investment (health, education, pensions, housing, social care, etc.). In the meantime, I produced initial rough estimates of how each of those needs (see 3<sup>rd</sup> circuit from chapters four and five) is financed and distributed, and how those needs map onto government expenditure by function in national accounting categories (Table 8). I then turned to the second set of data, the UK dwelling stock by tenure over the last four decades. Comparing the cost of renting of public and private dwellings, gave insights into the difference between the two, showing the negative impact of private ownership of rented dwellings on the reproduction and development of workers in England (Table 9).

The most important thesis put forward is that the significantly large parts of production in advanced nations constitute investments into functions that primarily serve the needs of workers, are the results of centuries of struggles of workers' organizations, movements and political organizations. They constitute, I claim, the egalitarian mode of production. Following Marx's insight that the forms in which value appears are historically specific to the mode of production, while the capitalist mode of production is the dominant one, the egalitarian production operates simultaneously alongside it, struggling against it.

Developing in detail the question of value and wealth in the egalitarian mode of production is a task for future research. However some possible options can be proposed to start



with. Marxist and neoclassical economics reject the idea that there is value in public sector outputs due to the lack of commodity form and profits. However, they observe economic activities from the standpoint of capital. From the standpoint of the reproduction of workers and the full development of the human capacities of all, I argue that public sector production does create value, at least equal to their cost of production, as national accounts also recognise. In addition, I hold that the productive activities of advanced societies are expansive in character. In the egalitarian production, where outputs are allocated according to needs, I pose the thesis that surpluses might appear as outcomes. With an overview of how different economic schools consider value when the provision of a service or a good changes, I hope to render the inconsistency, or incompleteness of such treatments of value visible (Table 10, chapter 6). It seems to me that if on the one hand economic schools aim to cover comprehensively all socio-economic activities, by leaving out public goods and services as value added, and perhaps as surplus in the form of outcomes, they are being inconsistent. If on the other hand economic schools only aim to cover socio-economic activities benefiting capital and the interests of the class which benefits from an immensely unequal distribution of wealth resulting from the capitalist production, then, given its starting standpoint, they are indeed consistent with their goals. However, such economic schools remain incomplete and insufficient as theoretical disciplines covering provision of social outputs as a whole. I accept that it is questionable whether such provision can be covered in a comprehensive manner without a firm starting standpoint which informs the whole theoretical apparatus. I have shown that there is argument for such a theoretical framework being based on the standpoint of workers, in my expanded definition of the working class, and the standpoint of developmental-egalitarian principles. This change of perspective, I have argued through a brief reading of the feminist literature, is perhaps the most urgent and most necessary for productive theoretical developments of the key issues feminism has been putting on the agenda, household labour being perhaps simultaneously the most potent and problematic one. Without such a switch in standpoint, feminist engagements with Marxism are bound to continue to be a source of frustration and misunderstanding.

## 7. Productive labour and sources of value

An important attribute is missing in table 10, modes of production and sources of value: the question of productive and unproductive labour is another way to approach the question of value. It can be seen in the table that Marx's model from *Capital* and neoclassical economics overlap on that question: public sector labour is unproductive. National accounting's judgement on this seems more useful, public sectors produce value and hence their labour is productive. This is, however, a mistaken conclusion. Neoclassical economics and national accounting have one key shared characteristic: they both reject a division into productive and unproductive labour. Two negative consequences follow from this: important distinctions about types of production are lost, distinctions which Adam Smith made, whose mistake of separating goods and services was corrected by Marx, who developed the productive/unproductive distinction further, along the lines of his understanding of the capitalist mode of production. This in turn enables unhindered classification of nearly all monetised market activities as productive – a position which suits capital perfectly.<sup>151</sup> Due to this position, national accounting and its central measure, GDP, contain some major contradictions which benefit capital and hinder calculations of national income and wealth. The most obvious example is the military, whose treatment as productive has been a point of controversy since the inception of national accounts (André Vanoli, 2006). The problems such a position creates are also visible in the neoclassical economics' wrestling with its own fundamental principle of market valuations in order to find alternative ways to measure the value of non-market production such as public goods and services. Reviewing some of the Marxist economists dealing with productive labour is useful to assess the question and its importance for a developmental-egalitarian perspective.<sup>152</sup>

### 7.1 The limits of the 'Workers' consumption bundle'

Cockshott and Zachariah, Marxist economists who write on public sector and state owned industries, provide a reading of the history of the notion of productive labour that carries the

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<sup>151</sup> There is a voluminous literature on limits of commodification and markets in capitalist societies, for a selection see (Polanyi, 2001; Radin, 2001; Sandel, 1998; Satz, 2010).

<sup>152</sup> Branko Horvat considers Marx's concepts of value and productive labour to be entirely inapplicable to a socialist economy. Faced with the same problem I am dealing with here with the category of value – the question of redefining existing economic terms and categories or constructing and naming new ones – he decided to keep the terms standard in Anglo-Saxon economic literature (1964, pp. 13–17).

same logic that applied throughout this thesis. They use example of a road as a “directly social good not assuming the form of commodity” to support their case. Paradoxically, as the production of such public sector goods and services has grown in many advanced countries, especially in Europe, it would seem that “the economy becomes increasingly unproductive”. This problematic conclusion “comes from a focus only on what is productive for capital”. In the following paragraph, worth quoting at length, the authors describe their reasoning which I find to be very close to the central claim of my thesis:

While in Smith and Marx’s day such a focus was both understandable and sided with progress — since the capitalist sector was the most advanced part of the economy — to continue with such a focus today leaves one in danger of theoretically siding with neoliberal reaction. In mixed economies containing both capitalist and socialist elements, we do not want to side with the neoliberals in defining the public educational or health systems as unproductive. In practical political economy we need a definition of productive labor that goes beyond a capitalist perspective. We need a definition that defends the more advanced social relations of our time, just as Smith’s definition did in the 18th century. A more general theory of productive labor should, when applied to mixed capitalist and feudal social formations, reproduce Smith’s and Marx’s practical categorizations, but when applied to modern mixed economies should recognize the productive character of some public rather than private labor. The property of labor being productive for capital will then be seen as a historically specific expression of the role that some types of labor play in social reproduction. With changes in social relations, whether social democratic, or socialist, the category of productive labor remains relevant, but it can no longer be defined in terms of labor being employed by capital” (2006, pp. 512–13).

Here the issue returns to that raised at the end of the previous chapter and above when discussing forms in which value appears. Is value a category specific to the capitalist mode of production, or can we potentially speak about it within other kinds of economic activity, like the public sector and household labour? In the capitalist mode of production, following Marx, I take value to be a *socially uniform objectivity*, acquired by the products of labour through the process of exchange for money. As Cockshott and Zachariah claim, there is hardly any doubt that Smith’s and Marx’s categories were developed for the capitalist mode of production as the pinnacle of advanced production at the time. Today, however, one is dealing with a mixed mode of production. Therefore, the authors claim, we require a definition of productive labour adequate

to those mixed modes, capitalist and socialist one. Analysing the privatization of a navy shipyards, Cockshott and Zachariah put forward the following thesis: “No change in juridical relations can change what was formerly unproductive labour into productive labour” (ibid., pp. 519). Authors notice the twisted logic of human activities observed from the standpoint of capital, whereby although “almost all economists would agree that activity of the Army and Navy are unproductive”, once the Navy shipyard gets privatized it may appear that it become productive. In their words: “If we accept this we would have the remarkable result that an activity that was once an unproductive use of society’s resources, had, by the magic of privatization, become a productive and useful labor” (ibid., p. 517).<sup>153</sup> The proposed way out is to disagree with Marx’s definition of productive labour depending on the social form labour takes. Therefore, Marx’s critique of “Smith’s second definition of productive labor as labor embodied in a durable commodity is probably unjustified”. Instead, the criteria the authors offer is that “productive labor includes all work necessary to the support of the direct producers” (ibid., p. 526), or put in more technical way, they provide a definition of productive sectors: “any sector that directly or indirectly sustains the workers’ consumption bundle is productive” (ibid., p. 521). Acknowledging that sectorial analysis is not fine grained enough, Cockshott and Zachariah provide an algorithm for filtering out sub-sectors which do not fit the definition (ibid., p. 523). An example of this that they provide is education of military officers, as unproductive and engineering college and primary schools as productive. Amongst a number of theoretical implications the authors list, several sectors and activities of modern capitalist economies are judged to be unproductive: “public administration, the police–military apparatus, capitalist activities such as armaments, private guards, wholesale trade, advertisement, financial and juridical services, and luxuries”. Simultaneously, parts of education seen as unproductive in Marxist discourse that can now be seen as productive (ibid., p. 522).

Cockshott and Zachariah develop their research and arguments in a direction closely related to my own. I share their starting goals and their belief that what is needed is “a definition of productive labour that goes beyond a capitalist perspective”, “a definition that defends the more advanced social relations of our time”, one that would “recognize the productive character of some public” labour, since we are dealing with “mixed economies containing both capitalist and socialist elements” (ibid., pp. 512–13). However, I think that a further, more fundamental,

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<sup>153</sup> In table 10, Modes of production and sources of value, this scenario is mapped in the second row.

shift in perspective is required; one that addresses the purpose of economic, productive activities. If the main focal point is only workers' consumption bundle, the investigation might easily remain locked up in the analytical framework suitable only to the capitalist mode of production. To arrive at a socio-economic analysis that can capture a logic by which provision (production, allocation and consumption) operates in a manner that is different from the capitalist mode of production, additional concepts are required. While a focus on workers' consumption bundle does provide a logic by which productivity can be understood a lot more from the point of view of workers, a fundamental shift away from the interests of capital to the interests of workers and egalitarian allocation is still lacking. A consumption bundle is just consumption, neutral to what the consumption actually does, what purpose it serves. As I argue in the thesis, generic consumption has to be replaced by a set of needs, and meeting those needs ought to be seen through new concepts, as I try to do with the egalitarian mode of production. In this thesis, I start developing such a logic from the needs of workers, and from the principle of the egalitarian "according to needs" allocation, which has marked workers' movements and political organizations throughout their history.

## **7.2 The standpoint of a socialist society**

In his *The Political Economy of Growth*, Paul Baran, another Marxist economist who considered activities from the standpoint of workers in parts of his work, holds the notion of productive labour to be a key argument. He claims that bourgeois economics has exhibited a determined opposition to the notion of productive labour since it has known from its own early days the "distinction to be a powerful tool of social critique, easily turned against the capitalist order itself". Baran points out how capitalist economics' decision to stick with prices fetched in markets as the only valuation of labour involves a circular logic. Due to the integral role of money in capitalist economies, using money as the ultimate yardstick to measure all labour and to determine value involves "judging a given socio-economic structure by a yardstick that itself represents and important aspect of that very socio-economic structure". The solution, according to Baran, is that "the decision has to be made concretely, from the standpoint of the requirements and potentialities of the historical process, in the light of objective reason". If one considers productive labour this way, similarly to Cockshott and Zachariah, although this cannot be confirmed by a simple formula, a long list of occupations gets reclassified as unproductive: "government officials, members of the military establishment, clergymen, lawyers, tax-evasion

specialists, public-relations experts, advertising agents, brokers, merchants, speculators, and the like". Thus, Baran concludes, a significant part of goods and services included in national accounts represents unproductive labour. To support his thesis, he quotes Schumpeter's view about lawyers as performing an unnecessary activity from the socialist perspective, and about a significant brain drain from more important sectors to unproductive ones. Furthermore, a large portion of capital investment ends up in the military, which is also to a large extent unproductive. Unemployment and underutilization of productive capacities are additional important aspects of unproductivity in capitalism (1989, pp. 143–145).<sup>154</sup> In more general terms, Baran writes, "from a standpoint located outside and beyond the capitalist frame of reference, from the standpoint of a socialist society, much of what appears to be essential, productive, rational to bourgeois economic and social thought turns out to be non-essential, unproductive, and wasteful" (1989, p. 136).<sup>155</sup>

### **7.3 Public sector & household labour: unproductive of capital, productive of value**

David Harvie provides another very useful commentary on the productive and unproductive labour (PUPL) debate: "It is in fact an irony that those 'classical' Marxists who seek to defend Marx, through, for example, their insistence on the importance of the PUPL distinction, end up limiting the applicability of his method/analysis to a small, and possibly diminishing, subset of social relations" (2003, p. 15). An example of such work, Harvie writes, is Shaikh and Tonak's categorization of unproductive work, where the authors seem to deny that there have been periods of a slowdown of productivity in the US economy. The basis on which Shaikh and Tonak's calculations show a reduced rate of in the slowdown of productivity is their exclusion of unproductive labour from total labour:

In Marxian terms, the appropriate measure of productivity  $q^*$  is the constant-dollar total product  $TP_r$  divided by the total number of productive worker hours  $H_p$ . The corresponding

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<sup>154</sup> A similar argument has been presented in the past decades due to the brain drain of the best students from all kinds of disciplines into the financial sectors. As to state investments, Baran refers to Marx's *Critique of the Gotha programme*, where Marx held the view that as society develops, the portion of overall social product used up on health care and education will necessarily grow.

<sup>155</sup> In a very good overview of the notion of productive/unproductive labour, Hunt concludes that Baran's criteria is the most useful one from the standpoint of the construction of socialism – not only as a measure to show productive labour in socialism, which would have to include education and health, but also as a critique of the extravagance and inefficiency of capitalism (1979).

orthodox measure is  $y$ , the ratio of constant-dollar gross domestic product GDP<sub>r</sub> divided by total (productive and unproductive) hours worked  $H$ .

$q^* = TP_r / H_p =$  Marxian measure of labor productivity;

$y = GDP_r / H =$  conventional measure of labor productivity.

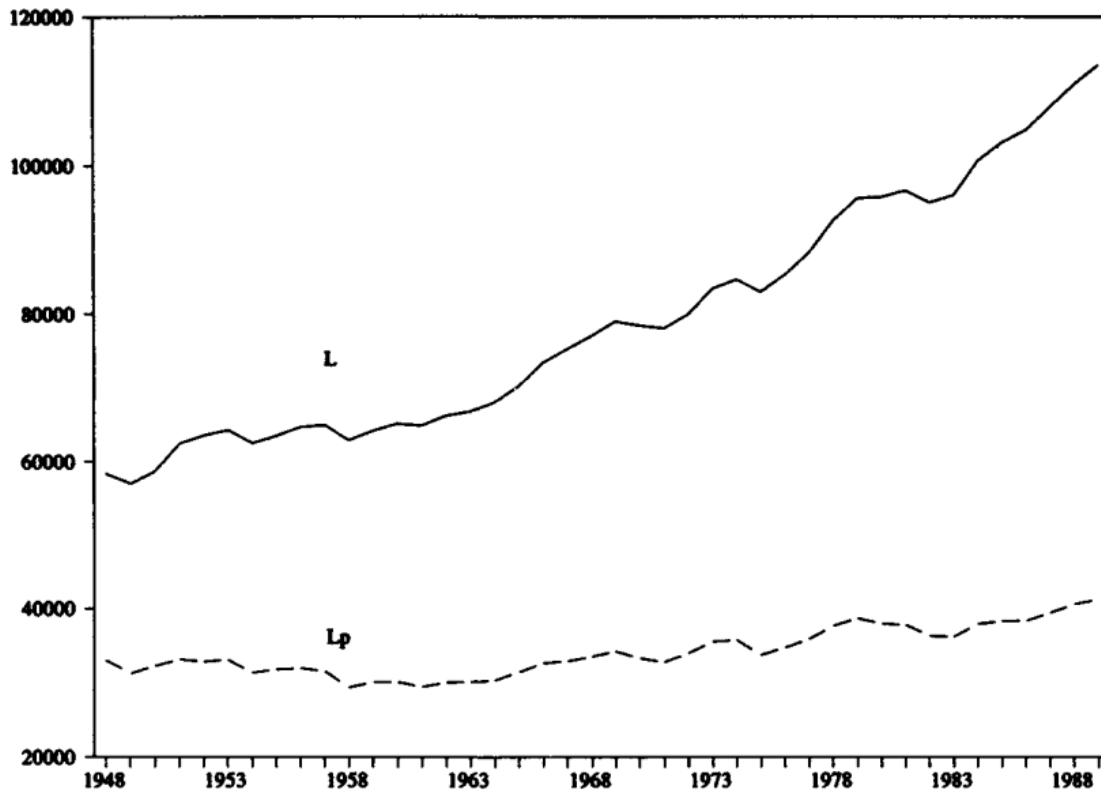
(A. M. Shaikh & Tonak, 1996, pp. 131–2)

While the TP/GDP ratio remains quite stable, the ratio of total labour and Shaikh and Tonak's category of productive labour changes drastically:

...the ratio of total employment relative to productive employment rises more rapidly in this period (because of the relatively rapid growth of unproductive employment) (*ibid.*, p. 132).

While for conventional labour productivity, the denominator, total labour, grows, for Shaikh and Tonak's categories, the vast majority of the growth belongs to their category of unproductive labour. Thus, as the conventional measure of productivity  $y$  is kept down by the growing total labour hours ( $H$ ), due to the rise of hours belonging nearly entirely to activities Shaikh and Tonak categorize as unproductive, their Marxian measure of labour productivity  $q^*$  remains a stable denominator ( $H_p$ ), resulting in labour productivity "between three and four times as large as the conventional measure  $y$  [...] which rises relative to  $y$  for significant periods" (*ibid.*, p. 132 and Figure 5.19., p. 136). The following graph from Shaikh and Tonak demonstrates clearly a large rise in total labour with only a minimal rise in the category of productive labour. In other words, almost all the growth in working hours occurs in what they classify as unproductive labour.

Graph 6. Total labour  $L$ , and productive labour  $L_p$  (thousands) <sup>156</sup>



The key question here is the following: what is this unproductive labour that grows so rapidly? The authors situate their work within the classical tradition which held the distinction between productive/unproductive labour to be an important one. Unlike the neoclassical tradition where anything that gets sold legally is considered economic activity,<sup>157</sup> their approach is based on a firmer difference between production and social consumption. For Shaikh and Tonak, production is the creation of new wealth, while personal consumption uses up wealth.<sup>158</sup> Following this logic, the authors categorize distribution and social maintenance as unproductive labour. Many economic activities that the neoclassical tradition and national accounts see as productive, the

<sup>156</sup> Figure 5.7. Total labour and productive labour (thousands). Source: Table 5.5. (A. M. Shaikh & Tonak, 1996, p. 111)

<sup>157</sup> "All potentially marketable activities are considered to be production activities", and with the exception of illegal transactions, anything that is "reflected in the sales and purchases transaction of a market economy" is held to be economically productive (U.S. Department of Commerce, 1954, p. 30).

<sup>158</sup> "Production activity uses up wealth to create new wealth (i.e. to achieve a production outcome)", while "personal consumption uses up wealth to maintain and reproduce the individual (a nonproduction outcome)" (A. M. Shaikh & Tonak, 1996, pp. 2–3).



authors consider to be using up wealth “in the pursuit of protection, distribution, and administration” (ibid., p. 2): trading (wholesale, retail), advertising, financial services, fire protection, military, police, courts, pensions, social security, prisons civil service administration (ibid., pp. 2,10,18,27). Put differently, according to the authors, the orthodox economics of national accounts “defines production activities very broadly”, while its “definition of nonproduction activities is correspondingly narrow – limited to transfer payments (such as social security, unemployment payments, etc.) and any nonmarket activities deemed to be socially unnecessary” (ibid.,6). Shaikh and Tonak divide activities of social reproduction into four categories:

**production**, in which the various objects of social use (use values) are utilized in the process of the creation of new such objects;

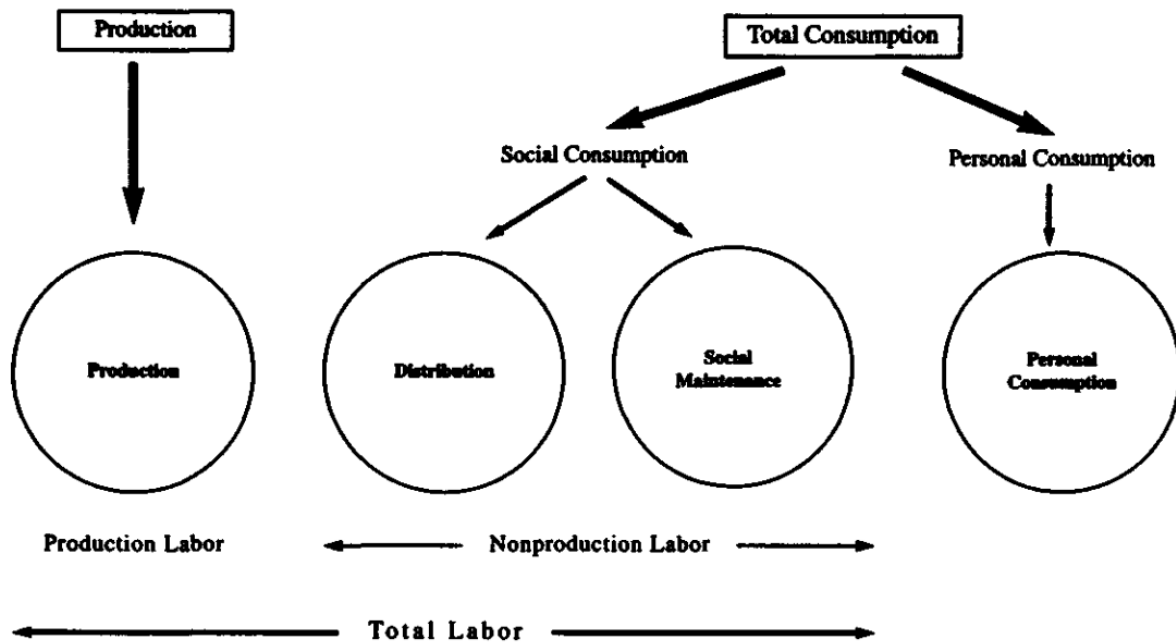
**distribution**, in which various objects of social use are utilized in order to transfer such objects from their immediate possessors to those who intend to use them;

**social maintenance and reproduction**, in which use values are used up in the private and public administration, maintenance, and reproduction of the social order by the government, the legal system, the military, corporate security personnel, etc.; and

**personal consumption**, in which the objects of social use are consumed directly by individual consumers. (ibid., p. 21—22)

Only the last activity, the authors claim, does not qualify as labour. However, of the remaining three activities, only the first constitutes production. In other words, for Shaikh and Tonak, distribution and social maintenance and reproduction constitute labour, but only unproductive labour (ibid., p. 22). They represent it with the following figure:

Figure 8 Shaikh-Tonak division of productive and unproductive labour<sup>159</sup>



Translating this back to graph 6: *Total Labour*  $L$ , the top line, is the sum of the first three activities, while the bottom line of productive labour  $L_p$  is production alone. I am now a step closer to answering the question of what the unproductive labour that grew so rapidly is: unproductive labour is the sum of distribution and social maintenance and reproduction – on the graph, it is the difference between the total labour and productive labour. Since the authors calculate unproductive labour by deduction, they do not define it explicitly in detail. From the standpoint of my research, such a deductive approach is unacceptable: it keeps the capitalist mode of production as the central focus of the analytical framework, while it has nothing to say about the reproduction and development of the workforce. For Shaikh and Tonak, productive labour “is the production labor employed in capitalist production sectors: agriculture, mining, construction, transportation and public utilities, manufacturing, and productive services (defined as all services except business services, legal services, and private households)” (ibid.,109). From the capitalist production sectors, we have to deduct nonproduction labour engaged in distribution (sales) and “labour in nonproduction sectors such as trade or finance”. The authors explain their decisions by insisting that they are following the distinction in classical political economy, where the dividing

<sup>159</sup> Source: figure 2.2. (A. M. Shaikh & Tonak, 1996, p. 29). See also Tonak’s PhD where these categories were already worked out (1984, p. 36).

line between labour (for the authors, the first three categories above) and non-labour (the fourth category, personal consumption) was not enough because “not all labour resulted in the creation of new wealth”. To distinguish between production and nonproduction activities it was necessary for classical political economists to differentiate productive and unproductive labour. Put differently:

...the classical distinction between production and nonproduction labor is essentially analytical. It is founded on the insight that certain types of labor share a common property with the activity of consumption - namely, that in their performance they use up a portion of existing wealth without directly resulting in the creation of new wealth. (ibid., p. 25)

At the start of Shaikh and Tonak’s book, the role of wealth is visible in the description of output and outcomes: “The real distinction is between outcomes and output. All activity results in outcomes. Some outcomes are also outputs, directly adding to social wealth. But others preserve or circulate this wealth” (ibid, p. 2). These categorizations, the authors claim: “will enable us to arrive at a definition that corresponds to the one Marx uses” (ibid., p. 20), and:

...the definition derived here is identical to the one Marx (1977, p. 644) uses to characterize productive labor. All other labor is thereby unproductive of capital, either because it is production labor that produces direct use values or commodities but not capital, or because it is nonproduction labor. Thus even capitalistically employed wage labor can be unproductive of capital if it is distribution or social maintenance labor (Marx 1977, p. 1042). (ibid., p. 30)

What do I make of their categorization? To start with, I am not convinced by their textual evidence that their classification is closely related to the one developed by the classical political economists, nor that it is identical to the one Marx used.<sup>160</sup> Regardless of whether they follow Marx or not, I am also not convinced that the task of a theorist is to only follow Marx’s insights, as Shaikh and Tonak explicitly state that they are doing. Quite the contrary, the task is to challenge them and strengthen and improve them where they are weak. Here I am primarily concerned with the applicability and consistency of their work. At the core of their theory lies the distinction

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<sup>160</sup> See for example Mandel’s reading of Marx’s changing views on productive/unproductive labour, from *Theories of Surplus Value*, to drafts of *Capital* and the final published versions (1992, pp. 38–52). As Harvie notes in his critique of Simon Mohun’s categorization of productive labour, Shaikh and Tonak’s position – which they are explicit about, that “it is important to note that all capitalistically employed labor is exploited by capital, whether it is productive labor or unproductive labor” (ibid.,31) – is also that “‘unproductive’ workers perform surplus labour, but create no surplus value” (2003, p. 20). The last point is entirely inconsistent with Marx, who held a view that productive labour creates surplus value. In Harvie’s words: “this really seems to be an absurdity. This seems to be the law of value without value!” For the financial sector, see Alan Freeman’s argument for the productivity of the sector for capital (2012).

between wealth creating and wealth consuming activities. For Shaikh and Tonak, wealth creation occurs only in capitalist production sectors, minus sales, trade and finance. Harvie's assessment therefore seems justified:

The effect of Shaikh and Tonak's argument is actually to deny class struggle and working-class power. The struggles which exploded in the US, and elsewhere, throughout the late 1960s and 70s are hidden behind the 'objective' increase in unproductive labour. Yet this rise in 'unproductive' labour is surely one part of capital's response to these struggles. After all, militant workers, blacks, housewives, students and others must be quietened by a combination of increased repression, on the one hand, and placation, on the other: more cops, more social spending, both 'unproductive'. (2003, p. 17)

In defence of Shaikh and Tonak's work, I would say that they are continuing an analysis from the standpoint of capital, the central aim of Marx's work. They acknowledge this in a rare moment when they discuss the existence of the other standpoint: "the rest of labor is unproductive of capital, even though it may be wage labor (in distribution and state activities) or production labor (productive of value or of use value). Marx himself does not imply that productive labor is in any way superior to, or more necessary than, unproductive labor" (1996, p. 152). There is no direct quote of Marx to verify this, but given Marx's proposition of *The historic specificity of modes of production* that I discussed in the previous chapter, it makes sense that Shaikh and Tonak are right in saying that Marx did not hold labour unproductive for capital as inferior to that productive for capital. If that is the case, this seems to validate my research in the following sense: under a different mode of production, in the egalitarian mode in this case, labour can be productive, just not productive for capital, since it does not produce surplus value in forms specific to capitalist production (profit, rent, interest).

Here I return to Michael Lebowitz's *Beyond Capital* and my reading of it from chapters four and five. Unlike the one-sided categories developed when Marx analyses the logic of capital when observing it from the standpoint of capital, Lebowitz demonstrates that many parts of Marx's voluminous work contain insights from the standpoint of workers and their development. Lebowitz develops what I call here the developmental-egalitarian standpoint, one without which there would have been no *Communist Manifesto*, which was the affirmative political motivation for writing *Capital*. When one considers this other side of Marx's work, theories like this one of Shaikh and Tonak have a case to answer for their one-sidedness. Let me put the question differently. When Shaikh and Tonak write that "there should not be any doubt that Marx himself

defined PUPL within the context of circuits of capital and of revenue for historically specific society, namely capitalist society” (Tonak, 1984, p. 43), I see this as agreeing with my reading of Marx’s proposition as to *the historic specificity of modes of production*. However, missing from Shaikh and Tonak’s account are two other circuits of reproduction, the circuits in which workers and humans more broadly act from their own class standpoint, the circuits where public services and the egalitarian mode of production originate. When workers are active in reproducing their labour power (2<sup>nd</sup> circuit), or in their own development (3<sup>rd</sup> circuit), they engage in a struggle against capital. Yet, from the standpoint of capital, such struggle, labour and overall activity is unproductive. From the standpoint of workers, or the development of human beings, such activities are not only productive, they are also points from which they initiate movement towards emancipation from the control that capital exerts over them.

#### **7.4 Extending the concept of social wage beyond purely monetary measure**

Shaikh and Tonak’s reading of national accounting heavily relies on their work on the social wage, net tax, the latter defined as taxes paid by workers to the state minus benefits and income received from it (A. Shaikh & Tonak, 1987, p. 184; Tonak, 1984, p. 6). Their findings show that, with rare exceptions, across the many countries they look at, workers paid more in taxes than they received in the form of transfers or public services i.e. the net social wage was negative (Shaikh & Tonak, 2001; Shaikh, 2003). Such an approach focuses purely on the monetary side of production and thus misses three key aspects.

First, the distribution side of public provision is allocation according to need. It is true that in the vast majority of cases this allocation does not apply universally, it only applies to citizens, excluding those who live in the territory, but do not have the legal recognition of their presence. There are exceptions. Public medical services in the UK will deal with any emergency case, including long treatments if required, which is not always the case in other countries. What matters the most is that allocation according to need would be impossible if each worker, or each family, cared for themselves.

This brings us to the second aspect, the principle of solidarity. The pooling of resources and allocation according to needs are acts of solidarity, therefore another desirable aspect of production which cannot exist with individual contributions and allocation according to individual ability to pay. What makes it special is this broad coverage, far more comprehensive than early

workers' societies (burial, friendly, mutual aid, medical aid), which significantly contributes to the third important aspect, a sense of community based on solidarity.

Contrary to the national or regional senses of community that are in many cases built on made up, fictitious symbols and stories, this kind of community building lays a foundation of unconditional solidarity based on human development. Broad allocation according to needs, acts of solidarity and the sense of community based on them are all achieved under the egalitarian mode of production, as I call it. None of this would be possible if workers withdrew their contribution to the state and spent it on an individual basis. Hence, when Tonak writes in the first paragraph of the introduction to his PhD that "the crucial question asked is the following: What is the net impact of the distributive activities of the state on the economic well-being of the working class as a whole and that of productive workers?" (1984, p. 1), it seems to me that the way he attempts to answer it, through monetary calculation and Marx's analytical framework alone, is far from sufficient.

As noted in earlier chapters, the history of workers' organizations, from friendly societies, to mutual aid organizations, unions and political parties, have been about pooling resources and the egalitarian allocation of "to each according to their needs". This egalitarian, socialist, communist principle is put in practice on a national level whenever there are public services that allocate certain goods and services according to needs. So even if the net social wage was negative, its purpose to allocate according to need, and the egalitarian principle which cannot be met if each worker is paid according to work, has been to a significant extent met – a more refined sectorial and sub-sectorial analysis is required to learn more about the extent met.

In conclusion, while there is a lot to learn from Shaikh and Tonak's work on national accounts from a Marxist perspective, its one-sidedness, its complete lack of consideration of the circuits of wage labour and human development makes the work dangerously deceptive. In the words of Lebowitz, the danger Marxist economics at large has been facing for a long time is that "in the absence of the examination of the part of workers' struggles in shaping the course of the development of capitalism, capital's tendencies are taken as objective, even technical, laws inherent in its own essence" (2003, p. 121).

The concept of the social wage is an example of how measuring the contribution of a social mechanism like public services distributed according to needs in purely monetary terms and only through the analytical framework that Marx developed to analyse the capitalist mode of production is insufficient. Furthermore, it demonstrates that public services, if seen as

production, produce more than what can be observed from monetary circulation alone. It points out that when production is observed from the developmental-egalitarian standpoint, the concepts of value and wealth have to be extended to capture outcomes, in addition to the costs of production.

David Harvie briefly touches on a categorization of labour very close to my understanding here. He asks whether it would be useful to “distinguish reproductive labour on the basis of whether it is, first, concerned with (re)producing human beings as human beings, or with (re)producing human beings as the commodity labour-power (its function), and second, whether this labour is waged or unwaged (its form)” (2003, p. 25). These categories are presented in the following table:

*Table 11. Examples of reproductive labour (ibid., p. 26):*

		Function	
		(Re)production of humans qua humans	(Re)production of humans as labour-power
Form	Unwaged	[1.1] ‘Natural’ biological reproduction, aspects of obtaining and preparing food, within family and community healing	[1.2] Many aspects of parenting, e.g. basic rules of capitalist society: ‘do not steal’.
	Waged	[2.1] ‘Artificial’ biological reproduction, aspects of state and private health services	[2.2] Education services, police, military, judicial system, etc., ‘capitalist culture’

From the developmental-egalitarian standpoint, a missing column could be named: (Re)production of the full human capabilities of all. From such a perspective, capital-centric categories have a different function to those developing human capabilities. In other words, education and the military cannot fall into the same category. Furthermore, one can differentiate education based on what it delivers and how it allocates it. Both aspects are important. If only highly capital-centric education is delivered, allocation according to need will not matter much. Even so, the possibility of capital-centric education being used for purposes different to what it was designed for, of being hacked, cannot be dismissed. The complexity of the role of education and its delivery goes way beyond the scope of this thesis. These few points serve only as pointers for future research.

## 7.5 Economic activity and human development in national accounts

From this brief review of some Marxist economists, following classical political economists, albeit from a different standpoint, one can see that a division into productive and unproductive labour is an important, if not necessary, outcome of the standpoint of workers and human development. However, once one singles out the sectors and activities which are, from such a standpoint, completely or to a large extent unproductive, the central question of the productivity of the sectors that do contribute to the reproduction of workers and to the development of the human capabilities of all remains open.

From his early works, Branko Horvat has been asking a question similar to my central query on the egalitarian mode of production: from the standpoint of a socialist economy, what is a social expense and what is a social product? In his analysis of national accounts, Horvat correctly rejects the Soviet Union model due to its omitting of services, reminding readers that such a model does not see value in public health and education. The American model, as Horvat calls today's standard national accounting, considers all state expenditure – like the military, police and arms production – as productive, which also makes it inadequate for a socialist economy. The third option Horvat considers, shortly commenting on the work of Simon Kuznets, the key inventor of the first national income accounts, is the assessment of the role government activities play for final users, instead of evaluating strictly according to their costs of production (1964, pp. 205–14).<sup>161</sup> Kuznets, whose views were quite different to those of his peers, is worth reading in a more detail. Instead of how useful it is to capital, or its being subordinated to economic theories, he held that the very design of national accounts has to start with a clear understanding of what the purpose of economic activity is.<sup>162</sup> From the very introduction to his concept of national income, he insisted that every estimate of this kind cannot escape certain subjective elements, or

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<sup>161</sup> Only the final product is included in GDP, while intermediate products are considered already calculated in the final production. This distinction is essential to avoid double counting. A trivial example is flour in bread, or cement in a building: bread and buildings are final products included in GDP, while flour and cement are not included since their value is already present in bread and building. Far more complex examples are the military, police and judiciary. Some economists categorize them as intermediate production, with the understanding that they enable the whole social production and consumption (Kuznets). Marxist economists most often see them as expenditure of value produced elsewhere, since they maintain capitalist social relations and do not contribute positively from the perspective of workers. Standard national accounts categorize them in line with the rest of public sectors, as the sum of all costs of production. In other words, everything used up in those sectors returns, loss or surplus value are not possible (United Nations, 2010).

<sup>162</sup> Kuznets claimed this throughout his work. However, I could not trace the source of an intriguing Kuznets quote in a text by Moshe Syrquin: “national income is for man and not man for the increase of the country's capacity” (2005, p. 4).



be purely objective, and that it is subject to personal judgments about, among other things, what are facts. That is why he did not believe that a productivity boundary could be determined without an ethical stance. Exclusive focus on market articles, on economic goods, he thought of as being as equally scandalous as the inclusion of smuggling and robbery into productive activities would be (1941, pp. 3–4). The concept of value expressed through prices alone, Kuznets wrote, ought to be treated as only an economic aspect, since there are for sure value and productive labour outside of market exchanges, which national accounts have to include (*ibid.*, p. 21–23). Kuznets immigrated at the age of twenty-two from Russia and became a part of the U.S. scientific elite already during his studies.<sup>163</sup> Although one can consider him as one of the most important engineers of national income accounts, after twenty years of working on initial concepts and calculation, the system introduced in 1948, gross national product, differed from the foundations laid down by Kuznets in some important respects. The core disagreement was the treatment of state expenditure, especially on the military. While Kuznets' system, net national income, classified state sectors according to their function, aiming to distinguish intermediate and final products, Milton Gilbert (Kuznets' student, appointed to head the state commission for developing national accounting) and his collaborators treated all state expenditure as final products. The key reason for this first change by Gilbert was the need to run the country during wars and during crisis. For Kuznets, military spending should be calculated as intermediated consumption, which means that it would not be added to the final product. However, to ensure wide political support for war and accompanying military expenditures, it was necessary that such expenditure does show in accounts as final, as the growth of the national product.<sup>164</sup>

For my discussion here, Kuznets' views are important for several reasons. He does not accept that valuing goods and services only according to market prices is the only option. Due to a huge difference in the distribution of income in the U.S. that he studied in detail, Kuznets claimed that national income based on market valuations cannot be considered an assessment of things that meets current or future needs of the population, directly or indirectly. Many of the needs of

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<sup>163</sup> Wesley Mitchell, one of the founders of the National Bureau of Economic Research (NBER), Kuznets' professor and the supervisor of his PhD, offered him a job in NBER straight after his studies (Carson, 1975; Kapuria-Foreman & Perlman, 1995). Kuznets published almost all of his most important works through NBER, keeping links with them all the way to 1961. He received a Swedish Bank award for economics in the memory of Alfred Nobel in 1971 for his work on economic growth. About the award, often mixed up with Nobel awards, see (Wirtz, 1999).

<sup>164</sup> Such a broad and important topic cannot be covered here anywhere near to its long term importance. Hence, this should be taken only as a brief introduction for future work. For an overview of Kuznets' life, see (Kapuria-Foreman & Perlman, 1995). See also the original debate Kuznets-Gilbert (Gilbert et al., 1948; S. Kuznets, 1948), and the following analysis (Kane, 2012).

parts of the population for clothes, food and dwelling remains unmet with market allocation (1941, p. 25). Second, insisting that state expenditure has to be classified according to function indirectly inserts the possibility of considerations of needs. This is clearly visible in the debate on war, where he uses the logic of the market, so dear to his opponents, to show how inconsistent its application is. Namely, Kuznets writes, there is no fun or satisfaction in wars. Hence, “a decision to engage in a major war can hardly be motivated by a desire to instruct or amuse members of the armed forces and employees of war agencies; or to supply thrills to ultimate consumers by parading guns, airplanes, or battleships, or writing accounts of battles as sports events” (1945, p. 4). In other words, there is no way to justify the war using the same logic used to justify products of capital, that is, as production wanted by the end user, in which the end user sees something useful. Kuznets puts forward the idea that markets and money should not be the only measure of socio-economic activities. Instead of letting markets be the sole guiding measure, he insists that a first task has to be to define the goals, the purpose of our activities. He puts his doubts across most clearly in a footnote on the opening page of his book *National Product in Wartime*:

When in subsequent discussions we speak interchangeably of ultimate ‘purposes’, ‘ends’, ‘goals’, and ‘objectives’ we refer to the productive outcome of a nation’s economy so far as it is intended and approved by the operative controls. Such aims are revealed by the functional scheme of the total economic system, whether set up by direct governmental action or established by long standing custom. It is not easy to formulate such aims consistently for periods during which an economy’s functions and problems have been radically altered or for societies with widely divergent patterns of organization and diverse problems attacked by economic means. Yet by undertaking to estimate national product, i.e., the contribution of the economy to the achievement of the intended and approved aims, the statistician implies that he has a clear idea of what the society wants. While he may ease the burden of choice by making several formulations and calculating corresponding variants of national product, each variant implies some set of ultimate objectives. Reluctant as he may be to pose as a social philosopher and pass judgment upon the net result of the economic activities of millions of individuals, that is in fact what a national income estimator does, even when he tries to base his judgment upon a recognizable consensus of the society whose economy he is studying. (ibid., p. 3)

To make the point about the purposes of activities, Kuznets' focus, most likely due to his participation in a re-adjusting of the U.S. economy to the war mode on the highest level as one of the key economists who drew the plans (Kane, 2012), was the war economy. War was for Kuznets only a prominent example of when the purpose of activities changes drastically for a period of time – national accounting in the times of war and peace thus has to be different (1945, pp. 24–6). In his words, from one of his earliest works on national income: “Being conditioned by the institutional set up of the family and of economic society, the line between economic and non-economic activity shifts from country to country and from time to time” (Kapuria-Foreman & Perlman, 1995, p. 1532).

In this context, Kuznets' work seems potentially a great source of arguments for constructing an analytical apparatus with a different theoretical-conceptual and statistical understanding of social activities, based on starting points that are to an extent given in advance, dictated by human needs and the full development of human capacities of all. The majority of existing economics, especially in its key and mainstream categories, does not allow one to do so. Not only are its aims too close to the interests of capital, but the domination of the US and the UK states and experts in the sudden development of the national accounts still has to be considered in the context of the military industries, military power and imperialist activities of those two countries. Since rejecting the whole economics discipline would be a non-selective and destructive bypassing of a vast amount of accumulated knowledge, one has to detect and bracket out its subordination to the interests of capital in each of its categories, techniques, insights and even the data one ends up using. Such an approach should allow us to construct a theoretical discipline whose aims will be developmental-egalitarian, from the perspective of workers and the population as a whole. Not all humans, nor workers active in a studied process of production or a territory, will be potentially classifiable as those who would benefit from the sort of development I am discussing here. Capitalists and their main collaborators have to be left out of the definition of common interest I am trying to move towards here. Their interest and goals, their activities and the wealth they utilize to achieve those goals, are the goals of private accumulation of wealth. They are the executive of the capitalist mode of production, the class which abides by the logic of capital, directly engaged in the daily running and construction of the capitalist socio-economic order. The results of capitalist development, I claim, are an enormous obstacle for the development of the human capacities of most people, especially those not living in the most advanced capitalist states where some, albeit delineated markedly by class, opportunities do exist

for the workers to develop themselves. Nevertheless, defining any criteria to separate such workers as a separate class comes with great difficulties (Kerswell, 2012).

Throughout the history of the left, there have been attempts to redefine economic goals through planning, accounting, prioritizing and in general to manage production to meet needs. Some of them, like the socialist calculation debate, I have left out due to their focus on markets and their acceptance of neoclassical postulates. The work of Branko Horvat, although in some important, perhaps even decisive, ways under the influence of neoclassical economics, shares some of my developmental-egalitarian goals. Although his starting point was allocation according to work (1983, p. 263), what he called the socialist principle, the analysis took him to egalitarian principles of allocation according to needs, and to a conclusion that “different access to educational or health establishment would render equality among producers a sham” (ibid., p. 277). Hence, he concludes, “health and education ought to be exempted from the exchange relationship and distributed differently from the purchasing power of individuals”. Horvat takes this logic a step further and derives the following principle:

Anything that substantially influences the development of individual capabilities must be exempt from the exchange criterion and subject to the needs criterion. [...] If prosperous families can buy better health and education for their children, all members of society would not be equal at the start, while equity is the essence of socialism. [...] For this reason, even strict distribution according to work is not sufficient for a socialist society; it must be supplemented by distribution according to needs whenever this has an important bearing on the development of talents and personal faculties of individual members of society. (ibid., p. 278)

Looking at society as a whole, Horvat accepts the division into market and non-market sectors, while non-market sectors are split into those that have “welfare content” and those who play the role of social overhead (judiciary). He lists the activities with welfare content, which “contribute to the building of personal capabilities: education, medical care, social welfare, culture, physical culture (i.e. recreation & sports), environmental conservation and creation”, that “ought to be organized on a nonmarket basis” – and names them collective goods. It is puzzling how food, shelter and clothes are missing from his list. As if hungry, inadequately dressed for the climate and homeless people can develop their capabilities, unless he considers all those under the category of social welfare. The term public goods “refers to nonmarket output without welfare content which represent a social overhead cost (judiciary, police, army, public administration)”

(*ibid.*, p. 279). Instead of prices, some sort of rationing in the distribution of collective goods is done by experts, an example being doctors who decide who needs what, who judge the needs in health and decide on appropriate allocation of goods and services. Another major element of distribution in the place of prices are political decisions, but Horvat prefers to leave this to political scientists, noting however that there is very little coming from that direction to assist us with collective goods. In another step towards a development-egalitarian model, he reached the conclusion “that every society will decide, through some sort of efficient or inefficient political process, on the share of collective consumption in social product”. He also concedes that corruption in the use of collective goods, in terms of allocation not according to individual needs, but according to the individual preferences of those who can influence the allocation, cannot be avoided. Although all of the above places Horvat quite close to my developmental-egalitarian principles, he remains attracted to markets. In an unexpected twist, he crushes the entire logic of the chapter with the following: “The welfare of the society cannot be increased by reducing the choices (that have no adverse effects) of its members. It follows that the best solution is to provide a certain limited market for nonmarket goods” (*ibid.*, p. 281). Furthermore, “collective provision of a good does not imply production by a public body”. If one can understand by this that there will be a secondary market for collective goods for those who can pay individually, and that collective goods can be delivered by private, capitalist, companies, this seems very close to the situation presented in many of the advanced countries today. For example, in the UK, there is public provision of health and education, alongside private companies increasingly delivering these services, thus implanting the logic of profit inside the egalitarian allocation of collective goods. Horvat ends his chapter with another affirmation of the primacy of needs: “Ability-developing goods will be distributed on a nonmarket basis” (*ibid.*, p. 282).

### **7.5.1 Moving the production boundary to cover governments and households**

As Vanoli notes, there have been attempts throughout the history of national accounting to include human capital in capital formation. Vanoli’s choice of sources (Vilfred Pareto, Louis Israel Dublin) for the concept of human capital hints at its extremely reductionist and instrumentalist beginning: “the estimation of the money value of a man in order to evaluate the costs of German and Italian emigration” and “estimate regarding the contribution of immigration (1820-1930) to the wealth of the USA” (2005, p. 306). John Kendrick went the furthest in conceptualizing and estimating the value of rearing humans and intangible outlays (1976). His results show that “the

value of the stock of human assets equals the value of all other assets in 1929 and 1948, and exceeds it by 15% in 1969” (A. Vanoli, 2005, p. 306). Although the concept of human capital comes from studies done from the standpoint of capital, and although the foundations of those studies lie within the neoclassical understanding – where surplus value does not exist as a category, and where all factors of production get rewarded according their contribution – Kendrick’s study and similar works seem a valuable source of insights for any future development of this project.<sup>165</sup> An immediate argument that is useful for my attempt to reconceptualise the notion of value from the standpoint of workers and the human development of all is Kendrick’s discussion on value and ownership. Imputation of rental value to dwellings owned by residents is done in national accounts on the basis of considering value regardless of the ownership over the object that delivers value. The situation is the following: when a private firm builds new dwellings and rents them out, income (counted as value in national accounts) flows to the economic agent letting the property. When a household builds its own residence, there is no flow of income. This was considered inconsistent by national accountants and an imputation of income was added to show the value that new build dwellings create for their residents. By doing so, national accountants made an important displacement of the logic of expansion of capital expressed in monetary form as the only form of value added. Following Thomas Juster (1966), Kendrick argues that it is inconsistent that the same logic is not applied to other durable goods:

If governmental units lease equipment from private firms, the equipment purchased by those firms shows up as investment, and the rentals are included in income and product. If, on the other hand, the government purchases the equipment, these purchases are not identified as investment, and the rental value is not included in income and product (except for the maintenance and repair costs). Or, if households lease equipment or buy equipment services from private firms (e.g., laundromats), the capital outlays of those firms show up as investment, and the depreciation and net return on the investments are part of income and product. But if households buy the equipment, the purchases do not appear as investment (although they are part of consumer outlays), and the implicit interest and depreciation portions of the rental values are not included in income and product. (1976, p. 5)

Both the importance and problems of the thrust of this argument for my project cannot be underestimated. Kendrick’s argument is that it is not only profit making assets that add value,

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<sup>165</sup> For a good critical account of social and human capital and the differences between the two, see Fine (2010).

government and households also do so when they utilize assets. This is a significant shift from Marx's model in *Capital*, although both arguments are about the capitalist mode of production. For Marx, governments and households can never be productive of value. Yet, government and household labour is not organized by capital, production is not profit driven, products do not take the commodity form, there are no profits and no surplus. If one abstracts from the fundamental ideological differences leading to the different conceptual frameworks, this difference in Marx's and Kendrick's understanding of value is intriguing. It may stem from the vastly different phases of the development of capitalist societies at the time of their analysis. The most significant difference I focus on here is the rise of public investment, especially the worker-centric bundle of categories visible in graphs 1-4. Moreover, in Kendrick's words:

Logic and consistency require that purchases of structures and equipment, inventory accumulation, and outlays for natural resource development by governments and households also be termed investment; that the accumulated net investment enter capital stocks (or "tangible wealth") estimates; and that the rental value of capital be included in the income and product flows. This is merely an extension of the treatment presently accorded owner-occupied residential structures and may be justified by the argument cited above—that shifts in sector ownership patterns should not affect investment, capital, or the associated income estimates. (ibid., pp. 5—6)

This is what he calls nonhuman tangibles. Human tangibles, rearing children to adults able to work, along with human intangibles and their education and time to study are other categories that for Kendrick ought to be considered productive and included into capital formation (ibid., pp. 7—9). This is all good, as it contributes toward my thesis that public sector and households can be, in different ways, productive of value. I now turn briefly to the problems. First, the concept of human capital still conceptualizes workers within the wage labour circuit of reproduction, from the standpoint of capital. Hence, when Kendrick explains that we should impute value to their use of equipment, because that is what we do with capitalist use of the same equipment, he suggests we assume they behave in the same way capitalist firms do. From my perspective, he mixes up two modes of production. A capitalist firm will use equipment in a capitalist way, making profits. Government can use the equipment in all sorts of ways, which are very unlikely to be profit making. As I have argued in previous chapters, governments invest in both capitalist and worker-centric sectors. In some capitalist centric sectors, like the military, the private sector reaps enormous profits through delivering contracts for the state. However, if equipment is used in

worker-centric sectors, where products are allocated according to needs (e.g. health, education, care), equipment would be deployed for the production of egalitarian outputs and it would contribute to the growth of egalitarian social relations. The value produced by such use is not the same as the value that Kendrick would like to impute, which is a purely monetary equivalent to the capitalist use of the equipment. In the previous chapter, I argued that we should consider that the value of public provision takes more than one form: its costs of production, its outcomes and its allocation according to needs should be under consideration as the possible forms in which value appears. While I cannot expand on this further here, Kendrick's, from our perspective mistaken blanket imputation, does provide us with a direction for future research.

### **7.5.2 Software and free software in national accounts**

The final issue I would like to address very briefly in this section is valuing software, or what is sometimes considered immaterial wealth, in national accounts. From the earliest days of economics, the concept has been problematic and there has been no firm agreement on what should count as wealth and why (das Neves, 2000; Meacci, 2012). Although there have been historical national wealth assessments, modern national accounts since the 20<sup>th</sup> century have not focused on recording wealth. While the concept of wealth commonly refers to stocks, existing assets in a moment of time, national accounts record flows of final goods and services in monetary terms, mostly at market prices, in a given period, normally in a year (Lequiller, 2006, p. 38). The total is conceived as the sum of three parts: C (consumer consumption) + I (business investments) + G (government purchases, excluding money transfers). While the 1968 System of National Accounts (SNA), the standard reference for assembling the accounts, paid only lip-service to the balance sheets and changes in assets accounts, from 1993, the SNA does contain guidelines for creating balance sheets for showing the value of assets held by households, government, firms and other institutional units (Frits, 1994, p. 202). Intangible assets, where software is classified, were also added to the asset guidelines in 1993. Although the existence of economic flows for which values in monetary terms cannot be observed was recognized in the first SNA report in 1948, the 1993 report states an important clarification (*ibid.*, p. 201):

The economic flows can be actual, observable flows or they can be built up or estimated for analytical purposes. Certain flows may be directly observed in value terms. This is the case for monetary transactions between two institutional units, such as a purchase/sale of a good or the payment of a tax. Other two-unit flows are observable but cannot be immediately valued.



These flows include barter of goods and services or education services consumed by students and provided free of charge by government; a value in money terms has to be attributed to them. (1993, para. 2.28)<sup>166</sup>

Once more a similarity between public sector outputs and hackers' production of software can be seen: outputs are free at the point of use. Thus, a value of outputs cannot be observed in monetary terms. Yet, national accounts recognize the existence of those economic flows, and attempts to measure them via imputation of monetary values.

The asset boundary, similar to the production boundary for classifying productive activities, determines what gets included in the asset balance sheets, which includes "goods and services that are used in production for more than one year" (1993, para. 10.10, 2010, p. 10.33). Before SNA 1993, software was treated as current cost, thus not contributing to capital formation. Since, "all software expenditures – off-the-shelf programmes, software written in-house and custom-designed software purchased from specialised companies – are treated as capital formation" (Lequiller, 2006, p. 403). This is a step forward for all software production as it acknowledges its contribution to wealth creation. However, for free software, the question of how one accounts for its value remains. With public sector outputs, one can account for all the inputs by using spending. Funded by a mixture of donations, corporate and public funds, and by unpaid volunteers (Alleyne, 2011, p. 506; Corbet, Kroah-Hartman, & McPherson, 2013; G. K. Lee & Cole, 2003), free software cannot be accounted for in the same way as public sector production: the inputs, labour and materials, are only partly known.

To summarize, allowing inclusion of economic flows without observable monetary value through imputation, SNA manuals provide strong arguments towards better accounting for egalitarian outputs – those allocated according to needs and without end user direct payments. For free software, an additional positive change has been the expansion of the asset boundary to include software under capital formation. Many problems remain for the inclusion of free software in national accounts, consistent imputation of monetary value being the single biggest issue. Finally, the most important issue from our perspective is the question of contribution of free software egalitarian outputs to egalitarian social relations and wealth from the perspective of the full development of the human capacities of all – this remains a key topic for future research.

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<sup>166</sup> On problems of imputing value to economic flows, see Vanoli's discussion (2005, pp. 151–163)

## 7.6 Why value?

The history of political economy and economics is packed with attempts to conceptualize value from the perspective of capital. While in the beginning the notion played an important part in political economy, neoclassical authors left it behind when they came up with a marginalist notion based upon subjective utility (John Weeks, 2012, Chapter 1). This subjective theory of prices came in handy for effectively destroying the possibility of systematically analysing capitalist economies, as it excluded everything but buyers and sellers in theoretically constructed markets that bore very little resemblance to existing capitalist economies and their economic operations (Varoufakis et al., 2011, Chapter 6). In Marxism, the most productive theoretical framework for my purpose, value is understood in various ways depending on the interpretation of Marx's work. Regardless of their differences, all the interpretations I came across accept that an exchange of commodities is necessary for value to appear. Therefore, it is not rare for Marxists to conclude that under a communist society there would be no value, while production would not be driven by the production of value, but would be planned and explicitly coordinated according to needs, as opposed to capital seeking value. To follow this logic would be to entirely discard the concept of value from my developmental-egalitarian framework. Yet, at this point in the research, such a direction seems quite counter-productive for two reasons.

The purpose of value under the capitalist mode of production is to allow coordination of production and distribution without planning; enabling commensuration and aggregation being its crucial aspects. Parting entirely with the function of value carries a number of assumptions. First, it assumes that societies wherein an egalitarian mode of production was dominant would not need an abstraction that serves a similar purpose. This assumes a close to ideal end situation in which the vast majority of production and overall provision as we know it today will be gone. My methodology does not include making such historical jumps, nor do I believe they are likely to be possible. It also strikes me as very non-materialistic in method to simply construct in our heads such complete and ultra-complex scenarios in advance. Instead, following Marx's use of history, I stick to observing the existing reality as a changing scenario that contains the seeds of the future. It does not seem constructive to reject any possible use of social abstractions like value, simple because they have developed first under the capitalist mode of production. If one rejects that, in developed human societies, forms of socially uniform objectivity can occur differently than they do in the capitalist mode of production, one is assuming that a future human society will be able

to develop planning of provision without the aid of some sort of socially uniform objectivity. Such a scenario is so drastically removed from what exists at the moment under capitalism, and from what can be imagined as being plausible in the future, that it seems utopian in an extreme and negative sense. Finally, I do not want to reject in advance the possibility that an egalitarian socially uniform objectivity is possible in a society where the egalitarian mode of production dominates. It seems to me far more plausible to consider at this point that a future egalitarian society will be a combination of planning (extending the public sector production in far more areas) and some form of coordination through some kind of egalitarian socially uniform objectivity.

Many problems are faced when re-conceptualizing the concept of value. It seems that this is due to the absence of an analytical framework able to capture the elements of what I call the egalitarian mode of production in societies, with the result that the category of value has been tarnished and left to capital as a concept that describes its operations exclusively. As early as Quesnay value was understood to belong to exchange side of the provision, because it is wealth creating. At the time, Physiocrats denied that any sectors other than agriculture were value creating and productive. All other sectors were considered as value consuming. By the time of Adam Smith, it was recognized that all sectors can be productive of value, again through the value expressed in monetary terms realised in exchange. Marx kept the link between labour and value, although in a rather complex way. Given the sometimes contradictory ideas in different parts of his vast work, space is left open for different interpretations, as can be seen in the work on value-form theorists and the work of many others, like the temporary single-system interpretation (TSSI). Most importantly, Marx introduced the concept of surplus in the capitalist mode of production. That is, the concept that once all the elements that took part in the production process are paid for, there remains a surplus. However, public services hardly existed at Marx's time; hence he did not even consider whether they were productive of value and surpluses of some kind. Value and surplus value were strictly reserved for the capitalist mode of production, for commodities and exchange. In other words, the socially uniform objectivity that value signifies was considered to be possible only under capitalism. Given that national accounts have been developed within nation states, and at the time of massive state spending to cope with the crisis of the 1930s and later the Second World War, it is not a surprise that national accounts do recognize that public services create value. They are the only branch of economics to do so. However, national accountants tend to take very conservative stances on contentious issues. For

public sector production, they count value as being equal to the total costs of production. In other words, there are no surpluses in public sector goods and services. That is not a surprise, since national accounts were constructed for the capitalist economies to cope with the crisis; they describe dominantly capitalist economies. Surplus value can be understood as specific to the capitalist mode of production and it is an essential concept to demonstrate capitalist exploitation of workers. However, I am concerned with the expansive character of socialized human labour in advanced societies. It seems to me that expanded socialized human labour can acquire socially uniform objectivity in modes of production other than the capitalist one, the public sector and free software being the two examples analysed in the thesis. Such highly developed forms of socialized labour are of an expansive character. In the simplest terms: outputs of such production are worth more to society than the sum of inputs. The value of outputs cannot be expressed in any way through their use-value, as it is only through the monetization of the mode of production as a whole that they acquire socially uniform objectivity as values.<sup>167</sup>

The biggest issues faced are the following: when the goals of provision are egalitarian allocation according to need, no abstractions currently exist that would express the forms in which the expansive character of the expended socialized labour appears. As has just been seen with monetary surpluses, with value under capitalism, the surplus under the capitalist mode of production appears in social forms, not in physical ones i.e. the surplus is not manifest as an extra material of some kind, but a social form like a quantity of some currency. My proposal is to think through whether surpluses in egalitarian production can appear in two forms: as quantity of money spent on the production, and as outcomes. Outcomes can be twofold. First, they can record that a certain need has been met in absolute terms – more housing, more health treatments. Second, as ratios of egalitarian and capitalist provision, they can record the growth or contraction of egalitarian relations, by recording the change in the portion of each major need being met through the egalitarian mode of production, according to needs. Both of those measures seem crucial to measure the changes towards egalitarian societies.

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<sup>167</sup> In the case of public sector egalitarian production the value of outputs could be obtained as the total expenditure on inputs, as national accounts do. This does not seem sufficient to me, but it's a start. With free software outputs, the situation is far more complex, and part of the solution could be to follow national accounts on this too and impute values. Practically, various statistics could be brought together to create the best view of usage of free software possible nowadays. Using market values of equivalent proprietary software, the value of free software could be measured.

I will now briefly go through the history of the concepts of value and surpluses in political economy and economics. The notion of surplus starts from William Petty in England in the 17<sup>th</sup> century. Richard Cantillon and later Francois Quesnay and other Physiocrats in France in the 18<sup>th</sup> century developed it further. All of them considered the surplus as appearing only in agriculture (Aspromourgos, 1996, Chapter 3,7; Schumpeter, 1987, Chapter 4). Aside from the political motivations behind it, the phrase *laissez-faire* was coined at the time to signify “harmony of interests in the natural order”. This was reflected in the name of the school, *physiocracy*, meaning government, or rule of nature (Backhouse, 1994, p. 71). It was with Adam Smith that other sectors also became considered as value producing. Smith retained the idea of *laissez-faire*, deriving it from his theoretical concepts: the amount of industry of a country is what limits its productivity; regulation of commerce cannot expand the industry, hence the task of governments is to maintain the commerce unregulated (*ibid.*, p.74). As Marx later realized, building his critique on close readings of Smith and Ricardo, the surplus had a monetary, value-form, and this was kept by capitalists. Reading the spirit of the capitalist mode of production correctly, Marx de-naturalized it, uncovering its aim with more precision than any of his predecessors: while the form in which value appears in capitalism is historically specific, so are its goals to achieve profits, to continuously expand. Rejecting Smith’s notion of labour productivity which excluded services (1969, Chapter 4), Marx formulated the idea that for capital every profit counts: no matter what material form a product may take, it is its social form of being commodity produced for others, destined for the exchange, that makes it productive for capital. Along an entirely different trajectory, neoclassical economists ended up with a similar conclusion, considering all profits as productive contributions, regardless of the differences in the way profits are obtained. Still, despite this similarity, the difference with Marx’s theory, especially from the macro point of view of the entire economy, are enormous. The most important difference is that in the neoclassical account, all factors of production are paid according to their contribution. Hence, although the difference between monetary inputs and outputs may be enormous, there is no such a thing as surplus and thus no exploitation in the neoclassical account: the entrepreneur can be rewarded unlimited amounts for his contribution to production, thus cancelling out the notion of surplus value that is found in Marx. However, the shared notion is a rejection of the assignation of productivity by its attributes to anything other than its being expansive for capital. For both Marx and neoclassicals, no matter what an activity is, as long as capital expands, thus achieving profits (in Marx’s accounts, rent and interest differ from other profits), an activity is productive. From

such capital-centric perspectives, public goods and services cannot have value, due to the lack of ability on the behalf of capitalists to extract surpluses from them. However, when crisis hit the advanced capitalist countries in the 1920s and at the start of the Second World War, governments had to account for their national wealth no longer from the perspective of capitalists alone, but from the perspective of national wealth as a whole. From such a shifted standpoint, national accounting considered public services as value creating, but without surplus i.e. output value is equal to the production monetary inputs, or the value public goods and services produce is equal to the total cost of their production. Finally, even mainstream economics accepts today that GDP and national accounting in general do not reflect well-being or the standard of living of populations. National accounting has been trying to address the problem for a while through the concept of outcomes, observing the results of the provision of public sector and non-market goods and services in general, as opposed to merely looking at prices in exchange. The most commonly used examples of this are increased education levels and improved health as a result of public service provision. What is seen in these outcomes and in critiques of GDP, as found in other alternative suggested macro measures, like HDI and GPI, is a recognition that in addition to prices achieved through markets, some sort of common denominator can also be found in the effects that goods and services have on populations. In other words, although outcomes still have not been included in national accounts, nor is there a socially uniform objectivity of outcomes that would supplant value, the work on measuring outcomes by national accountants, and work on alternative macro-measures, shows that the grip of the neoclassical logic of market prices as proxies for everything, the grip of exchange value and price as the only measures of the economic value of activities, has been significantly weakened. In this new understanding, both public goods and services distributed according to needs and commodities are seen as creating economic value – the changed treatment of software and the increased imputation of value in the national accounting manual being examples of this. This also suggests that outcomes and alternative macro-measures demonstrate an economic understanding that capitalist societies do operate as mixed economies, where although the capitalist mode of production is the dominant mode, it is not the only one. It follows that we ought to consider the possibility that the several decades old recognition of public provision as value creating at their total cost of production is already a recognition that those economic activities that are not undertaken to produce commodities, i.e. their end products are not produced for allocation through markets, do create value, the same type of value that the market exchanged commodities create. Once non-market goods allocated

according to needs start being included into national accounts beyond their total cost of production, for example by adding balance sheets of their outcomes and ratios of egalitarian/capitalist provision for each sector, one will be able to say that ethical elements have been brought back into macro-economics. After all, this is not new to economics. Simon Kuznets has argued for it since he constructed the first modern national income accounts. This also recalls Cockshott and Zachariah's work and their conclusion that perhaps "productive labor includes all work necessary to the support of the direct producers". Such a human development centric definition is not far from Kuznets' own definition of intermediate goods and services (those that are not counted as final products, therefore not entering in the GDP) as "what is not used directly for the satisfaction of consumers". This is reflected in Kuznets' evaluation of military expenditure in peace times as intermediate production, as value consuming, and not value producing. Quite the opposite to his categorization of the military which he did not see as productive economic activity, Kuznets would have included domestic labour as productive. Vanoli explains:

...some non-market activities, such as domestic services performed by housewives, contribute to welfare but are excluded from current compilations of national income, whereas Kuznets would agree to include them. (A. Vanoli, 2005, p. 280)

Here the full circle is arrived at; the question of economic value and household labour are joined as a single issue. From my developmental-egalitarian perspective – beyond critical needs like clothing, housing, food, health, employment and education in general, additional specific outcomes – worker self-management at the workplace and financial and management literacy of workers, play a special role.

The problem with dropping the term value is the following: what else can be used to measure the commonness, the universality and the desirability of the outcomes and outputs of the egalitarian mode of production? For now, there is no apparent alternative. By abandoning it, by accepting that there is only one law of value and one social form that value takes, that of the capitalist mode of production, all of the historic debates on value would be consigned to the pro-capitalist camp. It would also entail accepting that there is no different, egalitarian, mode of production in capitalist societies, at least not one with its own, or related, socially uniform objectivity. With such an acceptance, achieving commensurability and aggregation of socio-economic activities across sectors, an already immensely difficult and overwhelming task for generations of theorists, would become even more difficult.

## 7.7 Conclusion

Through a discussion on productive labour in Marxist economics, I demonstrated the differences in approaches to value and productivity. Some of the works I analysed – by authors like Cockshott and Zachariah, Paul Baran, David Harvie – draw conclusions broadly in line with the direction of my central thesis. Others, like Anwar Shaikh and Ahmed Tonak, stick to what seems to be a one-sided and dangerously deceptive understanding, of the same type as that which Lebowitz's criticised as one-sided Marxism described in previous chapters. The chapter ends with a discussion on national accounting through the works of Branko Horvat and Simon Kuznets. Both authors challenge the neoclassical view that measuring socio-economic activities through market prices is sufficient.

To take my research further, I will have to provide a detailed reading of recent attempts to extend national accounting by including some outcomes and otherwise neglected elements, like household labour and natural resources. Some of the important debates on the left will also have to be discussed through the positions and explanatory framework I am developing here. For example, in debates on the capitalist mode of production and social formations (Wood, 1998) my claims for egalitarian mode of production should be compared with the way social formations are conceptualized as forms of the capitalist mode of production. I will also have to address the contradiction of the simultaneous growth of egalitarian production and allocation, and the growth of inequalities within the same capitalist advanced states. In respect to the state capitalism debates that view socialist states as forms of a capitalist mode of production (Linden, 2007), my analytical apparatus that adopts the perspective of the workforce and the human development of all dictates that I start my engagement from the position that considers past and present actually existing states with self-declared socialist goals as projects of authentic workers and egalitarian orientations and practices. There is the possibility here to develop categories and starting pointers towards a macroeconomic-like framework that would give us analytical tools to evaluate both public sectors in advanced capitalist states and a wider array of activities in socialist states from a developmental-egalitarian standpoint. By doing so, I hope to provide stronger arguments for seeing the welfare-enhancing elements and their egalitarian attributes as a legacy and continuation of both workers' struggles against capital and for the egalitarian social relations stemming from the egalitarian mode of production.



## Thesis conclusion

In the course of this research, the refinement of the initial research question and the questions derived from it led to the notion of an egalitarian mode of production – this became the central theme. In the two parts of the thesis, two seemingly quite different productions, public sector and hackers' free software, have both been understood and conceptualized as instances of egalitarian production, where outputs are allocated, or made available, directly to meet needs. In both cases, products, final outputs, do not take the commodity form, nor are they distributed through markets. This makes it impossible to evaluate the contribution of egalitarian production to wealth and value creation using the existing economic schools. While in the first part I dealt with hackers' production alone, in the second part of the thesis I both developed an understanding of a large section of the public sector as a form of egalitarian production, and moved towards an analytical framework for an egalitarian and participatory conception of production and allocation.

This is where the political character of economic analytical frameworks kicks in. As soon as I started moving in the direction of understanding of productive activities that do not fit the logic of the capitalist mode of production, the politics of the existing body of economic knowledge became visible in the form of numerous aggressively placed conceptual obstacles. Not surprisingly, the vast majority of economic schools, especially the neoclassical mainstream, as argued in chapter three, deny there is a political side to their perspectives, and strive to make their analytical frameworks appear politically neutral in relation to their field and objects of study. This is the primary reason why I had to start the development of my own analytical framework with a critique of economics.

In chapter three, I demonstrated the political and class commitments of several key neoclassical authors and their theories, often directly aimed at closing down the possibilities of workers seeing their own position and interests the way Marx saw them, i.e., in fundamental and unsolvable antagonism to the interests of capital and capitalists. I shaped my reading of the history of economics as a series of hacks, claiming that many of those theorists used methods familiar to hackers, repurposing their objects of study for new and often unexpected purposes. The class agenda that drove the development of economics was most visible in two aspects. First, in the construction of anti-egalitarian concepts, and second, in the efforts to sidestep the impact of Marx's critique of political economy through a subjective interpretation of economics, and

through the shift of focus from the realm of production to that of circulation and markets as the privileged economic space ruled by consumers' subjective evaluations of utility. However, hiding behind the cloak of objectivity was far from being unique to economists. In chapters one and two, I showed that even in a seemingly apolitical field, that of hackers, the capitalist mode of production can be seen to be struggling against the egalitarian elements.

In contrast to the dominant economic schools, I argue both that politically neutral social theories are not possible, and that acknowledging the starting perspective is a crucially important step for developing conceptual foundations. This is especially the case when what is being developed goes against mainstream scientific perspectives. The perspective I start from, derived from the old socialist and communist principles, developed in chapter five and owing much to a reading of Michael Lebowitz's work, is what I named the developmental-egalitarian aims and principles: 0) full development of human capacities of all; 1) to each according to their needs; 2) from each according to their ability. This set of aims and principles provide a shift in perspective that has profound consequences. In order to achieve full development of the human capacities of all, we require provision to each according to their needs to be the aim of productive activities. Since only when everyone's needs are met, everyone can be put in a position to contribute according to their abilities. Without it, only those members of society who have their needs met through private wealth can contribute to society according to their abilities. Two more principles follow from developmental-egalitarian aims and principles. To satisfy the first aim and principle, the more provision is carried out by means of public sector allocation, the better, as it allocates products to meet needs directly, while it reduces the inequalities introduced through commodities and markets, where individual wealth – resulting from highly unequal wages, privately accumulated surpluses, and inheritance – determines the outcomes of the distribution. Without this massive shift in perspective and without new foundations formalized in the developmental-egalitarian aims and principles, I would be left with the categories developed for the capitalist mode of production as the unquestioned foundation of my thinking. Hence the analysis would be unable to grasp the partiality and historical determinacy of economics, the discipline that operates to legitimise and develop the capitalist mode of production. However, even when everyone's needs are met, and everyone is put in a position to contribute according to abilities, the production, including the allocation of time for all inhabitants, has to be structured in a way which allows contributions from everyone whenever technology makes such arrangements possible. This is where I turn back to the first part of the thesis, where the concept of open

processes, intrinsic to hackers' production, offers a useful way to think about the problem of making contributions from everyone according to their abilities possible wherever this may be plausible and beneficial.

To start with, from their earliest days in the 1950s hackers shared the products of their work and all the documents about the products and production. Once capitalists started integrating software production into the capitalist mode of production, frictions arose. The reaction of the hacker community was repurposing, hacking a capitalist technique for commodification, using copyright to achieve the opposite of its intended use: imposing sharing through licencing, instead of limiting it by imposing the commodity form. Commodities are forms in which wealth appears in societies in which the capitalist mode of production dominates. Yet, in the case of free software, a significant portion of outputs appears in the form of egalitarian products, available to everyone according to needs. Not only is such production not driven by capital, labour is not waged, nor controlled by the capitalist mode of production, but hackers' communities are perhaps the first historic example in the direction of what Marx called freely associated producers. While there are plenty of examples of projects and entire movements in other spheres of life being inspired by the openness of hacker production – open data, open government, open access – these are profoundly liberal concepts of openness. These concepts shun the fundamentally egalitarian core of hacker production in favour of capitalist friendly inventions, aiming to both bring unpaid labour into the capitalist mode of production and use such increased participation as a contribution to the legitimacy of capitalist dominance. Contrary to this, I argue that hackers' way of producing and cooperating belongs not only to the history of egalitarian and labour struggles, but to their future too. Hackers' experiences of open processes provide a notion and a history from which we can learn how to structure production to be more open wherever possible. So that, given other favourable conditions improved by the increased allocation of outputs to everyone according to their needs, everyone can be in a position to contribute according to their abilities.

My theoretical work took a positive turn once I accepted Michael Lebowitz's reading of Marx's work. The seemingly illogical lack of focus on workers' own aims and practice in Marx's *Capital* and in many Marxist works ceased being a surprise and became a logical consequence of the one-sided categories of *Capital*. Since Marx's critique was the undisputed theoretical foundation for many of the most important and established egalitarian movements, and of their theorists, the problems Lebowitz detected had long-term and profound consequences. While

Marxism enabled the development of studies of capital and its logic of self-expansion and unequal distribution, an affirmative analytical apparatus from the perspective of workers and the human development of all was, and still is, lacking. That is, there was no comparative field to that of economics that could be said to provide the theoretical foundations for understanding, observing and measuring the material organisation and reproduction of material social life that I have called the egalitarian mode of production. This is what I set out to tackle, starting from the reading of Michael Lebowitz's work in chapters three and four, where I built on his reading of Marx's circuits of reproduction, adding to the circuits the worker and the state, the main producers operating to a significant extent according to the logic of the egalitarian mode of production.

In chapter five, I formulated the conceptual foundations by putting together historically important egalitarian principles into what were named developmental-egalitarian aims and principles. Once I switched perspective to that of those developmental-egalitarian aims and principles, not only did the objects of study appear differently than they did to economics, new objects emerged while many of those that economics and its critics are concerned with lost their relevance. For example, for the capital-centric schools of research, profits are the goal, the production and distribution of goods and services serve only as the means to this end goal. Price bears all the information, while capitalist markets are meant to act as coordinating mechanisms. It is thus no surprise that for those schools the category of economic value is still firmly on the consumption side of the provision process, in the exchange. Even among the Physiocrats, the diverse French school of political economy associated with all value emanating from land, that is, from the production side, Francois Quesnay, their most prominent theorist, held a view that made wealth entirely dependent on markets and market prices. For Quesnay, although the factors that affect value were objective, cost of production based, and had to come from land, only the goods that have market value, due to their relation to other goods and services established via prices, constitute wealth (Spiegel, 1991, p. 194). From the perspective developed in the last two chapters, value, wealth, productivity and productive labour, appear differently than they do to economics. While I did not reach a fully worked-out conclusion on precisely how those categories would be established and used within the analytical framework, the last two chapters gave an outline of possible directions this might take as well as a discussion of the differences with respect to the categories used in economics and Marxist political economy.

The greatest challenges seem to be to ask the questions appropriate for the overall aims and objects of study as they appear from my perspective – this is what I engage with in chapters

six and seven. The default option, one that will no doubt be extremely difficult to overcome for any research with a different standpoint to the one mainstream economics assumes, is remaining caught in the grip of the research field and categories that economics defines and creates. There are plenty examples of how economics constructs the categories in the shape of its goals to support the development of the capitalist mode of production. To name a few: rational expectations hypothesis, value only through exchange, specific understanding of markets and capital, methodological individualism, a capital-centric definition of economic activities, productivity and growth, convergence, the efficient market hypothesis, dynamic stochastic general equilibrium, trickle-down economics. But none more than the category of the economy itself show us how far this construction of its own categories and objects of study extends (Mitchell, 2002, 2005; Syll, 2010).

From my developmental-egalitarian perspective, provision (production and allocation/distribution) is not an end in itself, while prices give us only some of the attributes, and only some elements of the provision as a whole. Given that my aim is the full development of the human capacities of all, egalitarian allocation meeting needs is my central concern. Two important points follow.

First, instead of only appearing through commodities, the wealth of societies in which the egalitarian mode of production penetrates appears both as an immense collection of outputs allocated (public sector in nation states) or made available (free software and in general any digitally storable material) to meet the needs directly. This happens both on the level of communities and through increased socialization and productivity of household labour. In chapter six, I use historical statistics of UK public expenditure, demonstrating how public investment into worker-centric provision (pensions, education, health care, welfare), a large part of it allocated according to needs, grew immensely during the 20<sup>th</sup> century, reaching recently 28% of UK GDP. The EU data shows an even larger portion, with the EU-15 countries on average allocating 35% of their GDP to worker-centric public investments.

Second, although many of the needs are relative, and they develop along with the progress of societies, the whole set of needs can be estimated and provision planned and coordinated through cooperation of productive entities. The above mentioned historic patterns of growth in the egalitarian allocation, and ever more impressive achievements of socialist countries, show that markets and commodities in the form in which they operate in capitalist economies are not the only general mechanisms for provision. In other words, the egalitarian mode of

production has been already proven on a large scale in the most advanced countries as a reliable alternative, or at least a supplement, to the capitalist mode of production. Whether the egalitarian mode can be extended to become a dominant mode of production, remains to be seen.<sup>168</sup> The answer to that question cannot be given through theoretical considerations alone.

Third, I start from the developmental-egalitarian aims and principles which form the foundation of my model. In the capitalist mode of production, apart from profits and prices acting as proxies for everything else, nothing anchors the provision. From the standpoint of capital, inequalities in meeting needs are an irrelevant factor when it comes to measuring how well the provision performs. If the profits are healthy, the economy is doing well – or so the mantra goes. What that actually says is the following: the organizations delivering the provision are meeting their goals; hence the overall economic activity of the nation is healthy.

As discussed in the last chapter, Simon Kuznets was a rare breed: the father of modern national accounting who insisted that capitalism had to come clean and define the purpose of its economic activities. This would have been an ideological watershed, as it would have unmasked many of the humanist, progressive claims that capitalist ideologues, apologists and economists continuously reinvent to convince everyone that capitalism is the best system for human development. The system of prices and markets would be a far easier target for critiques of its performance if it was forced to come clean about its goals. While capitalism measures its own successes by profits and economic growth, as my short analysis of housing in the UK indicates, from the developmental-egalitarian standpoint, profits – necessarily part of commodities and part of the provision under the capitalist mode of production – make the provision significantly costlier when distributed along the principles of individual wealth, rather than according to needs. In other words, when public sector provision is turned over to the private sector, the volume of commodities grows, while the volume of egalitarian provision shrinks. Thus, an increase in the flows of final goods and services towards consumers, showing as GDP growth, does not at all have to be beneficial from the developmental-egalitarian perspective. The judgement depends on different criteria, the mode of production that adds new flows being a crucial aspect.

Instead of taking the default route, and following the disciplinary setup of economics and its critiques, the idea that a new discipline was necessary was already present in the earliest

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<sup>168</sup> For future research, the work of Michael Kalecki on socialist planning seems to be particularly interesting from my developmental-egalitarian perspective (Kalecki & Toporowski, 1986). I did not have the space to engage with it in this thesis.

stages of my research. My initial intuition was that constructing a new theoretical discipline, or at least a branch of economics, would be necessary to capture the research field, to enable its elements – categories, objects, actors, relations and research questions – to be formed according to the developmental-egalitarian aims and principles. In the course of the research, the idea that a separate theoretical discipline was necessary was abandoned as being too ambitious to be accomplished here.<sup>169</sup> However, after three years of intensive research into economics and possible alternative starting points, it seems to me that the idea of a new theoretical discipline, or at least a sub-discipline, must not be discarded lightly. There are two key reasons in favour of keeping the idea of a possible new theoretical discipline alive and under consideration. First, the vast majority of economics is constructed according to the interests of the capitalist mode of production. Second, following Marx's central engagement in a critique of political economy, Marxist economics still tracks almost exclusively the developments within and the dynamics of the capitalist aspects of society and its capitalist mode of production.<sup>170</sup> Therefore, the human development of all and egalitarian principles and (past and present) practices still lack a conceptual-analytical framework by which they can be grasped. However, there is plenty to do before any strong moves can be made on the question of a new discipline. Such a construction cannot be done without a purposeful and selective use of many elements of economics, preferably through a set of social-theoretical hacks. By that, I mean that it is highly likely that – despite the dominance of its neoclassical mainstream and despite economics serving to legitimize the capitalist mode of production – there are plenty of elements of economics that can be repurposed, hacked, beyond their intended use. Furthermore, the wide availability of macroeconomic data, and moves toward openness of government data in general, provide, albeit in a very specific context described in the introduction to the thesis, many opportunities to engage with the existing data sets. Understanding how economics structures and uses the data in

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<sup>169</sup> A couple of posts on Hack the State blog from 2010, where I placed drafts during the first part of my PhD research, already contained the notion of communism hacked with open processes, or commu(o)nism, as I called it at the time (Prug, 2010). The idea morphed into *communomics* as the name for this new discipline (Prug, 2011, 2012a). However, after consultations with number of colleagues, including a convincing peer review for a conference paper by Marxist economist Alan Freeman, only a few colleagues, and in very limited ways, came out in favour of such a bold move, while many pointed out various reasons for sticking with working within economics and its Marxist critique.

<sup>170</sup> The work of Michael Lebowitz still does not enter much into economics, but it is of the utmost conceptual importance. Although with quite a different trajectory and research field, the work of Paul Cockshott and Alin Cottrell moves into the direction of construction of an egalitarian theoretical discipline (P. Cockshott, 2010; W. P. Cockshott & Cottrell, 1993, 1999).

the ways specific to the capitalist mode of production will be the key for hacking and constructing categories and procedures for the reuse of the data from a developmental-egalitarian standpoint. While the capitalist mode of production restricts openness to only some aspects of the political sphere, in the egalitarian mode of production, the openness of the labour processes is the key element that has to be emphasised. Openness as it has been developed in the last decade, within the boundaries set by the capitalist mode of production, is still a potentially very useful step.

As my research into hackers' communities shows, egalitarian practices and elements for conceptualizing the egalitarian mode of production can be found in unexpected places. I have noted the following, both in the creation of open source and in privatizations of public sector production: when the capitalist logic conquers, a huge apparatus of rational thinking backs up the plausibility of its claims. That is, it shows that spreading of the capitalist mode of production is the best option for the production of new wealth and value, and thus for human development as a whole. In my research here, I tried to provide a counter plausibility by laying down the foundations from the perspective of the human development of all. This different form of development requires its own adequate categories, macro-measures, and further, an expansion of society-wide solidarity and provision according to needs.

Most importantly, were I to rush to construct a new theoretical discipline for the egalitarian mode of production, I would risk skipping over the detailed readings of the histories of egalitarian movements and their achievements, a reading necessary for examining the logic of egalitarian production, regardless of the order in which it appears historically. From the Jacobin communists (Rose, 1978) and early worker and feminist organizations throughout the world, via East European former socialist states, African anti-colonial movements and social democracies of the 20<sup>th</sup> century, to the ever-resilient socialist nation of Cuba, Indian communists and Latin America today, with special cases like China and their peculiar hybrid system – all of the histories and realities of the egalitarian struggles, their defeats and victories need to be re-read in the context of this research and the questions it poses.

Future work should focus on the following set of key research questions: what did people struggle for in each of those instances; what was the internal logic of their production; how was labour socialized; which concepts and categories reflect similar types of struggle adequately today; how do we capture what people struggled for in the past and what they struggle for today in measurable and perhaps commensurable ways; how do those struggles and demands fit into the construction of the framework of human needs necessary for the full development of the



human capabilities of all; which are the classes in conflict i.e. who is the egalitarian class subject of today; and finally, what can we learn from them about hacking, about repurposing and modifying the opposition's arsenals? This is the path along which the further development of the egalitarian mode of production, its concepts, categories and measurements, ought to proceed.

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