# A Critique of Binary Economics and its Principles

# In Light of the current EU-Initiative to promote Asset Formation

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**Master Thesis**

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## ABSTRACT

This master thesis formulates a critique of binary economics, a heterodox economic theory. Following Louis O. Kelso's argumentation in *The Capitalist Manifesto,* the binary theory holds that there are two independent productive factors in capitalism: capital and labour. Capital is assumed to be significantly more productive than labour. For this reason binary economists call for the diffusion of capital ownership in order to break the vicious cycle of further concentration. The aim is to build a society based on the binary principles of distributive justice by implementing asset formation policies which facilitate the accessibility of credit for non-owners. The research question of this master thesis is why binary economics is incompatible with Marxian theory, despite the fact that both seem to tackle the issue of power over means of production, by looking at the roots of socio-economic inequalities. The thesis is that binary economics and its principles apply, in most aspects, to what Marx referred to as 'fetishism' of the capitalist mode of production.

## List of Abbreviations

| | |
|---|---|
| C | Commodity |
| c | Constant capital |
| v | Variable Capital |
| M | Money |
| GDP | Gross Domestic Product |
| CSOP | Consumer Stock Ownership Plan |
| ESOP | Employee Stock Ownership Plan |
| CDRC | Commercial Diffusion (Re)-Insurance Cooperation |
| ECB | European Central Bank |
| EFP | Employee Financial Participation |

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## INTRODUCTION

This Master Thesis aims to accomplish a degree in European Studies at Europa-Universität-Viadrina. The interdisciplinary degree focuses primarily on inherent problems of European integration. After the catastrophe of two world wars, the most influential narrative for this integration process might have been to ensure peace and create a community of values. Based on this, one major driver for the European integration process is the idea that a single market would ensure, firstly, peace by creating interdependencies and, secondly, wealth by preserving prosperity through global market positioning and, thirdly, an efficient allocation of resources.

Article 3 of the Treaty on the European Union says: *"The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress (…)It shall combat social exclusion and discrimination, and shall promote social justice and protection (…)It shall promote economic, social and territorial cohesion, and solidarity among Member States."*[1] The European dream of a supranational institution which guarantees democratic rights, prosperity and social security is alive and is still a strong argument within the EU's enlargement policy. Apart from the very new members (e.g. Romania) and the victims of the Eurozone crisis (e.g. Greece), EU citizens have a relatively high standard of living compared to other parts of the world. There are various factors which contributed to the wealth of Europe. From colonialism and imperialism to high competiveness in productivity, each factor (there are more!) has its own ideological narrative. However, only a few would argue that the relatively high standard of living for <u>all</u> is due to the achievements of the historical European labour movements and the creation of the democratic 'Welfare State'.

In the second half of the 20th century, the welfare state managed to calm the class struggle which is usually attributed to 19th century Europe. After World War II, a 30-year period of high growth rates allowed a lot of the Western European countries to redistribute a high

[1] (EU, 2008), 17.

proportion of the accumulated wealth from capital to labour. An egalitarian society within a capitalist system was created. In these so-called 'Trente glorieuses' the process of European integration had already taken place. Since the 1970s, however, this process has paralleled times of austerity, times of low growth rates, increasing unemployment and increasing public debt in the founding member countries of the European Communities. As a consequence, national governments started to transform the welfare state. According to Esping-Anderson, the general direction of this transformation could be described as the 're-commodification' of the labour force, that is to say wage-dependent people could still count on redistributive measurements, but to a successively lesser degree.[2]

Concerning the implementation of social policies, the functions between the EU and its member states are clearly allocated: social legislation is supposed to be merely a subject of the member states, whereas the social policy of the EU is basically limited to the free movement of EU-citizens, a non-discrimination principle, minimum standards in occupational safety and working conditions, corporatist elements within European company regulation as well as the so-called "open method of coordination".[3] However, the key objective of the EU is to ensure and develop a liberal single market. For this reason, a lot of the directives and regulations decided within a complex structural framework of the EU tend to clash with national welfare policies.

The EU seems to foster and accelerate the transformation of the 'Welfare State' from a predominantly egalitarian society towards rising socio-economic inequalities. The development of the Gini-coefficient from the 1980s until 2008 indicates that the majority of the EU's member states were facing a trend of increasing inequality in income distribution.[4] In his popular book *Capital in the Twenty-First Century,* Piketty puts forward the thesis that under conditions of austerity there tends to be a shift of socio-economic power from labour to capital. His extensive collection of statistical data indicates that, in contrast to the meritocratic idea that anyone who works hard could become rich, capitalism with low or stagnating growth rates tends to accumulate capital for the already wealthy. Thus, widening the gap between rich and poor; owners and non-owners. *"In Europe today, the capital/income*

[2] See: (Esping-Andersen, 2013).
[3] See: (Lechevalier & Wielgohs, 2010), 33.
[4] See: (Perrons, 2010), 22.

*ratio has already risen to around five to six years of national income, scarcely less than the level observed in the eighteenth and nineteenth centuries and up to the eve of World War I."*[5] The transformation of the 'Welfare State' from a de-commodification type towards an employment-activating social security system, is characterised by an increasing number of tax evasions and other supply-side policies. Lower taxes on assets and higher incomes fostered a distribution of wealth which favoured capital, to the detriment of labour.

In this context, an old discussion resurfaced: asset formation in the hands of employees. In 2014, the European Commission started a pilot project to promote Employee Financial Participation (EFP), followed by a resolution of the European Parliament. The key objectives of this initiative are, firstly, to reduce barriers in order to set up cross-border EFP-schemes, secondly, to raise awareness for EFP, especially for small and medium sized enterprises and, thirdly, to provide information on the legal situation and fiscal treatments of the EFP-schemes amongst member states in the European Union. There are various EFP-schemes which differ in details, e.g. there is the debate whether capital income should be paid on top of or as a part of the salary. Two major goals of asset formation policy can be summed up as follows: firstly, financial participation schemes are assumed to enable wage-dependent people to achieve individual independence and freedom. The idea is that they could hold back their own labour power, could expect better labour conditions and could have the freedom of leisure. In exchange for freedom and the share of profits, proponents of EFP-schemes often argue that employees would become more loyal to the enterprise. Secondly, for reasons of distributional justice, employees should participate in the productive assets of society with their individual assets and democratic rights.

This paper aims to examine one influential ideological and theoretical root of the asset formation idea: binary economics. In the 1950s, Louis O. Kelso, an American lawyer and investment banker, published *The Capitalist Manifesto,* the first book of binary thought. Over decades, this book has been a source of discussion in relation to capitalism and claims to offer an alternative to the existing system. In line with neoclassical theory, Kelso principally defined capital as a productive factor and as an agglomeration of physical objects. However, in contrast to neoclassical theorists, Kelso believed in capital concentration due to a shift in productiveness from labour to capital. Due to technological progress, labour would become

[5] (Piketty, 2014), 232.

less productive and capital more productive. Following on from this, it was thought that wages would fall, culminating in increasing inequality between capital owners and non-owners. Hence, Kelso believed that the reason for income inequality was rooted in an unjust property relation, allowing for a small number of capital owners to contribute a majority to wealth production and, therefore, reap the majority of the resultant income.

Kelso saw the potential for a class-free and just society in the diffusion of capital ownership. Alongside his colleagues, he developed several practical tools for privatising assets. The most famous one is considered to be the ESOP (Employee Stock Ownership Plan), which enables employees to become owners of their company by enabling them to invest in new stock. The CSOP (Consumer Stock Ownership Plan), on the other hand, was conceived in order to enable consumers to access credit and, therefore, purchase new capital. According to Kelso these asset formation policies, supported by innovative credit mechanisms, would give non-owners the chance to participate in the economy by transforming them into owners. Binary economics opposes the idea of a redistributive welfare state and claims its tool of asset formation policy can provide an adequate alternative. This paper aims to question basic assumptions and the theory of binary economics by formulating a Marxian critique on asset formation policy.

Contrary to binary economics, Karl Marx theorised that the essence of capital was neither physical nor financial. Based on the classical assumption of perfectly working competitive markets, Marx points out that capital is always in motion, perpetually accumulating at a compound rate. He defined ‘capital’ as a legal, social, and political category: capital could be machinery, it could be money, it could be variable and it could be fixed, but it is always in motion to extract surplus from the labourer. The driving force of capitalism is, according to Marx, the rate of profit because capital is self-expanding value. Capital accumulation requires accessible labour power which is free of means of production; class struggle is, therefore, a product of the nature of this mode of production. The contradictions between Kelso’s and Marx’s definition of capital are crucial in the understanding of why welfare policy has evolved into what it is today, concentrating primarily on the redistribution of profit, something Kelso was vehemently against.

The research question of this master thesis is why binary economics is incompatible with Marxian theory, despite the fact that both seem to tackle the issue of power over means of production, by looking at the roots of socio-economic inequalities. The thesis is that binary economics and its principles apply, in most aspects, to what Marx referred to as 'fetishism' of the capitalist mode of production. Thus, the system itself disguises the only source of wealth which is human labour per se. (Neo)-classical theory and binary theory find common ground in formulating models based on, from a Marxian perspective, shallow perceptions of the general laws of motion of capital.

The paper is divided into two parts. Kelso's plan for the diffusion of capital ownership through credit contains assumptions which, to some extent, are in line with classical or neoclassical thought but, on the other hand, are fundamentally contradictory to these established scholars. The first part gives an overview of the basic assumptions, a summary of the theory of binary economics and puts it into a context with neoclassical theory. Furthermore, it introduces the reader to the binary financing plan, which binary proponents claim to be a stimulator for economic growth. The second part firstly offers an introduction to the framework of *Capital* and an epistemological classification of both Kelso's and Marx's theories. Secondly, the binary assumptions will be discussed in conjunction with Marx's *Critique of Political Economy.* The binary theory is here confronted with Marx's understanding of the categories of value, money, capital and credit. The key points of discussion could, therefore, be summarised as follows: utility theory of value vs. labour theory of value; neutral vs. non-neutral money; capital defined as a 'thing' vs. capital defined as a process; and, lastly, a discussion of credit as a tool for economic freedom vs. interest-bearing capital.

It is important here to define the angle of interpretation of Marx's argument. There are plenty of Marxian scholarships, which range from communist, orthodox, structuralist, humanist to analytic Marxism. A deep analysis of all these interpretations would go beyond the scope of this thesis. This thesis takes a non-orthodox approach of Marxian theory, in line with the theoretical analysis of David Harvey's and Michael Heinrich's literature. Both authors, alongside Marx's texts, are key secondary sources to the central critique of this thesis.

## 1. Binary Economics

*The Capitalist Manifesto*, published by Louis O. Kelso and Mortimer J. Adler in the 1950s, is the progeny of the competition between two economic systems, i.e. two ideologies: communism and capitalism. The Soviet Union and its satellite countries with their aspirations to build a class-free society challenged the western model of capitalism. *The Capitalist*

*Manifesto*, as the title suggests, was a response to Karl Marx and Friedrich Engels' *The Communist Manifesto* which was written one century earlier. Both were in their late 20s when it was published in 1848 as a political 'Kampfschrift' (pamphlet) for the Communist League. According to various rankings, *The Communist Manifesto,* is one of the most widely distributed books in history alongside the Bible. It is not surprising that Kelso and Adler wanted to jump on the back of its popularity: "*The Capitalist Manifesto is intended to replace The Communist Manifesto as a call to action, first of all in our own country (USA), and then, with our country's leadership, everywhere else in the world.*"[6] *The Capitalist Manifesto* is not only a reflection of Marxian theory and, what Kelso calls, the existing centralised 'State Capitalism' of the Eastern Bloc, but also an extension of classical assumptions and a critique of the Keynesian policy model which appeared to rule the Western system of his time. Kelso refers to this redistributive state system as 'Mixed Capitalism'. Kelso calls for a new 'Capitalism', spelled with a capital 'C'. This Capitalism is offered as a Third Way in *The Capitalist Manifesto*, as a compromise between the two competing systems of communism and capitalism, based on the principles of 'binary economics'.

Binary economics is concerned with distributive justice which cannot be realised without ensuring the opportunity for everyone to acquire sufficient capital income, something that would have to be added to the traditional paradigm of economics. In the course of industrialisation, capital (in the binary view, understood as advanced technology) becomes the chief factor of production, but is unfortunately concentrated in just a few hands. Therefore, the majority of people are wage dependent although, under binary terms, their labour contributes only 10 percent to production, whereas 90 percent of production is reliant on capital input. This means that those who control capital should receive 90 percent of the wealth produced, and the labourer 10 percent.[7] The new paradigm of binary economics, however, would make the duality of capital and labour input the central point of analysis as well as constituent to a legislative program. By rejecting the so-called classical labour theory of value, which would presumably entitle labour to consume all wealth, binary economists emphasise that capital, as a productive factor, does not only reclaim a share in production but equally in distribution.

[6] (Kelso & Adler, 1958), 14.
[7] See: Ibid., 53.

In functioning welfare states, income inequality might be balanced out through redistribution. As stated above, Kelso, in principal, rejects any redistributive measures. He formulates three normative principles in his vision of Capitalism which shall ensure distributive justice instead. Firstly, the principle of distribution: *"Among those who participate in the production of wealth, each should receive a share that is proportionate to the value of the contribution each has made to the production of that wealth."*[8] Secondly, the principle of participation: *"Every man has a natural right to life, in consequence whereof he has the right to maintain and preserve his life by all rightful means, including the right to obtain his subsistence by producing wealth or by participating in the production of it."*[9] And, thirdly, limitation i.e. limit the participation in production so that all have a chance to contribute and gain a viable income. On the basis of these principles, Kelso calls for the diffusion of capital ownership through the accessibility of credit.

Although a lot of people nowadays can receive housing or consumer credits relatively easily, credit for capital formation is usually available to people who already own capital and can use it as a guarantee.[10] Therefore, inequalities, injustice and poverty, in theory, would not be due to labour receiving insufficient remuneration, but due to a systemic lack of access to credit for capital formation for certain individuals. The ambitious idea of binary proponents is to make the poor richer, without making the rich poorer, by stimulating binary growth. *"Binary economics holds out hope for those without access to capital."*[11] The hope finds its expression in a legislative program, proposed by the Kelsos (the married-couple, Patricia and Louis). The economic reform towards Capitalism proposes to make credit available to all. The basic idea of this plan is to create incentives and securities for potential lenders by implementing both a private and a public insurance in order to diversify risks for the credits of the repositioned market participants.[12]

### 1.1. Basic Assumptions and the Affirmation of Say's law

The binary theory is based on the following assumptions: Binary economics assumes that there is a competitive market economy with (1) barrier-free market entry; (2) a sufficient

[8] (Kelso & Adler, 1958), 80.
[9] Ibid.
[10] See: (Ashford, 1994), 99-100.
[11] (Gauche, 2014), 3.
[12] See: (Ashford, 1994), 101-102.

number of buyers and sellers so that no single participant can influence market prices; and (3) freedom from collusion among market participants. This would lead to an equilibrium whereby each individual contribution to total wealth equals the amount an individual receives.[13] The individual's contribution to the production process *is evaluated objectively and impartially through the processes of supply and demand in freely competitive markets (…)*.[14] So far, these basic assumptions do not differ from the orthodox school of economics. However, the further assumptions of binary economics sound heterodox by holding that: "*(1) labour and capital are equally fundamental or "binary" factors of production, (2) technology makes capital much more productive than labour, (3) the more broadly capital is acquired with the earnings of capital the faster the economy will grow.*"[15]

According to binary economists, conventional economics trivialises the impact of human and non-human factors in production. Ricardo established three productive factors in classical economic theory: labour, land and capital stock. Binary economists chiefly adopt this trinity but, referring to Locke in *The Capitalist Manifesto,* Kelso transforms it into a duality of innate and acquired productive property: "*So far as property having economic significance is concerned, the only form of innate property is the productiveness that is inherent in a man's bodily strength and mental skill. (…) Acquired property consists in all things external to a man's own person, which he not only possesses but also establishes his right to control.*"[16] Kelso sees acquired property, such as machinery or land, as a productive factor in itself which enables its owners to contribute to wealth in addition to their innately possessed labour power. "*Capital wealth includes everything used to produce wealth except labour; it is the non-human factor of production.*"[17] In binary economics, capital is basically defined as a thing, i.e. the means of production which independently contribute to the production of wealth, which then becomes distributed according to the ownership structure of an economy.

Binary economists affirm Say's law and assume that the purpose of production is consumption. "[Say's law] *holds that in a market economy the aggregate market value of the wealth produced is equal to the aggregate purchasing power created by the process of*

[13] (Ashford, 1994), 109.
[14] (Kelso & Adler, 1958), 59.
[15] (Ashford, 2012), 1.
[16] (Kelso & Adler, 1958), 56.
[17] (Kelso & Adler, 1961), 5.

*production."*[18] The French economist Jean-Baptiste Say stated, in other words, that every sale is a purchase and every purchase is a sale. The law implies that every supply would create its own demand, therefore, a problem such as overproduction could not occur. However, in the course of the global economic crisis of 1929, the law's validity was questioned. Keynes refuted the law and claimed that in an economic crisis overproduction could indeed occur due to a 'liquidity trap'. Keynes coined this term to define a situation in which people decide to hold money because of insecurities in the market. For this reason, there would be a lack of investment and, thus, an oversupply confronted with a lack of effective demand.[19] Kelso, on the other hand, reanimated this controversial law by formulating it in binary logic ascribing the lack of effective demand to an absence of broad-based capital ownership.

Kelso's affirmation of Say's law derives from his own understanding of the aforementioned 1929 world financial crisis. Although Kelso agrees with Keynes that the cause of this turmoil was primarily ascribed to underconsumption resulting from a lack of effective demand, he disagrees with him that this has anything to do with falling wages and false economic expectations. In Kelso's theory, the economic equilibrium was in shock because although wages seemed too low they were actually too high when considering the exceeding productiveness of capital instruments in comparison to human labour. According to Kelso, the actual reason for an ongoing disequilibrium is, rather, concentrated capital ownership, which allows only a few to earn the fruits of capital income and leaves the rest to poverty or to unjust measurements of redistribution. Traditional economists would have failed to adjust Say's law to an industrialised economy, because they mainly acknowledged labour as the primary source of income. In this respect, binary economics opposes Keynesian thought and also does not completely line-up with neoclassical thought which promotes supply-side policies in the hope of stimulating capital investment which would, in turn, lead into prosperity. "*In its embrace of Say's Law, binary economics takes exception to both approaches, maintaining that questions of consumer supply and demand must be addressed simultaneously in the very process of capital formation and capital transfers."*[20]

### 1.2. Utility Theory of Value

[18] (Hetter & Kelso, 1967), 10.
[19] See: (Harvey, 2010), 67.
[20] (Ashford, 1994), 107.

Kelso's affiliation with the theoretical field of classical/neoclassical economics is probably most striking when it comes to the binary understanding of value. In *The Capitalist Manifesto* only a small chapter is dedicated to this issue. The chapter does not offer a definition of value based on a profound analysis, but is rather formulated as a rejection of Marx's labour theory of value. It is important to note that Kelso mistakenly sees Marx as consistent with Ricardo. Kelso states: *"If the labour theory of value were true—that is, if labour and labour alone were the source of all value in economic goods and services—then labour would be entitled, in strict justice, to the whole of the wealth produced."*[21] Upon a closer look, this would imply that the owners of capital instruments are entitled to nothing, which does not make any sense according to the binary logic and the principles of distributive justice, cited above. For this reason, Kelso discards the *"fallacious"* labour theory of value and seeks a replacement which supports his own theory of capital and labour as independent productive factors.[22]

Kelso finds support in Aristotle who was the first philosopher who raised the question of value and how to equate <u>qualitatively</u> different commodities. Aristotle says: *"Money, then, acting as a measure, makes goods commensurate and equates them; for neither would there have been association if there were not exchange, nor exchange if there were not equality, nor equality if there were not commensurability. Now in truth it is impossible that things differing so much should become commensurate, but with reference to <u>demand</u> they may become so sufficiently."* (Emphasis my own)[23] Aristotle acknowledged the need for commensurability in the exchange of equivalents and he finds it in demand. Kelso adopts this theory and defines value as a matter of opinion which is yielded by a free competitive market. "*Only where free and workable competition exists does the value set on things to be exchanged reflect the free play of the opinions of all, or at least many, potential buyers and sellers."*[24] Money is, here, the equivalent measure of value. That is to say, in a free competitive market economy, money functions as a medium of exchange which evaluates each individual's contribution to the production of wealth and, accordingly, each individual's share of distribution.[25] Kelso notes: *"In a money economy, the unit of measurement of value is, of course, the unit of money employed."*[26] Kelso does not elaborate on this definition. It is basically all he has to say about

[21] (Kelso & Adler, 1958), 71.
[22] Ibid., 70-71.
[23] (Aristotle, 2013), 129-130; partly quoted from Ibid., 70.
[24] (Kelso & Adler, 1958), 70.
[25] See: Ibid., 58; 80.
[26] Ibid., 71.

money. But by referring to Kelso's definition of value, one could add that, on his terms, money measures the utility or social benefit of each individual's contribution to wealth.

Kelso's definition could be seen as consistent with the view of the French economist Léon Walras who also rejected the labour theory of value. In *Elements of Pure Economics* Walras states: *"Surely if labour has value and is exchangeable, it is because it is both useful and limited in quantity, that is to say because it is scarce. Value thus comes from scarcity. Things other than labour, provided they are scarce, have value and are exchangeable just like labour itself. So the theory which traces the origin of value to labour is a theory that is devoid of meaning (…), an assertion that is gratuitous rather than inacceptable."*[27] In line with Kelso, Walras rejects an objective theory of value and frames a subjective one, i.e. he explains exchange-value with subjective benefit.

Amongst others (Jevons, Menger and originally Gossen), Walras is seen as one of the authors of the utility theory of value. In this theory, the economic events in a society can be logically deduced by starting from the assumption that individuals are utility maximisers who optimise their expenditure in circumstances of perfect competition. Therefore, the price (here synonym for value) of a commodity is the result of the subjective assessment of demanders and the scarcity of supply.

Gossen's first law of diminishing marginal utility assumes that there are unlimited needs in a society; but that there is a limit to any individual need. The law says that the overall benefit of a good for an individual increases with the volume of goods possessed; but the rate of benefit gain is slower than this rise of volume. If the quantity of goods increases at a constant rate, the resultant benefit would increase at a decreasing rate. In other words, an individual takes advantage of the additional benefit from an increased quantity of goods, but, with a greater volume of goods possessed comes the eventual decline of additional advantage.[28] The needs of one human compete with each other.

When Kelso says that value/price is a matter of opinion, he could be referencing Gossen's second law. This states that the budget for an individual is optimised through the allocation of the last unit of money for Good A or B, both of which provide the same utility for the

[27] (Walras, 2003), 202.
[28] See: (Robinson, 1968), 61.

individual. If the last unit of money spent on Good A bought a quantity with less marginal utility than Good B (which could have been bought with the same money), then the individual would have been better off buying more of Good B. The exchange of commodities takes place if the marginal utility is the same for the exchange participants. According to Gossen's second law, marginal utility and marginal cost of goods explain why these needs are satisfied in equilibrium, where the ratio of marginal utility to price is equal across all goods and services.[29]

Walras' general equilibrium theory is formulated based on the price-formation process in a market with many participants. Thus, according to Walras, the price-formation process results in the aggregation of supply and demand functions, based on the individual assessments of benefit.[30] In the further development of the general equilibrium, the assumption that individuals are utility maximisers was more or less discarded, because utility and marginal utility are not sufficiently quantifiable and are, therefore, seen as impractical. Henceforth, personal preference replaced utility, that is to say the economy became a special case of rational choices.[31]

With the subjective utility theory of value and its related general equilibrium theory, Walras aimed to clarify the analytical distinction of production and distribution. Henceforth, in economic theory, there are just two problems; the production of wealth and the allocation of wealth. Walras states: *"the theory of the economic production of social wealth that is of the organisation of industry under a system of the division of labour is applied science."*[32] According to Walras, 'applied economics' should be strictly separated from 'social economics' which, conversely, deals with problems of the distribution of social wealth, that is to say moral issues concerning the aggregate of all useful and scarce things within human relations.[33] Although Kelso is concerned with distributive justice (actually a topic of social economics), one could argue that he tries to find solutions to this issue within a framework of applied economics.

[29] See: (Linß, 2007), 50.
[30] The principal of equal marginal utility can be also applied to a market with more commodities than two. The single individual, who has access to a certain amount of products (or equally a certain monetary budget) and wants to exchange them, then maximizes its utility, if the different amounts of the exchanged goods all have equal marginal utility. See: (Heinrich, 1999), 61.
[31] See: (Robinson, 1968), 62.
[32] (Walras, 2003), 76.
[33] See: Ibid., 79.

### 1.3. From the 'Marginal Productivity Theory' to 'Productiveness'

Although the question of income distribution is crucial to the binary theory, Kelso does not explicitly offer a theory of profit. Kelso's emphasis on free competitive markets which assure a 'just' distribution of capital and labour incomes, however, indicates consistencies once more with Walras' General Equilibrium Theory and also with Clark's Marginal Productivity Theory.[34] Walras points out that, in contrast to consumption goods, the factors of production do not provide direct utility. For this reason, the neoclassical analysis of production distinguishes between households and businesses.

Households demand consumption goods and offer factors of production, whereas businesses provide goods and demand factors of production. Amongst the assumption that, similarly, households and businesses are utility maximisers, there are specific side conditions for each role. For households, it is the constraint of diminishing marginal utility which ensures a falling demand function on the goods markets and the increasing supply function on the factor markets.

For businesses, it is (technologically) assumed that the marginal costs of production increase, which results in an increasing supply curve in the goods market and a falling demand function on the factor markets. According to the distinction between households and businesses, the entrepreneur is strictly separated from the owners of capital. The owner of capital provides the capital instruments for the business and receives interest as compensation for this supply. With the productive factors purchased, the entrepreneur then tries to produce goods whose price exceeds their costs, that is to say goods generating a 'profit' or 'return'. [35] On this microeconomic level, in line with neoclassical theory, binary economics expects market participants to seek for a surplus by reducing costs and increase the efficiency of production. On the macroeconomic level, on the other hand, a perfect competitive market assures in the end that the individual's contribution 'fairly' equals the distribution. In other words, contribution (marginal-utility-value generating production) and distribution (consumption out of profits, wages and interest) are situated in a general equilibrium of prices, deduced from supply and demand functions.

[34] See: (Kelso & Adler, 1958), 54.
[35] See: (Heinrich, 1999), 63-64.

It is again Say's law, which is articulated here: in total no one gains more than one deserves. In *The Distribution of Wealth* (1899), John Bates Clark elaborated on Say's law: "*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.*"[36] Clark aimed to expand this assumption into a theory of distribution, which takes into account that there are different productive factors. On the factor markets the production factors are in demand as long as the selling price of the produced goods exceeds the remuneration of the factors. In the theory of equilibrium prices it is not only the supply which covers the demand, but also the selling prices which equal the remuneration of the productive factors, i.e. the production costs. There is then a true return on capital, but no entrepreneurial profit. By determining the factor price in the same manner as commodity price, each factor income is seen as independent, that is to say no factor income can be considered as a residuum of the other. Clark's marginal productivity theory holds that each productive factor is rewarded according to its marginal productivity, that is to say its marginal increase in output per additional unit of input. The equilibrium price of one factor unit therefore equals the marginal product in terms of value. The input of each factor is assumed to be freely variable, so that the 'marginal product' of a factor can always be identified. In order to maximize their profits, companies continue to invest in certain factors of production until the proceeds of the marginal product exceed the factor price. In equilibrium, however, the proceeds of the marginal product are then equal to the factor remuneration. The owners of the factors just receive what their factors contribute to the value of the product. Furthermore, they offer precisely the quantity of factors whose remuneration compensates their specific sacrifice. This is the 'working burden' of the labourer and the 'waiting' (instead of direct consumption) of the capital owner.[37]

The crux of Clark's theory is that there is no profit based on exploitation, that each factor of production is remunerated independently and according to its contribution. Although Kelso agrees with this, binary economics suggests a radically different approach in determining the share of the productive factors. Clark sees the labour wage as determined by the value of its marginal product. With technological change the equilibrating forces of the static model

[36] (Clark, 2014), 3.
[37] See: (Heinrich, 1999), 64.

become perturbed for a short time until the increasing labour productivity is balanced by a rise in wages until a new marginal product is created.[38] According to this model, there is no involuntary unemployment, unless the adjustment mechanism of the free market becomes interrupted by state interventions, such as minimum wages or taxes. Although binary economics shares the neoclassical aversion against state interventions, their justification for this view is based on a radical restatement of Clark's theory. Kelso specifically aims to quota the exact inputs of capital and labour, whereas the marginalists prefer to quota changes in output resulting from a marginal change of one productive factor, e.g. labour. Thus, instead of marginal productivity, the special focus of binary economics lies on the 'productiveness' of the factors of capital and labour.[39] "*Productiveness can be thought of as the quantification of 'independent factor input' of each factor as a percentage of total output of both factors."*[40] By presuming one could identify the exact quotas of capital and labour input, *"Binary economists argue that additional capital does not increase the productivity of labour but 'displaces' it*."[41]

The binary literature gives plenty of illustrative examples of this 'displacement'. Ashford gives the following: *"A person can dig a hole in four hours by hand. After the invention of the shovel, he can dig the same hole in one hour. In traditional economic terms, labour has four times the productivity because four times as much work can be performed in the same time period. In binary economic terms, the productiveness has changed from 100% labour before the invention of the shovel, to 25% labour and 75% capital input with the shovel."* [42] Binary economics then distinguishes between this inherent productiveness and economic productivity: *"By 'inherent productiveness' we mean the physical ability or capacity of a factor of production to produce goods or services. By 'economic productivity' we mean the distributive share of the wealth produced (…), its magnitude being evaluated through the mechanism of supply and demand in a freely competitive market. Thus the term 'economic productivity' involves not only the physical contribution of the factor in question, but also the competitively determined market value of that physical contribution."*[43]

[38] See: (Clark, 2014), 170.
[39] See: (Ashford, 2012), 4.
[40] (Ashford, 1994), 110.
[41] (Terrell, 2014), 33.
[42] (Ashford, 1994), 110.
[43] (Kelso & Adler, 1958), 53-54.

What this implies is that if one market participant has a bigger shovel than a competitor, they will be able to sell either a greater quantity of service or the same quantity with less value of labour employed. If there is no sudden rise in demand for digging holes, the latter is more likely to happen. At this point, binary economics is much closer to Keynes' theory of effective demand as to the neoclassical view. Kelso partly shares Keynes' principals of a 'happy state', which ensures mass consumption for the reason that *"prosperity and well-being depend upon the successful distribution of purchasing power (…)."*[44] This is, however, pretty much all Kelso and Keynes have in common, because the binary theory then rejects the idea of governments promoting a 'full employment' policy to achieve this goal, that is to say *"through progressively raising, by union pressure and legislation, wages, social security payments, unemployment compensation, agricultural and other prices; and through the free use of income taxing power and other powers of government (…)."*[45] Alternatively, binary economists argue that the only required 'state intervention' needed is to promote asset formation by paving the way for easy accessible credits for 'non-owners'. Only this would ensure both economic freedom and distributive justice, as gains in productivity are rightfully and solely accrued to capital owners.

### 1.4. Entitlement Theory and Concentration of Capital

The concept of binary productiveness is closely related to one of the first liberal entitlement theories, which Locke formulated in opposition to existing feudal relations. Locke's theory starts from the assumption of a natural state in which all men are born free and were given the earth as a free common. To ensure the survival of their species, the free men have to acquire property in order to use it. Locke claimed that this process of acquisition could only be justified by the burdensome application of individual labour, that is to say toil formed 'God's land' into a puzzle of acquired property of individuals.[46]

Kelso restates Locke's entitlement theory by replacing toil with physical performance and attributing it to both innate and acquired property. Thus, "*a man is justly entitled to all the wealth he himself produces (…)"* including all the physical contribution of his own tools and machines.[47] The 'working burden' is absorbed by the machine, which then ensures economic

[44] Ibid., 18.
[45] Ibid.
[46] See: (Heinrich, 1999), 31.
[47] (Kelso & Adler, 1958), 66.

freedom for its owner. The opportunity costs of leisure decrease or even disappear, but according to binary economics the so-called 'capital worker' is still entitled to all the wealth which is produced by the physical performance of the machine (his acquired property).[48] By restating Locke's entitlement theory in this way, Kelso rejects the neoclassical justification of capital income by the sacrifice of 'waiting' for the return on the capital instruments.

Broaching the issue of concentration, binary theory seems, to some extent, consistent with Marxian theory and in opposition to (neo)-classical thought. The neoclassical theory holds that there is no tendency of monopolisation, but rather a self-regulating market system. On a microeconomic level, the implementation of innovative machinery is the major tool to achieve a temporal competitive advantage until the competitors catch up. Therefore, there is a constraint for the individual entrepreneur to lower the marginal costs of production. In this process of rationalisation and mechanisation released employees are expected to find jobs elsewhere. On a macroeconomic level, therefore, the neoclassic assumes that, due to free competition and the equilibrium of prices, decentralised markets and full employment are both a given standard. The heterodox thesis, on the other hand, which states that a free competitive market tends to concentrate wealth in a few hands, is probably the most striking parallel between binary economics and Marxian theory.

Marx takes the view that monopolisation is a logical result of free competition: *"larger capitals beat the smaller. (…) Competition rages in direct proportion to the number, and in inverse proportion to the magnitudes, of the antagonistic capitals. It always ends in the ruin of many small capitalists, whose capitals partly pass into the hands of their conquerors, partly vanish. Apart from this, with capitalist production an altogether new force comes into play – the credit system (…)."*[49] Kelso would subscribe to this quote. The role of the credit system becomes especially crucial within the binary theory, as it is seen as both the root and the key solution for the problem of concentration. Kelso defines concentration as a "*process where the inherent productiveness of one factor is constantly increasing in relation to that of the other."*[50] Kelso insists that the implementation of machinery directly displaces subsistence work in general, asserting that, ultimately, less new jobs are created within the same or other lines of production: "*In particular cases, new highly skilled workers are frequently called upon to*

[48] See: (Kelso & Kelso, 1991), 16.
[49] (Marx & Engels, 1956a), 435.
[50] (Kelso & Adler, 1958), 96.

*replace greater numbers of relatively unskilled workers. But, in proportion to the wealth produced, the aggregate of skills eliminated is invariably greater than the new skills called into existence."*[51] Accordingly, the main reason for *"the present highly concentrated ownership of capital is the discrepancy between the increasing productiveness of capital and the nearly constant productiveness of nonmanagerial and nontechnical labour."*[52] For this reason, capital owners are able to generate higher incomes, which cause further capital formation and concentration. Kelso restated Marx's assumption of increasing concentration in a binary logic.

How does binary economics see concentration as correlating with the vulnerability of capitalism to crises? Alongside the moral argument of distributive justice, which includes the principle of limitation, binary economics states that concentration of economic power *"is the basic cause of the economic dislocations or periodic "depressions" in an industrial economy based on private property in capital and labour."*[53] If capital ownership is concentrated, the economy would face a lack of effective demand sooner or later, because the wage dependent cannot sustainably participate in the production of wealth. The higher productiveness of capital instruments in comparison to labour implies that *"people are poor because they have not acquired the capital necessary to supplement their labour input, and they can become economically autonomous only with a private property system that enables them to acquire this capital."*[54] If there is not such a private property system, binary economics says that the periodic reoccurrence of underconsumption crises is inevitable. In these crises the supply no longer produces its solvent demand, commodities remain unsold and stomachs empty.

In order to prevent economic downturns and crises the binary proponents claim the necessity to create the condition for Say's law to work. The condition for the maintenance of Say's law is, according to binary economics, an economy which is structured by broad-based capital ownership.

[51] Ibid.,52.
[52] Ibid., 188.
[53] Ibid., 164.
[54] (Ashford, 1994), 100.

## 1.5. Kelso's 'General Theory'

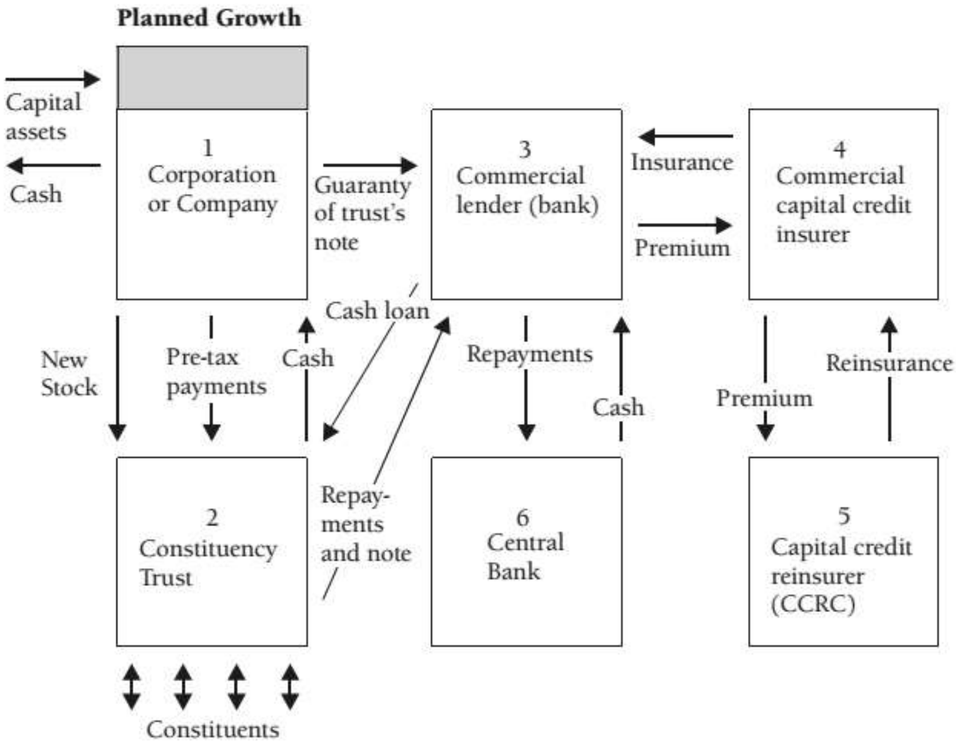


*Figure 1* Kelso's "The General Theory"[55]

Binary economics holds that capitalism is a two-factor economy of labour and capital, whereby capital (defined as a wealth producing thing) is more productive. Binary economists argue that the root of poverty and inequality lies in concentration of capital ownership. Once the vicious-circle of capital concentration is overcome by a future legislative program of binary direction, Kelso and his proponents assert that business cycles, the ups and downs of economies and crises are likely to disappear: *"the voluntary operation of a national binary economy will yield a number of benefits. A national financing program based on binary economic precepts will broaden the distribution of income and also produce increases in economic growth far exceeding forecasts based on traditional economic strategies. It will also tame, if not eliminate, business cycles and inflation; reduce government deficits and taxes; and restore the international competitiveness of American industry."*[56] As stated in this quote, binary theory

[55] Taken from (Terrell, 2014), 42.
[56] (Ashford, 1994), 102.

asserts that the diffusion of capital ownership would have a strong impact on economic growth. As more people own capital, the more people are able to participate in production.

As binary economics aims to measure productiveness, not the productivity of capital and labour, their definition of economic growth differs from traditional economics. Thus, economic growth would be predominantly due to capital growth: "*[Binary analysis] says that while humans undoubtedly make contribution to the growth, the capital assets such as machines and technological processes are making an even bigger, ever-increasing, contribution…. So, from a binary perspective, growth is primarily a function of increasing capital productiveness rather than increasing labour productivity."*[57] According to Say's law supply would find its own demand which automatically implies we have, on the one hand, increasing participation in production and, on the other hand, increasing consumption. Thus, the economy would become larger in scale and more goods could be exchanged. *If capital is increasingly acquired by the many poor and middle class people (paid for by its own earnings), and if capital's income is thereafter required to be distributed to the poor and middle classes, they will spend more money on goods and services, and thereby fuel a larger economy than if the capital were acquired by the few rich. Unlike the poor and middle class who have many unsatisfied needs and wants, the rich will seek to invest their capital earnings, but in an economy characterized by comparatively less consumer demand.*[58] The idea of binary growth is therefore based on the assumption that parts of society with lower incomes have unsatisfied needs, which would be met by an increased production of desired goods if the economy would be rebuilt on binary market principles.

Consistent with the assumptions made (productiveness and Say's law), the binary solution to the problem of effective demand is to diffuse capital ownership. What do binary proponents propose to make that happen? According to Kelso, capital is concentrated in a few hands because the current economic-legislative system is designed to exclude the major part of society from access to capital credit. Whereas consumer credit is basically accessible for anyone who has a balanced bank account, capital credit is solely obtainable for the already wealthy. In a developed free market economy, the wage dependent are principally assumed to be poor, because their only income comes from relatively unproductive labour inputs. They

[57] (Ashford & Shakespeare, 1999), 7; quoted from (Terrell, 2014), 31.
[58] (Ashford, 1994), 105.

are hindered or even blocked from acquiring capital ownership through credit because, firstly, they need most of their income for direct consumption and, secondly, they cannot deposit already existing capital as a guarantee for credit. On the other hand, a relatively small number of capital owners are already consuming more than they could and want to possibly ever consume: "*This excess income is reinvested in capital assets, producing ever more income that cannot be consumed and foreclosing other family units from participating in the growth of new capital to produce income for their consumption. The result is a significant concentration of capital in most economies in the hands of a very few family units*."[59] Kelso developed a plan to break the vicious cycle of ever increasing concentration. In this plan the credit system is crucial, it can either be designed to compound concentration or be applied as a tool for economic freedom. As such it would carry the binary market principles of distribution, participation and limitation into effect.

Kelso's *General Theory* (see figure 1) is a legislative program, designed to be principally adoptable in any country which is willing to disperse capital ownership. The key idea is to enable non-owners, without savings, to invest in the formation of new self-financing capital, which means either an investment in: the expansion of existing corporate stock, in the privatization of public assets or in the building of an entirely new enterprise. The central vehicle in this plan is a constituency trust, which buys stock on behalf of different target groups of non-owners, e.g. consumers (in a CSOP-Consumer Stock Ownership Plan), employees (in an ESOP-Employee Stock Ownership Plan), but also the unemployed or people on benefits. The money capital for this purchase comes from an acquisition loan provided by commercial lenders, *"which would in turn obtain the funds from the central bank through discount lending (…)",* whereby the central bank discounts the promissory note which the trust gives to the commercial lender in return for the loan.[60] In theory this procedure ensures that the loan paper in the hands of the lender is held at its administrative cost. The loan is expected to be paid off by future earnings of the emergent stockholders using their pre-tax income which the new capital generates. For this reason the constituents do not pay anything out of their savings (if existent) beforehand.[61] *The stock held by the trusts would be a special "full property rights"*

[59] (Gauche, 2014), 2-3.
[60] (Terrell, 2014), 41.
[61] See: (Ashford, 1994), 101.

*stock, paying its full net return as income to the trust. In turn, the trust would first repay the acquisition loan and then pay all income to the beneficiaries.*[62]

In case of a credit default, Kelso thought of an insurance mechanism, whereby the acquisition loan is doubly insured by both a private capital insurer and a government reinsurer as the last resort. This practise of insuring the capital credit loan against possible loss with private and public insurances, called Commercial Diffusion (Re)-Insurance Cooperation (CDRC or CDIC), is expected to function as an incentive for banks or other commercial lenders to hand out the loan. Kelso hopes that *"the proposed CDIC system would simply substitute for the existing self -insurance method a system of mutual or funded insurance to protect banks which finance capital acquisition loans against an excessive coincidence of entrepreneurial errors affecting a financed portfolio of stocks."*[63] The loan insurance shall work as a substitute for a collateral, which the targeted constituent does not have. The public reinsurance is supposed to replace most of the welfare policies, e.g. 'artificial' job creation in public service, minimum wage laws, transfer payments, etc.[64]

# 2. Marx's Critique of Political Economy vs. Binary Principles

## 2.1. The Framework of *Capital* and Assumptions of its three Volumes

Alongside *Capital* and others, one text is considered to be highly relevant to Marxian economic: *Grundrisse.* It was written in 1858 and remained unpublished until 1939 and gives an insight into Marx's methodology and an outline to his unfinished project to formulate a *Critique of Political Economy* and their categories.

Vol. I of *Capital*, the sole volume published in Marx's lifetime, focusses on the processes and dynamics of the production of value and surplus-value, that is to say the origin of profit and its formation under the coercive laws of competition. Marx here excludes any difficulties that might arise in the realisation of surplus-value and assumes that the free market perfectly functions and all commodities produced can be sold at their value. Vol. II, on the other hand, assumes that there are no difficulties in the area of surplus-value production, such as no

[62] Ibid., 101-102.
[63] (Kelso & Adler, 1961), 40.
[64] See: (Ashford, 1994), 100.

technological change, and focusses on the realisation of surplus value, which turns out to be a fraught and often unstable process, especially if there is lack of effective demand.[65] The fact that the most debated inconsistencies were found in Vol. III indicates that it is the least thought-through volume. Just like Vol. II, it was edited by Friedrich Engels who took what was left of Marx's text fragments. Vol. III focusses on the correlation of profit and surplus-value, the vital role of the credit system for capital accumulation. It also provides ideas as to how part of the surplus becomes distributed amongst interest, rent and profit.

What did Marx aimed to achieve? Kelso states: "*Karl Marx set himself the task of improving the lot of the factory worker."*[66] For Kelso, Marx was a victim of his time and place. Marx must have been influenced and misled by the misery of the labour force. What Marx could observe was poverty and misery for the majority and wealth and luxury for a few, typical of European capitalism of the 19th century. To explain these inequalities, Marx presumably elaborated on his surplus theory, instead of addressing the diffusion of capital ownership. Kelso asserts that Marx started his analysis from a distributive perspective, rather than from the production side. Sharply tongued, Kelso even exercises a bit of layman's psychology to explain what he calls Marx's fateful near miss: *"Since the distributive pattern was unsatisfactory, capitalists and capitalism, he* [Marx] *concluded, must be at fault. Labour had "historically" been the source of all production of wealth, and the workers were now receiving a progressively smaller proportion of the proceeds of production. Down with capitalism!"*[67]

Marx aimed to establish a new political-economic science through a critique of classical political economy. Regardless of the nation or the time period, Marx's project was to understand *"the inner organisation of the capitalist mode of production, in its ideal average".* (Emphasis my own)[68] Marx did not average different modes of production by comparing different countries. Marx's analysis rather concentrates on the generalities of capitalist production which means that, unlike Kelso suggests, *Capital* provides neither a direct historical, anthropological nor statistical examination. In tradition of his object of critique, i.e. the classical economy, Marx distinguished in his analysis between universalities, generalities, particularities and singularities, that is to say the syllogism of classical political economy. This

[65] See: (Harvey, 2013), 1.
[66] (Kelso, 2013), 1.
[67] Ibid., 10.
[68] (Marx & Engels, 1959), 577.

syllogical order implies that (1) universalities (laws of nature) and (2) generalities (social laws of production) are deterministic and law-like; (3) particularities (exchange and distribution), are accidental and conjunctural; and (4) singularities (consumption), belong to the fields of cultural and psychological studies, as they are economically unpredictable and potentially chaotic.[69]

Universalities refer to natural laws which determine what he calls the metabolic relationship between human and nature. Unlike, for example Ricardo and Thomas Robert Malthus who had a naturalistic view on economic scarcities, Marx avoided elaborating on his understanding of political economy by referring to natural determinations. However, at least one immutable natural law is valid and central for Marx's argument which is the mediation of the metabolism between man and nature by labour, that is to say the universal production. Concrete labour, therefore, is an eternal and natural necessity, independent of the focus on a specific society or form of reproduction.[70] However, according to Marx, political economy rather has to be tackled by explaining the generalities of social production. The social production within the generalities of land, labour, capital, money and value are law-like as well, but still a product of human action.[71] The social laws combining these categories determine the laws of motion of capital, which in Marx's theory are central to political economy and are his main focus in *Capital*.

Within the framework, distribution and exchange as particularities play a subordinated role. Except for the latter part of Vol. III, Marx rarely focusses on distribution, which can be expressed in rent, wages, profit, interest, commercial profit or taxes. Furthermore, he consciously ignores the variety of different trade laws shaped by constitutional arrangements or political decisions over property rights, juridical individuals, competition, centralisation and monopoly. In Vol. I, Marx assumes perfectly functioning competitive markets and in both Vol. I and II presumes that commodities, except for labour, are traded at their value. Hence, for a

[69] See: (Harvey, 2013), 18.

[70] *"The labour-process, resolved as above into its simple elementary factors, is human action with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or rather, is common to every such phase."(* (Marx & Engels, 1956a), 127; quoted from Ibid., 22).

[71] See: (Harvey, 2013), 22.

large part of Marx's analysis, the particularities of distribution and exchange remain constant. Harvey highlights that this fact led into a lot of confusion in the reception of *Capital*.

Although Marx follows the classical syllogism (universality-generality-particularity-singularity) in the framework of *Capital*, in *Grundrisse* Marx points out that production, distribution, exchange and consumption should rather be viewed as a dialectical totality of relations comprising a capitalist mode of production.[72] What does this mean? Marx defined this totality of a society as interrelated moments in production, distribution, exchange and consumption. Harvey interprets these moments as interrelated spheres of activity in "*technologies and organisational forms; social relations; institutional and administrative arrangements; production and labour processes; relations to nature; the reproduction of daily life and of the species; and 'mental conceptions of the world'".[1]* None of these spheres determines society alone, not even technology or state-conveyed property rights as Kelso's binary theory suggests. The spheres rather give an "*assemblage of interactive elements",* one of them is sometimes more influential than the other. [73] Marx adopts the framework and categories of classical political economists, but criticises them in a dialectical approach; that is to say he tries to find general laws of production within the contradictions in a moving social totality.

For this thesis it will be important to discuss the role of a credit system, because accessibility of credit plays a crucial role in the binary financing plan. In Marxian theory, interest (the 'surplus' of the creditor) is a distributional category and therefore, firstly, a particularity. Nevertheless, 'interest-bearing' capital fulfils important functions in the production and realisation of surplus-value for example, enabling producers to deal with the problems of long-term fixed capital investments. Before criticising the binary financing plan in particular, it is necessary to introduce Marx's general categories of value, money, surplus-value, and capital. This will happen in direct reference to the differing categories and assumptions of binary economics.

### 2.2. Two Theoretical Fields

The distinction between form and content (similar to the terms generalities and universalities) is crucial to the Marxian critique and paramount to the crux of this discussion. But what do

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[72] See: (Marx, 2014), 40.
[73] See: (Harvey, 2010), 213.

form and content actually mean? Form and content are philosophical terms that define the contrast between the appearance of something (form) and its essence (content). Form is culturally and socially developed, i.e. a generality, whilst content is a natural configuration, i.e. a universality. Let us put this idea into practice with an example of a regular commodity: an apple. Only in a capitalist society, does an apple appear first and foremost as a thing of value (form), on the other hand an apple has always been a foodstuff, something you can eat (content). The particular usefulness of a commodity meets with the contradiction, that, in a capitalist society, a commodity is rather produced for exchange, not consumption, which is one of several contradictions Marx revealed in his analysis of capital accumulation. The production of goods solely for consumption or, for example, as a feudal tax payment, however, is a feature of other societies, not the capitalist society.[74]

Form yields the general law-like structure of a society. In order to fathom these laws, in Marx's opinion, science should go beyond the surface and strictly avoid direct correlations between form and content. In *Capital* Vol. III he wrote: *"But all science would be superfluous if the outward appearance and the essence of things directly coincided."*[75] Marx refers here to what he calls vulgar economy, that is to say the theoretical field of political economy. Referring to Heinrich, a theoretical field is constituted by an assemblage of different questions which refer to a structural discourse. In such a field, certain assumptions are not expatiated, but rather taken as a matter of course.[76] Thus, Marx delivered a fundamental critique of this theoretical field of political economy, something which Kelso does not acknowledge.

Heinrich formulates four characteristics of the classical/neoclassical field: anthropological thinking, individualism, ahistoricism and empiricism. Therefore, classical and neoclassical economics hold firstly, that there is a natural configuration for all individual needs, desires and rationality, that is to say one natural character of all human beings. An example for this configuration is the natural character of the rational utility-maximiser or Smith's 'natural' inclination for exchange. Behind this 'character' stands of course the commodity owner, who is either producer in classical theory or consumer in neoclassical theory. Secondly, the (neo-) classical theory assumes that social totality and its problems could be explained by the behaviour of individuals who all have these anthropological characteristics. Thirdly, the

[74] See: (Haug, 2009), 27.
[75] (Marx & Engels, 1959), 570.
[76] See: (Heinrich, 1999), 23.

ahistorical approach results from the former concepts. Therefore, a society can either be in its 'natural state' or not and the 'natural state' is, of course, a society which relies on commodity production. Fourthly and finally, reality shows itself how it is, that is to say there is a genuine empirical truth which derived from the obvious natural character of human beings and their society in a natural state.[77]

It can be demonstrated that binary economics operates mainly in the same theoretical field that Marx aimed to leave behind. Kelso defines private property as inherent to a just or natural state of society: *"Under conditions of industrial production, and with the promise of capitalism fulfilled, it is possible for a whole society to be economically free and for all men to have the opportunity to live like human beings."*[78] The quote indicates that Kelso supposes a given anthropological character of all individuals which concurs with the commodity producer who has an inclination for a usually money-mediated exchange.[79] Moreover, Kelso aims to solve the social problem of structural socio-economic inequality by doing a recourse to the individual 'producer'. The binary solution for escalating inequality is as stated above to enable <u>all individuals</u> to receive credit in order to acquire capital ownership. The binary capital term, on the other hand, refers to an observable reality of a physically contributing machine and could, therefore, be called an empirical and physicalist definition of capital based on a seemingly direct correlation between content and form. Binary theory could be characterised as anthropologist, individualist and empiricist, just as classical and neoclassical theory could also be.

Furthermore, Kelso's classification of historical economies indicates that he distinguishes, in line with the classical and neoclassical field, between a natural and non-natural state of society. Although Kelso, referring to Karl Polanyi's *The Great Transformation*, admits that there are other historical forms of economy which accomplish a distribution of wealth by gift and apportioned needs, the just (normatively natural) state of production and distribution could be only approximated by the presence of market institutions and a competitive

[77] See: (Heinrich, 1999), 82.
[78] (Kelso & Adler, 1958), 36.
[79] *"In the normal case of the economy of a complex society, in which large numbers of men are associated in the production of wealth and in which they exchange one kind of product for another, usually through the medium of money, the income each individual receives as a result of his participation in production represents his share of the primary distribution of wealth in that society."* Ibid., 58-59.

evaluation by demand.[80] Kelso then goes on to classify historical forms of economies based on their dominant productive factor. Therefore, primitive labourist economies relied on labour as the chief factor of production, which ideally implies a labourist distribution. The absence of the 'free man by right' and the presence of chattel slavery or serfdom in these pre-industrial economies, however, lead into a concentration of economic and political power in the few hands of feudal landlords or slave owners.[81] A capitalist economy, on the other hand, relies on capital as the dominant productive factor as labour seems to be substituted by machines. Hence, distribution in capitalist economy should also be capitalist, that is to say, according to Kelso's principles of justice (restatement of Locke), the owner of the machine is entitled to a certain proportion of wealth allocated by a free competitive market.

Kelso classifies four evolutionary forms of a capitalist economy along the following dividing lines: *"(1) <u>The Mode of Ownership.</u> The capital instruments of a society can be (a) privately owned and operated by individuals, families, and corporations; or (b) publicly owned by the State and operated by its governing bureaucracy. (…) (2) <u>The Form of Distribution.</u> In economies in which capital instruments are the chief productive force and the principal form of productive property, the form of distribution is either (a) capitalistic or (b) laboristic.[82] (…) (3) <u>The Principle Underlying the Form of Distribution.</u> The principle underlying the form of distribution is either (a) one of strict justice, based on the rights of private property in capital and labor, as well as on other human rights; or (b) one of charity."* (Emphasis my own)[83] According to these dividing lines, Kelso distinguishes between 'primitive capitalism' (19$^{th}$ century capitalism), 'state capitalism' (absence of private property in productive assets, for example Soviet Union), 'mixed capitalism' (redistributive capitalism of the Western model, which violates Kelso's natural state of a pure capitalistic distribution) and '<u>C</u>apitalism' (an ideal based on the principles of binary economics).

[80] See: Ibid., 101.
[81] See: Ibid., 102.
[82] *"<u>The distribution is laboristic</u> in form if all or the major portion of the wealth produced goes to those who contribute to its production only by the use of their own labor power; and it is partly laboristic and partly capitalistic in form if the distributive share which goes to the owners of capital is less than the major portion of the wealth produced, being the residue that remains after a substantial portion of that wealth goes to labor in order to provide a majority of the population with a decent standard of living."* (Emphasis my own) Ibid., 109.
[83] Ibid., 107-110.

Kelso's argument yields technological change alongside the abolishment of slavery and serfdom as the sole demarcation between feudalism and capitalism. The historical and cultural dynamics in the formation of capitalism are basically ignored. As an example, look at Max Weber's work on the protestant ethics or the influential role of merchant's (commercial and money-dealing) capital in mercantilism, something which Marx emphasised.[84] Kelso, however, theorises economy as a static formation, in which technological change seems to suddenly occur from nothing: "*With the invention and improvement of power-driven machines, labour began to lose its place as the chief form of productive property. As society passed from handicraft production to machine production and from non-mechanized to mechanized agriculture and mining, labour progressively contributed less and less to the wealth produced; capital instruments, more and more.*"[85] It is this physicalist view on capitalism which entails an ahistorical notion in his analysis, that is to say Kelso does not separate content and form.

### 2.3. Labour Theory of Value

Why did the subjective utility theory replace the objective labour theory in mainstream economics? The marginalist proponents tend to argue that "applied economics" provides the only scientific theory. What they forget is that their own theory of marginal utility stands on metaphysical ground like any other economic theory, including the labour theory of value. The mathematic modelling of the marginalists might give the impression of validity. By looking at the assumptions which are beyond these models, however, it becomes clear that the marginalist theory lacks causality. No one ever witnessed the assessment of benefit. If these assessments, however, are supposed to be taken from the existing relations of exchange, the argument becomes circular, not causal.[86] Therefore, the reason for the replacement of the labour theory of value is possibly more historical than logical. The marginalist theory of value was formulated to oppose and replace the labour theory of value which had lost its historical benefit to justify a post-feudal social order. However, when it was adopted by the so-called Ricardian socialists, the labour theory was used more and more by the labouring masses against the new capitalist system.

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[84] See: (Harvey, 2010), 87.
[85] (Kelso & Adler, 1958), 103.
[86] See: (Heinrich, 1999), 62.

Even before Marx and Engels published the *Communist Manifesto* in the first half of the 19th century, one part of the British labour movement followed the radical ideas of Thomas Hodsgkin. His demanding and revolutionary conclusion was exactly what Kelso's entitlement theory implies, namely that "*if labour is the source of all value created in the productive process, then labour has a valid moral claim to all wealth created through production."*[87] Even though Ricardo himself did not make that claim, his labour theory of value offered enough interpretational scope in order to restate it in moral favour of the labour class.[88] Its critical application towards capitalism, however, was not the only reason for its replacement.

Besides inherent problems in Ricardo's labour theory, Heinrich points out that there were also historical circumstances and challenges which finally lead into the marginalist revolution. It is by no accident that the marginalist revolution started in England at the end of the 19th century. Although the labour theory of value had influential defenders such as John Stuart Mill, it lost more and more credit. The classical theory of economics was created in an era in which industrial capitalism had just taken shape and the bourgeoisie had to bear with the landowning feudal nobility who basically controlled the state. In the beginning of capitalism, the labour theory of value fulfilled the task to justify the abolishment of the nobility's privileges. Towards the 20th century, however, the political reality demanded an economic theory, which could be applied to problems of a developed industrial society. The central social conflict line was no longer between the ground-rent living landowners and the industrial bourgeoisie, but rather between the bourgeoisie and the rapidly growing proletariat. In this situation the marginalists had the more relevant questions which directly addressed practical issues. For the debates in the 1880s and 1890s, it was necessary to know how further reductions in working hours, public housing, social care, a progressive tax system etc. would affect the economy. The marginalist theories, orientated to the price system, could be expected to give better answers to such questions in comparison with the classics.[89]

It is a common misunderstanding that Marx simply belongs to the classics. According to Heinrich, although the theory of the Ricardian socialists clearly carves out the material content of exploitation, which is surplus labour, they did not focus on the specific <u>form</u> of how

[87] (Kelso, 2013), 5.
[88] See: (Heinrich, 1999), 54.
[89] See: Ibid., 60.

exploitation is mediated in capitalist society, as Marx did.[90] Although Marx was possibly inspired by the Ricardian socialists, Smith's and Ricardo's actual works are the source of a fundamental critique, a critique not only of their observations and theories but, as stated above, rather of the political economy's entire theoretical field. Therefore, unlike Kelso asserts, Marx has not mistakenly adopted Ricardo's labour theory of value.[91] On the contrary, Kelso mistakenly assumes that the ideas of the Ricardian socialists were adopted in Marx's analysis of the value-form.

### 2.3.1. The Twofold Character of Commodities including Labour

What is Marx looking for in the first chapters of *Capital*? Kelso writes that Marx wants to find "*an objective measure of the economic value of goods and services*".[92] If this were true, Marx could indeed have given a short answer: money or the "*market demand which gives items of wealth their market value."*[93] In fact, what Marx (more precisely) looks for is a social relation which lies under the outward appearance of the value-form in a capitalist society. In the first sentence of *Capital* Marx writes: *"The wealth of those societies in which the capitalist mode of production prevails, presents itself as —an immense accumulation of commodities, its unit being a single commodity. Our investigation must therefore begin with the analysis of a commodity."*[94] Marx's dichotomy of reality and appearance is key to understanding what he aims to achieve. In the continuation of his analysis, Marx carves out that real wealth is located in its source: abstract labour.

How does Marx come to this conclusion? Kelso acknowledges that the question of how value is determined ultimately comes down to the question of what constitutes exchangeability. Although Kelso acknowledges an affiliation of Ricardo's and Marx's solutions to this question, he entirely ignores their common crucial distinction between use-value and exchange-value. Originally, it was Smith who distinguished between use-value and exchange-value, whereby solely the latter is assumed to determine the natural price of a commodity: "*The word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession*

[90] See: Ibid., 54.
[91] See: (Kelso, 2013), 4.
[92] (Kelso & Adler, 1958), 68.
[93] Ibid., 61.
[94] (Marx & Engels, 1956a), 26.

*of that object conveys. (…)"* The fact that a commodity has to have an overall use-value, that is to say it has to provide some sort of utility, does not give a satisfying response to Smith's so-called classical value-paradox: "*The things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water; but it will purchase scarce any thing; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a very great quantity of other goods may frequently be had in exchange for it."*[95] Smith offered one solution to this paradox: it is not the utility which determines the value of things, but moreover the labour which generates the supply. Smith attributes his labour theory of value to the extent to which labour requires individual effort.

Ricardo extended Smith's theory. His book, *Principles of Political Economy and Taxation,* could be seen as commentary of Smith's book *The Wealth of Nations*. Ricardo eventually formulated what is generally referred to as the "classical labour theory of value" alone. He states: "*Utility then is not the measure of exchangeable value, although it is absolutely essential to it. If a commodity were in no way useful, — in other words, if it could in no way contribute to our gratification, — it would be destitute of exchangeable value, however scarce it might be, or whatever quantity of labour might be necessary to procure it. Possessing utility, commodities derive their exchangeable value from two sources: from their scarcity, and from the quantity of labour required to obtain them."*[96]

In line with Smith and Ricardo, Marx rejects that Aristotle's reference to demand could be seen as the common value-substance. Demand is rather an obligatory condition for value, but not a sufficient one. Therefore, the use-value, which paves the way for demand in the first place, arises from the *"utility of a thing"*, which is nothing specific to a capitalist society.[97] Marx remarks that the common attribute of commodities "*cannot be either a geometrical, a chemical, or any other natural property of commodities. Such properties claim our attention only in so far as they affect the utility of those commodities, make them use values. But the exchange of commodities is evidently an act characterised by a total abstraction from use*

[95] (Smith, 2005), 30.
[96] (Ricardo, 2001), 8.
[97] (Marx & Engels, 1956a), 26.

*value."*[98] Ricardo, in contrast to Smith, emphasises that it is, in fact, <u>only</u> the necessary labour-power which determines the exchange-value, except for such scarce goods, whose supply cannot be increased by labour, e.g. art. This includes raw materials and machinery which may be used in the production process, as they are originally products of labour as well.

There were lots of recipients, including Kelso, who interpreted Marx's labour theory of value in a Ricardian manner. By concluding that Marx was simply "*elaborating on a theory advanced by Ricardo"*, Kelso indicates that both labour theories of value are basically the same thing.[99] A closer look into Marx's argument, however, carves out a rather ambivalent relation of both theories, contrary to Kelso's simplified interpretation. Although Marx evidently replicates *"the Ricardian conceptual apparatus"* by attributing labour-time (as supposed to labour-power) to exchange-value, he inserts a modification by using the concept of <u>socially necessary</u> labour-time, which, for Marx, defines the ultimate value-substance.[100] Although Marx elaborated on the classical labour theory in great detail, including its central claim that it is the quantum of labour which determines exchange-value, his argument suggests an interpretation which pays tribute to Marx's goal to formulate a <u>C*ritique*</u> *of Political Economy*.

In contrast to Ricardo, Marx not only emphasises the twofold character of commodities as use-values and exchange-values, but also "*the twofold character of the labour embodied in commodities"*.[101] Therefore, the exchangeability of commodities in a capitalist society implies the socialisation of the labour of private individuals, a process which is, in its complexity, hidden under the surface of subjective experiences; the owner of commodities does not know how this socialisation works, but executes it anyway. Marx abstracts here from the individual owner, he rather focusses on the general practice of exchange. The individual motives and interests are systemically shaped by a powerful social bond which is then again created through the exchange of commodities and the material reproduction.

Value cannot be "created" a priori on the production side. The commodity owners do not consciously decide how their commodities become socialised. They do not agree upon norms of how the exchange should be organised, but rather on the acquisition and transmission of labour products. The value of such products is dependent on how much labour was spent

[98] Ibid., 27.
[99] (Kelso & Adler, 1958), 68.
[100] (Harvey, 2010), 20.
[101] (Marx & Engels, 1956a), 29.

under the coercive laws of competition, i.e. socially necessary labour-time. This objectified social relation is possible because the commodity owners exchange their products not as different use-values (which they are), but as an abstraction of them, as products of human labour per se. This implies that not all labour is valuable even though all labour requires individual effort, as Smith stated. The social relation of objects solely recognises "socially useful labour". By commodity owners putting their commodities in an exchange relation to each other and by creating a social relation of objects, the historically developed market system decides if, how, and in which quantity this labour of private individuals is recognised as socially useful.

Marx was neither primarily interested in utility nor scarcity. "*If the supply is too great, the exchange-value will go down; if the supply is too little, the exchange-value will go up-so there is an element here of supply and demand involved in the "accidental and relative" aspects of exchange-value. But behind these fluctuations, the value can remain constant (provided all the other forces that determine value, such as productivity, do too). Marx is not terribly interested in the supply and demand relation. He wants to know how to interpret commodity exchange ratios between, say, shirts and shoes, when supply and demand are in equilibrium.*[102] Marx assumes that it is human labour per se, which determines exchange-value, that is to say when supply and demand cease to explain anything. "*The determination of the magnitude of value by labour-time is therefore a secret, hidden under the apparent fluctuations in the relative values of commodities."*[103]

What makes a commodity valuable in the capitalist exchange process, according to Marx, is the labour-time socially necessary to produce it, that is to say there is not only an abstraction from use-value, but also from the concrete work of, for example, a seamstress. The concrete work of a seamstress, whether fast or slow, does not affect the magnitude of value. As private labour of an individual it becomes socialised rather as 'abstract human labour'. "*The body of the commodity that serves as the equivalent, figures as the materialisation of human labour in the abstract, and is at the same time the product of some specifically useful concrete labour. This concrete labour becomes, therefore, the medium for expressing abstract human labour. If on the one hand the coat ranks as nothing but the embodiment of abstract human labour, so,*

[102] (Harvey, 2010), 23-24.
[103] (Marx & Engels, 1956a), 48.

*on the other hand, the tailoring which is actually embodied in it, counts as nothing but the form under which that abstract labour is realised."*[104]Abstract labour is only valid in exchange and, therefore, it cannot be exercised by individuals as opposed to concrete labour. In the exchange relation, the spent concrete labour is considered to be a definite quantity of value-forming abstract labour, and thus, a part of the entire spent labour of a society.[105] Paying tribute to Aristotle, however, only the labour-time which is necessary to satisfy the solvent demand (see Vol. II and Keynes) of a society is value-building.[106] If more commodities are produced than the market demands, e.g. sheets, it *"proves that too great a portion of the total labour of the community has been expended in the form of weaving. The effect is the same as if each individual weaver had expended more labour-time upon his particular product than is socially necessary."*[107]

Labour is not homogeneous, even though Marx adds that the result of a work process, namely a commodity, is equal to all other commodities and, therefore, also to the concrete labour which produced them. Without this possibility of equality, products produced by varied skilled labour could not be exchanged on the market.[108] If concrete labour becomes more productive, for example through education or through experience, the average labour-time socially necessary would decrease. The market-structure of a capitalist society equates not only the concrete labour by recognising it as human labour per se but also what Marx calls higher qualified labour, i.e. 'skilled labour'. Marx conceptually reduces concrete labour into 'simple average labour', which varies in character between countries and time periods. "*Skilled labour counts only (…) as multiplied simple labour, a given quantity of skilled being considered equal to a greater quantity of simple labour."*[109] Skilled labour is not qualitatively different to simple labour. Hence, skilled labour can be quantitatively reduced to average simple labour; that is to say reduced to physiological and productive spending of the human brain, muscles, nerves,

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[104] Ibid., 38.
[105]See: (Heinrich, 2005), 49.
[106] See: Ibid., *50.*
[107] (Marx & Engels, 1956a), 72; quoted from Ibid., 49.
[108] *"As regards value in general, it is the weak point of the classical school of Political Economy* (referring to Ricardo) *that it nowhere expressly and with full consciousness, distinguishes between labour, as it appears in the value of a product, and the same labour, as it appears in the use value of that product. Of course the distinction is practically made, since this school treats labour, at one time under its quantitative aspect, at another under its qualitative aspect. But it has not the least idea, that when the difference between various kinds of labour is treated as purely quantitative, their qualitative unity or equality, and therefore their reduction to abstract human labour, is implied."* (Marx & Engels, 1956a), 56.
[109] Ibid., 31.

hands, etc.[110] "*Experience shows that this reduction is constantly being made. A commodity may be the product of the most skilled labour, but its value, by equating it to the product of simple unskilled labour, represents a definite quantity of the latter labour alone.*[111]

To put it in a nutshell: according to Marx, in a capitalist society, the social relation of producers becomes a social relation of objects. Produced by individuals, the products of labour are dissociated, however, commodities become associated in the value form within the exchange, because what makes them exchangeable, as stated above, is human labour per se. Hence, the socialisation mediated through value shapes a social relation between objects and an objective relation between persons."[112] Hence, only abstract labour yields value and thereby constitutes commodities in its social form.

### 2.3.2. Individualism vs. Social Totality

Marginalism, which Kelso could be seen to be a proponent of, assumes that the relationship of the individual to the object is determined by subjective needs rather than the labour necessary to acquire said object. The theory acknowledges only the economic sphere of circulation as opposed to production. The market prices of both commodities as well as factors of production are determined by the ratios of supply and demand. Naming these ratios as the only relevant market processes, the distribution of productive factors appears as non-economic randomness.[113] By putting the question of distribution back on the table, Kelso removes this 'randomness' from marginalism. Therefore, binary economics could be seen as a hybrid of classical and neoclassical economics: on the one hand, Kelso refers to Smith and Locke when it comes to formulating 'natural' or 'just' property rights. On the other hand, Kelso refers to neoclassical theory, when it comes to replacing the labour theory of value and implementing distributive justice without inhibiting the production of wealth in sufficient quantity.

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[110] See: Ibid., 31.
[111] Ibid., 31
[112] "*As a general rule, articles of utility become commodities, only because they are products of the labour of private individuals or groups of individuals who carry on their work independently of each other. […] the labour of the individual asserts itself as a part of the labour of society, only by means of the relations which the act of exchange establishes directly between the products, and indirectly, through them, between the producers. To the latter, therefore, the relations connecting the labour of one individual with that of the rest appear, not as direct social relations between individuals at work, but as what they really are, material relations between persons and social relations between things.*" Ibid., 47
[113] See: (Heinrich, 1999), 68.

Referring to the classical value-paradox, the concept of marginal utility, as stated above, offers an alternative solution. The marginalists accept that value cannot be determined by an overall use-value of things. The value-paradox is seemingly resolved by a change of perspective. From the consumer perspective, referring to marginal utility of different products, it becomes possible to explain why rational individuals may pay more for one article than the other, e.g. diamonds and water. However, by putting the deliberations of consuming individuals at the centre of their theory, the marginalists operate in the same theoretical field as the classics.

Instead of individual effort of the producer, the marginalists refer to the marginal utility which the consuming homo oeconomicus attests to the products. For this reason, the utility theory has an ahistorical notion because it abstracts from all social relations specific to historical modes of production. Gossen’s laws could potentially apply not only to all times and places, for example to a socialist economy, but also to a dog sitting in front of dry and wet food in order to satisfy the needs, assuming of course that dogs are natural utility maximisers. The dog acts outside of any social forms and price-relations which may be present in the capitalist structures of economy. Thus, only an a priori assumed rationality of subject behaviours can be the object of the utility theory, but not, however, historically evolving relations of production and modes of organisation.[114]

In both value theories, even though one is formulated from a subjective and the other from an objective perspective, value is determined by rational choices of the individual, that is to say a social context is explained by the assumption that there are universal strategies of human action per se.[115] For this reason, it is also problematic, if not misleading, to call the utility theory a subjective one. If each individual evaluates products only subjectively in reality, there could not be a generally binding representation in the form of utility curves or a general assumable rationality of maximisation, otherwise there would be the assumption of a collective and over-subjective acting individual. The "subjective” utility theory ends up being an "objective" theory of value, since it would make objectivist assumptions about subjective dispositions. If the theory is purely subjective, nothing can be assumed as generally binding,

[114] See: (Büttner, 2014), 4.
[115] See: (Heinrich, 2005), 43.

that is to say no collectivist assumptions about potential subjective behaviours could be made.[116]

Marx aims to do the exact opposite of the attributes which characterise the classical theoretical field, that is to say anthropological thinking, individualism, ahistoricism and empiricism. His labour theory of value aims to unfold a social structure, which determines the behaviour of the individual, not the other way around.[117] Marx redefines the classical category value, because, referring to his distinction between reality and appearance, it should hold a concealed context (form) of the capitalist society.

Differently, but in critical tradition of Ricardo and Smith, Marx also distinguished between use-value and exchange-value of commodities. In Marx's terms, however, the use-value (content) stands for the utility of a thing, which principally existed in all societies, whereas the constitution of exchange-value depends on the specific society. For Marx, the appearance of exchange-value is utterly important in order to analyse the social structure of a society at a certain time and place. The social structure of capitalism consists of developed social laws, i.e. historical generalities. Although Kelso also presents a historical generality, by emphasising that the increasing contribution of the means of production plays a crucial role in capitalism, his definition of (use)-values as a matter of opinion is a step back and rather creates an ahistorical theory.

In Kelso's summary of *Capital* it seems that Marx wrote only about one sort of value, just as Aristotle and Kelso did. This insufficient reproduction of Marx's argument allows Kelso to return to Aristotle's conclusion of demand as the only value-creating source: *"If Marx's labour theory of value is false, as we contend it is, then Aristotle's solution* (demand) *is the only one available; and, as he says, it is sufficient for all practical purposes even if, under actual market conditions, it falls short of perfection."*(Addition my own)[118] Although Marx praises Aristotle's discovery that commodities principally need to be commensurable in order to become

[116] See: (Büttner, 2014), 11.

[117] Marx's opposition to the doctrine of anthropologicalism is rooted in his intellectual discussion of the metaphysical Hegelian School of Philosophy. In his and Engels' dispute with Ludwig Feuerbach, who also critiqued Hegel, the following quote became famous, as it crystallises Marx's and Engels' philosophical approach: "*Feuerbach resolves the essence of religion into the essence of man [menschliches Wesen = 'human nature']. But the essence of man is no abstraction inherent in each single individual. In reality, it is the ensemble of the social relations."* (Marx, 1845), 1.

[118] (Kelso & Adler, 1958), 70.

exchanged, he emphasises that Aristotle could not have found the true "*common substance"* which expresses value, because the *"Greek society was founded upon slavery, and had, therefore, for its natural basis, the inequality of men and of their labour powers."*[119] In other words, in a society based on slavery there can be no value theory of the sort one can find under capitalism, where, on the other hand, private labour of individuals becomes socialised through an objectified value-form (money), that is to say solely through the social practice of commodity exchange by legally equal owners.[120]

In contrast to non-capitalist societies, the formation and reproduction of wealth in a capitalist society is not a result of self-conscious subjectivity nor a result of the domination of one person's will over another; i.e. not a result of personal domination. There is no personal domination in the state relation nor in relations of exploitation, but in a capitalist society there is a transition of independence from all subjective wills towards a social context. Marx calls this the domination of abstraction, i.e. a voiceless constraint of economic relations.[121] The direct producers in feudalism are exploited by extorting surplus from them through both the personal threat of violence as well as religiously justified hierarchies.[122] In a capitalist society, on the other hand, people are dominated by a structure of social relations which, as Marx's argument continues, is framed through the power of disposition over the means of production. Although Binary Economics also tackles this power of disposition, it does not see its concentrated distribution as the basis for exploitation logic, but rather as the root for inequality and poverty. However, before this difference can be discussed, it is necessary to introduce another crucial category in Marxian theory: money.

### 2.4. Value-Form: Money as the Universal Equivalent

Binary economics shares the classical/neoclassical assumption that money is basically neutral. It is the assumption "*that if the mere presence of money as a medium of exchange and as an asset is important for the smooth functioning of the economy, the quantity of money is*

[119] See: (Marx & Engels, 1956a), 39-40.
[120] See: (Harvey, 2010), 36.
[121] See: (Marx & Engels, 1956a), 44.
[122] Marx's general distinction between feudalism and capitalism does not imply that both the history of capitalism and its inherent struggles are non-violent. The distinction rather refers to the classical conclusion that a competitive free market would provide an efficient allocation of goods and services and, in principal, gives equal opportunities to everyone.

*unimportant. This is the quantity theory tradition, which claims that a change in money stock will change all nominal values in the same proportion, but will have no effect on "real" variables."*[123] The crux of the neutrality idea is that price subsequently expresses a present magnitude of value. Money is, therefore, defined as a medium which disguises the real variables in an economy.[124] For this reason, the (neo)-classical theory basically abstracts from money when it comes to analyse the exchange of commodities. There are substantialist interpretations of Marx's labour theory of value, which principally do the same. The substantialist view holds that a commodity already has value outside of the exchange relation. The magnitude of value expresses, therefore, a relation between the individual producer and the single product, a relation which is determined by the socially necessary labour-time to produce this single commodity. The value of a sole commodity seems a priori 'substantially' determined by (abstract) labour. From all these perspectives, money is, above all, a tool, the medium of exchange, which is a means of payment equivalent to the value produced.[125]

As distinguished from this conception, Harvey and, explicitly, Heinrich offer an alternative interpretation of Marx's classification of money. According to Heinrich, the labour theory of value, understood as a pre-monetary theory, is misleading because it is money which makes up the form, not the magnitude, of value which expresses the social character of labour.[126] The monetary (labour) theory of value states that the magnitude of value expresses a relation between the individual labour and the social labour in total which is represented by the universal equivalent, i.e. money.[127] Therefore, Marx wanted to show that money is not simply a dispensable tool of commodity exchange, but is rather an indispensable category of a capitalist market economy. Furthermore, the monetary (labour) theory of value holds that although money is a result of the free actions of the commodity owners, these actions are not based on an implied contract, as Locke proposed. Money is not even introduced with conscious consideration in order to simplify the exchange. Marx emphasised: *"In their difficulties our commodity owners think like Faust: —Im Anfang war die Tat. (In the beginning was the deed.) They therefore acted and transacted before they thought."*[128] The actions of

[123] (Grandmont, 1983), 8.
[124] See: (Heinrich, 1999), 238.
[125] See: (Kelso & Adler, 1958), 71; 80.
[126] See: (Heinrich, 1988), 19.
[127] See: (Heinrich, 2005), 53; 62.
[128] (Marx & Engels, 1956a), 60.

the commodity owners have to include money as a result of the principles of equivalent commodity exchange - because otherwise, commodities could not refer to each other as values.[129]

In his genesis of money Marx describes an evolutionary relation of terms; it is rather a logical argument than a historical one.[130] As a result of the principles of equivalent commodity exchange, Marx initially introduces money as a commodity itself. Within the exchange relation of two commodities, they need to refer to a third. In other words, a third commodity becomes the expression of value (socially necessary labour-time) in the exchange of the other two commodities; it enables them to communicate their quantitative and relative equality.[131]. At this point of Marx's analysis, the third commodity evolves into the money commodity, i.e. the universal equivalent. Amongst other metals, gold has historically been proven to be the most suitable for this purpose because, due to its natural quality, it is both fairly stable and scarce. At the beginning of the 20th century the gold standard won over the few countries who still used the silver standard. The abolition of the gold standard and the implementation of fiat money in the 1970s, however, does not necessarily affect the crux of Marx's argument which is, first of all, that a capitalist exchange of commodities requires the universal equivalent.[132]

Marx's dialectical argumentation (the evolutionary relation of terms) has the shape of an ellipse, *"contradictions are never finally resolved; they can only be replicated either within a perpetual system of movement (like the ellipse) or on a grander scale."*[133] Hence, the former contradictions within the conceptual formation of the value-form are replicated in the three peculiarities of the money commodity: Firstly, *"use value becomes the form of manifestation, the phenomenal form of its opposite, value"*; secondly, *"concrete labour becomes the form under which its opposite, abstract human labour, manifests itself "*; and, thirdly, *"labour of private individuals takes the form of its opposite, labour directly social in its form"*.[134] The money-form is determined in detail by the functions it carries in a capitalist society. With regards to the functions of money, there are many shallow similarities between Marx and

[129] See: (Heinrich, 2005), 62.
[130] See: Ibid., 55.
[131]See: (Haug, 2009), 26.
[132] In section 2.4.4. the question whether Marx's theory of money requires the existence of a money commodity will be tackled again in more detail.
[133] (Harvey, 2010)*, 62.*
[134] (Marx & Engels, 1956a), 37, 39; quoted from Ibid., 62.

other authors. Starting from the money commodity, money acts firstly as a measure of value and, secondly, as a means of circulation. Both functions contain contradictions which then find *"a modus vivendi, a form in which they can exist side by side."*[135] Accordingly, money thirdly functions as a unity of a measure of value and a means of circulation, that is to say it finally becomes pure money which resolves the limiting contradictions of the money commodity.[136] As universal money, it becomes the independent form of (exchange) value which contains additional functions as a potential hoard of value, as a means of payment, as world money and, last but not least, as credit money.

### 2.4.1. Value and Price-Money as a Measure of Value?

According to Marx, value itself, i.e. the socially necessary labour-time embodied in a commodity, is not materially measureable. It, therefore, needs a representative, i.e. money.[137] How does money act as measure of value? For Marx, the measure of value is a necessary form of appearance, that is to say an interrelation between socially necessary labour-time in a commodity and the socially necessary labour-time which is embodied in the money commodity.[138] Calling it an appearance, however, indicates that Marx questions the accuracy of money acting as a measure of value. The individual commodity owners do not know the market value of their product. They hang, so to speak, a random price tag on it and see if or how many items or services they can sell, that is to say how many commodities can be sold as social labour. *"Price is the money-name* (Euro, Dollar, etc.) *of the labour realised in a commodity",* but, nota bene, the money performance as a standard of price is distinct to its performance as a measure of value. [139] In contrast to value, price is exposed to the fluctuations of supply and demand and is, therefore, only converging on the social average price or natural price, which represents value.[140] Within the natural price, supply and demand cease to explain anything. For this reason Marx sees socially necessary labour-time as the non-measurable substance of value. The value-form then becomes a social necessity, because money as a standard of price allows fluctuations at a given time and place. This is the

[135] (Marx & Engels, 1956a), 70; quoted from Ibid., 62.
[136] See: (Harvey, 2010), 75.
[137] See: (Marx & Engels, 1956a), 66.
[138] The value of gold or any other money commodity is not constant, but rather fluctuates. This, however, does not affect the mutual exchange relations of other commodities, because it affects them simultaneously. (See: (Harvey, 2010), 57).
[139] (Marx & Engels, 1956a), 69.
[140] See: (Harvey, 2010), 59.

quantitative contradiction between the value-form and the price-form, because the latter is not a quantitative expression of the former but rather a qualitative one.

Amongst the quantitative contradiction there is also a qualitative incongruity of value and price: "*Things which in and for themselves are not commodities, such as conscience, honour, etc., can be offered for sale by their holders and thus acquire the form of commodities through their price. Hence a thing can, formally speaking, have a price without having a value."*[141] In contrast to Marx, Ricardo did not distinguish between the average price and value. In the classical labour theory of value, money is seen as neutral. On average, money is assumed to express values accurately. The logical problems with the classical labour theory of value are then obvious, considering that non-labour products such as uncultivated land can be sold at a price and some labour products such as art have a price, which may exceed the individual effort of the artist.[142] Kelso would add to these dissents, that the contribution of machines is simply ignored or unnecessarily defined as concealed labour. As stated above, Ricardo bypasses the problem of non-labour products by adding the exception of pure scarcity to labour, which he still holds, in principal, as the sole source of value. In Marx's theory, however, there is no exception of that sort. Scarcity of supply and effective demand come into play, when Marx talks about money as a standard of price. Value itself, however, strictly represents socially necessary labour-time, although the price-system can also operate in non-labour dimensions.

### 2.4.2. Dissents and Misunderstandings

Facing the quantitative as well as qualitative incongruities between value and price in Marx's theory, one question clearly comes to mind: *"if prices can be put on anything independently of their value, and if they can in any case quantitatively fluctuate all over the place independently of value, then why is Marx so fixated on the labour theory of value?"* Is Marx's theory a dogged belief, as Kelso suggested?[143] Kelso also defines price and value as synonyms and thereby bypasses any kind of possible contradiction between them. In line with (neo-) classical political economists, Kelso believes that "a*nything which is prized for its exchange value and which is bought, sold, exchanged, or systematically collected and exchanged among*

[141] Ibid., 60.
[142] See: (Heinrich, 2005), 40.
[143] See: (Kelso, 2013), 5.

*collectors, is (…) empirically determined to be wealth."*[144] In other words, for Kelso, there is no need for an extra concept of value, because a concept of price seems to already contain everything one can observe. In line with many critics, Kelso argues that Marx has never given any proof of his concept of value and did not even try to.[145]

What defines scientific? Most self-proclaimed serious economists of any school reject theories containing metaphysical elements. According to Karl Popper's definition of "scientific", a scientific method (in both natural and social science) is the critical advancement of trial and error.[146] The rational critique of scientific theories should be possible by definition, that is to say theories should be falsifiable. Thus, a theoretical syllogism is valid if circular. This means that if the premises are correct and the deduction is valid, the conclusion must be also correct. In other words, if the deduction is valid but the conclusion is incorrect, the premises cannot be correct.[147] Popper's critical method rationally questions hypotheses by questioning the validity of circular syllogisms within a theory. Accordingly, objective science can be realised by an intersubjective application of the procedure of rational critique; truth can only be asymptotically approached. Popper's principles could be seen as the standard in the majority of humanity scholars and even more so in the scholars of economic thought. It is no coincidence that Marxian scholarships either defend and interpret *Capital* in accordance with Popper's principles or simply reject the principles themselves. Popper was a declared opponent of Marx's theory, which he claimed, along with other critics, was ideological and contained metaphysical elements and non-falsifiable assertions.

In accordance with Popper's principles of science, Marx's presumed universality and the carved-out general value-form in a capitalist society would remain an assertion (value = socially necessary labour-time) unless one transforms it into a hypothesis. A falsifiable hypothesis could be to claim that socially necessary labour-time as the ultimate value substance is directly correlated to price. Price is something people witness every day. Marx, however, was not interested in doing this and nobody managed to prove it after him. Does this mean the Marxian theory is a metaphysical assertion? Ironically, most of Marx's works can be read as an attempt to overcome Hegel's metaphysical philosophy. It cannot be denied

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144 (Kelso & Adler, 1958), 61.
145 See: (Kelso, 2013), 5.
146 See: (Popper, 2004), 3.
147 See: Ibid., 10.

that Marx had a certain political standing, but he was actually prepared to deliver a scientific analysis of the capitalist mode of production. In the chapter about the so-called fetishism of commodities, for example, Marx attributes a *"mystical character"* to the commodity, which derives from the fact that in a monetary economy, i.e. capitalism, it appears first and foremost to have a potential exchange-value, conceptually introduced as an abstraction from being a use-value in the first place.[148] What Marx looks for in his analysis is the <u>material</u> base of the value-form, which he detects firstly as being human labour per se. Marx's concept of value is a non-empirical one. Value is not a measurable variable. Hence, it falls through Popper's cracks. However, strictly speaking, the term "utility theory of value" used by the marginalists (the counterpart of the labour theory of value) could be seen as a metaphysical concept, as is Marx's term of socially necessary labour-time. Additionally, the marginalist theory is tautological, because utility, on the one hand, is the quality of a commodity which makes it seem desirable and, on the other hand, the purchase itself apparently shows that a commodity has utility.[149]

In critical supplement to Popper, the British economist Joan Robinson stated in her book, *Economic Philosophy: An essay on the progress of economic thought,* that <u>all</u> economic theories, however, contain ideological assumptions and are more or less dependent on the political interests of their creators, even if there might be a strictly scientific analysis based on those assumptions.[150] Therefore, both Marx's as well as the marginalist concept of value might be not completely provable. Both are pure theoretical concepts, just as the field theory in physics. Neither the field theory nor quantum-mechanical wave functions deal with measurable variables. Without purely theoretical concepts, however, physics would not be where it is today.[151] Robinson does not reject Popper's principles, but rather sees the scientist as part of a society and its ideology, which determines the individual interests and his or her field of research. The metaphysical/ideological element is therefore a necessary condition, before an analytical question could even be formulated.[152]

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[148] (Marx & Engels, 1956a), 46.
[149] See: (Robinson, 1968), 60.
[150] See: (Heinrich, 1999), 19.
[151] See: (Heinrich, 1988), 20.
[152] See: (Robinson, 1968), 9-10.

The quantitative and qualitative incongruities between value and price has been heavily debated in the reception of *Capital*. Marx himself set the foundations for this controversy, because in Vol. III he aimed to accomplish a theory of distribution by formalising his value theory in a Ricardian manner, by excluding money from the argument.[153] The discussion about the so-called transformation problem, that is, the problem of how to quantitatively transform values into prices of production, and in particular Paul Samuelson's fundamental-mathematical attempt (1957) to falsify Marx's transformation procedure, prompted many Marxian-orientated economists to finally reject the labour theory of value. The first one who raised the transformation issue in 1896 was Böhm-Bawerk. He not only stated an inconsistency (which Robinson rather calls a modification)[154] between Marx's value concept in Vol. I and his theory of prices of production in Vol. III, but also rejected his presumed conclusion of abstract labour as the value-creating substance as dialectical "hocus-pocus".[155] Alongside the logical errors in the transformation procedure, Heinrich notes that in Vol. III Marx falls behind his own scientific achievement in Vol. I and II by performing an abstraction from money, i.e. the representative of value in fluctuating prices, which he originally introduced as a fundamental condition for evolved exchange relations.[156]

Why was Marx not interested in proving his theory? It should be acknowledged that value is nothing measurable and money functions as a representative rather than as a qualitative expression of value. When faced with the quantitative contradiction between value and price as well as the accusation of being an ideological concept, this begs the question whether Marx's labour theory of value could be taken seriously at all.

No one ever witnessed socially necessary labour-time embodied in a commodity. A commodity can never have value on its own. Value is neither empirical nor tangible, but is socially and conceptually reproduced. For this reason, Marx calls the origin of value a secret and only a proper analysis of the commodity could break with its fetishism: "*The*

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[153] In Vol. III Marx tried to show how surplus value is "generally" distributed amongst capitalist producers of different sectors, assuming that *"surplus value originates in the production process by virtue of the class relation between capital and labour, but is distributed among individual capitalists according to the rules of competition"* (Harvey, 1982), 60 For the sake of formulating a theory of distribution, Marx also assumes that under competition commodities exchange according to their prices of production rather than according to their values. These prices of production, however, are still measured in values not money prices. See: (Harvey, 1982), 61.
[154] See: (Robinson, 1968), 50.
[155] See: (Heinrich, 1988), 1.
[156] See: Ibid., 15.

*determination of the magnitude of value by labour-time is therefore a secret, hidden under the apparent fluctuations in the relative values of commodities."*[157] The fetishism of commodities becomes real in everyday life, because relative values of commodities are practically what everyone has to deal with. Coming back to what was said earlier about theories of science, Marx's determination of the magnitude of value could be called the Achilles heel of his entire project.

According to Robinson, Marx's value concept is a metaphysical assertion, because it only remains valid on its own terms and lacks empirical provability.[158] Marx, however, was never interested in any proof of the labour theory of value, which he explained in a letter to his friend Ludwig Kugelmann: "*The chatter about the need to prove the concept of value arises only from complete ignorance both of the subject under discussion and of the method of science. Every child knows that any nation that stopped working, not for a year, but let us say, just for a few weeks, would perish. And every child knows, too, that the amounts of products corresponding to the differing amounts of needs demand differing and quantitatively determined amounts of society's aggregate labour. It is* ***self-evident*** *that this necessity of the distribution of social labour in specific proportions is certainly not abolished by the specific form of social production; it can only change its form of manifestation. Natural laws cannot be abolished at all. The only thing that can change, under historically differing conditions, is the form in which those laws assert themselves. And the form in which this proportional distribution of labour asserts itself in a state of society in which the interconnection of social labour expresses itself as the private exchange of the individual products of labour, is precisely the exchange value of these products."*[159] In this letter Marx is referring to an assumed universality: in order to exist, human beings have to work. How this universal law is translated into a general form of production and reproduction is the question Marx is interested in. Marx wants to show that, in capitalism, the *"social relation to the labouring activities of others is disguised in the relationships between things"* and therefore introduces his value-concept which differs from his understanding of fluctuating prices.[160] Therefore, one could hang a price tag on anything, but, as Harvey points out, *"if everybody tried to live off the spectacle of*

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[157] (Marx & Engels, 1956a), 48.
[158] (Robinson, 1968), 9; 48.
[159] (Marx & Engels, 2013), 67; quoted from (Heinrich, 2005), 44.
[160] (Harvey, 2010), 40.

*waterfalls or through trading in conscience and honour, no one would survive."*[161] As stated above, Marx's labour theory of value is a pure theoretical concept, just as the utility theory in neoclassical economics or the field theory in physics. The question is: from which assertion should an economist start?

### 2.4.3. Money as a Means of Circulation and Say's Law

How does money act as means of circulation? Marx's answer to this question contains some crucial points. In the discussion of binary economics one such point is especially significant as it implies a rejection of Say's law.

In Vol. I, Marx describes a tendency in capitalism towards socio-economic inequality between owners and non-owners of capital instruments but, contrary to Kelso, he locates the roots of this inequality even before he developed his own definition of capital. On the level of simple commodity circulation, C-M-C, Marx shows that money is non-neutral, that is to say its existence prevents the economy from being in equilibrium, where purchases must equal sales. The C-M-C circulation is significantly different to a Robinson-Crusoe-barter-model (C-C), a model which is the starting point of classical economic theory. In comparison, the advantage of Marx's model is that, crucially, money is taken into account in an economic analysis. For the purpose of analysis, Marx splits up the C-M-C circulation into two antithetical moments of exchange. Firstly, the metamorphosis of a particular commodity into money, C-M, and, secondly, a particular transformation from money into a commodity M-C.

The exchange of a commodity into money, C-M, essentially means that the commodity owner is going from the particular to the universal. In order to accomplish a sale, the commodity has to fulfil some kind of social need. If there is no social need, it could be created through advertisement. Hence, the promise of use-value becomes utterly important, if not a condition, as it helps to convince buyers to give the universal in exchange for the particular.[162] *"We see then, commodities are in love with money, but —the course of true love never did run smooth. The quantitative division of labour is brought about in exactly the same spontaneous and accidental manner as its qualitative division. The owners of commodities therefore find out, that the same division of labour that turns them into independent private producers, also frees*

[161] Ibid., 60.
[162] See: (Haug, 2009).

*the social process of production and the relations of the individual producers to each other within that process, from all dependence on the will of those producers, and that the seeming mutual independence of the individuals is supplemented by a system of general and mutual dependence through or by means of the products.*[163] In this quote Marx critically emphasises that Smith's hidden hand of the market actually describes a chaotic system with chronic uncertainty, as it sets up various barriers in the way of a direct conversion of particular into the universal equivalent.[164]

The second phase, the M-C transition, however, is not simply the reverse of C-M. To change the universal into the particular is actually much easier than the other way around.[165] Those who command the universal, and thus social labour per se, are principally more powerful than sellers who only command the single commodity. This characteristic unfolds the possibility that people could be motivated to hold money, maybe driven by insecurities or even by fetish. But if a lot of people decide to hold money, the circulation stops and the effective demand for commodities drops. And if effective demand drops this means that a lot of commodities remain unsold, that is to say use-values are not realised because their exchange-values are not realised.

At this point, long before Keynes, Marx explicitly challenges Say's law, which was also held by Ricardo: "*Nothing can be more childish than the dogma, that because every sale is a purchase, and every purchase a sale, therefore the circulation of commodities necessarily implies an equilibrium of sales and purchases. (…)"* He points out that, "*the purchaser has the commodity, the seller has the money, i.e., a commodity ready to go into circulation at any time. No one can sell unless someone else purchases. But no one is forthwith bound to purchase, because he has just sold."* Money, defined as the universal equivalent of socially necessary labour-time, becomes the lubricant of commodity exchange. It allows that "c*irculation bursts through all restrictions as to time, place, and individuals, imposed by direct barter, and this it effects by splitting up, into the antithesis of a sale and a purchase, the direct identity that in barter does exist between the alienation of one's own and the acquisition of some other man's product."*[166]

[163] (Marx & Engels, 1956a), 72-73.
[164] See: (Harvey, 2010), 64.
[165] See: Ibid.
[166] (Marx & Engels, 1956a), 75.

The analytical separation of the two actions, sale and purchase, paves the way for a moment of independence. There can be a sale without a following purchase, that is to say at this point money is no longer a means of circulation but it could become the purpose of the transaction. Although money creates a coherent social context, the reference to money thus implies the destruction of this coherence at the same time.[167] "*To say that these two independent and antithetical acts have an intrinsic unity, are essentially one, is the same as to say that this intrinsic oneness expresses itself in an external antithesis. If the interval in time between the two complementary phases of the complete metamorphosis of a commodity become too great, if the split between the sale and the purchase become too pronounced, the intimate connexion between them, their oneness, asserts itself by producing – a crisis.*"[168] The greater the independence of the associated moments, sale and purchase, the greater the likelihood of economic crisis. During such a crisis, the unity of the mutually independent moments is vehemently emphasised.

The reduction of money to the role of a mere technical mediator and by not acknowledging it as essential for the economic processes, classic and neoclassical theory denies the possibility of crisis. Therefore, crises could not occur, except as a result of exogenous shocks.[169] In binary economics, however, it is the concentration of capital ownership which is mainly responsible for economies not functioning according to conventional textbooks. Hence, once this external situation is overcome, that is to say when the redistributive measurements of a 'mixed capitalism' are replaced by asset formation policies, the economy would return to Say's equilibrium. However, according to Marx's argumentation on the level of simple commodity exchange, there could not be such a return because of the antithetical phases which endogenously belong to a monetary economy.

### 2.4.4. Universal Money

So far we have looked at the two basic functions of money: as a measure of value and as a means of circulation. Both functions are somewhat incompatible with each other. The money commodity gold, although seemingly sufficient as a measure of value, fades into the background as a standard of price and is impractical as a means of circulation. Consequently,

[167] See: (Heinrich, 1999), 245.
[168] (Marx & Engels, 1956a), 75.
[169] See: (Heinrich, 1999), 245.

the contact with the monetary base, i.e. socially necessary labour-time embodied in gold, becomes loose, if not completely disbanded.[170] There is a transformation in Marx's argument because, at the end of the day, there is only one 'money' which performs both functions. The expression of a commodity's value is its price. Although it must be clear what is used as money (gold, silver, paper bills, etc.), real money does not necessarily have to be physically present. The function as a measure of value and its expression in price can therefore be performed by an 'ideal money'.[171] Although the function as a means of circulation requires money to be a physical part of the circulation, Gold become inefficient as a means of payment and is replaced by valuables, i.e. symbolic money-forms such as coins, paper money and credit.[172] Money as money is both a measure of value and a means of circulation, it becomes an independent form of value, the material existence of abstract wealth and also the material representative of material wealth.[173] The redefined money has three new functions which resolves its former incompatibility, firstly as a hoard, secondly as a means of payment and thirdly as world money.

What is meant by the issue of hoarding? A hoard of money becomes a necessity for two reasons. Firstly, Marx points out that the money system requires a hoard in the form of a reserve fund which, to some extent, regulates the *ebbs and flows* of the quantity of money.[174] Secondly, in line with Keynes, he emphasises that there is a temporality of production, which makes hoarding essential. *"With the very earliest development of the circulation of commodities, there is also (…) the necessity, and the passionate desire, to hold fast the product of the first metamorphosis. This product is the transformed shape of the commodity, or its gold-chrysalis. Commodities are thus sold not for the purpose of buying others, but in order to replace their commodity-form by their money-form. From being the mere means of effecting the circulation of commodities, this change of form becomes the end and aim."*[175] When the seller becomes a hoarder there is a transition from C-M-C to M-C-M in which money now becomes the object of circulation. What the hoarder wants is money; the universal social power. Hoarding could become a passionate desire which is also necessary for organising the

[170] As stated above Marx did not consider such a detachment because he did not think of the possibility that the money commodity could be replaced by another representative of value.
[171] See: (Heinrich, 2005), 63.
[172] See: (Marx & Engels, 1956a), 83.
[173] See: (Heinrich, 2005), 66.
[174] *"We have seen how, along with the continual fluctuations in the extent and rapidity of the circulation of commodities and in their prices, the quantity of money current unceasingly ebbs and flows. This mass must, therefore, be capable of expansion and contraction."* (Marx & Engels, 1956a), 85.
[175] Ibid., 84.

time structure of commodity production, especially in branches of long production cycles such as in agricultural production.

In order to get into the market as a producer in the first place, one needs to have some savings. *"With the possibility of holding and storing up exchange-value in the shape of a particular commodity, arises also the greed for gold. Along with the extension of circulation, increases the power of money, that absolutely social form of wealth ever ready for use. (…)Since gold does not disclose what has been transformed into it, everything, commodity or not, is convertible into gold. (…) Just as every qualitative difference between commodities is extinguished in money, so money, on its side, like the radical leveller that it is, does away with all distinctions."*[176] Therefore, hoarding of the radical leveller leads into the potential commodification of anything, which goes back to the distinction between value and price. Conscience and honour have no value, but they can be sold for a price. *"But money itself is a commodity, an external object, capable of becoming the private property of any individual."*[177] At this point, the former contradiction that private activity becomes the means of representation of universal social labour, something which Marx noted in the section about equivalent and relative forms of value, is reversed. Therefore, hoarding allows private individuals to appropriate (universal) social power. In terms of how much private persons could accumulate from this appropriation is, principally, limitless. Marx points out that the limitless potentiality of money-power accumulation, however, is contrasted by the limited possibilities for use-value accumulation. This contradiction is crucial, as it is "*a precursor to his explanation of the growth dynamics and expansionary nature of what today we call "globalising" capitalism."*[178]

The crucial point in money functioning as money is that it becomes the object of circulation, because it is the independent form of value, i.e. the universal equivalent. Money as a means of payment not only performs the transition from C-M-C into M-C-M but also a transformation from a buyer-seller relation into a creditor-debtor relation.[179] Such a situation arises when the commodity producer did not manage to hoard money, but still needs to buy resources in advance in order to produce. At this point buying now and paying later becomes a necessity.

[176] Ibid., 84-85.
[177] Ibid., 85.
[178] (Harvey, 2010), 74.
[179] Conventional economics uses the term means of payment for any monetary transaction, whereas Marx narrows his definition to the time-delayed payment. See: (Heinrich, 2005), 67.

*"The vendor sells an existing commodity, the purchaser buys as the mere representative of money, or rather of future money. The vendor becomes a creditor, the purchaser becomes a debtor. Since the metamorphosis of commodities, or the development of their value-form, appears here under a new aspect, money also acquires a fresh function; it becomes the means of payment."*[180] As a means of circulation, money mediates the exchange. As a means of payment, however, it completes an exchange which already took place.[181]

Despite individual motives such as a lust for gold or hoarding as a passionate desire, the M-C-M form of circulation therefore arises from a social necessity. The M-C-M form is the only form of circulation which resolves the contradictions of money functioning as a measure of value and as a means of circulation; it can either bring money into circulation if it is needed or take it out when it is not. The money needed in an equilibrium with the commodities being traded will keep the measure of value constant, otherwise the measure of value will start shooting all over the place.[182] If money is maintained as a constant measure of value the use of money as a means of payment becomes indispensable and thereby this form of circulation in which money focusses on money comes into play.

The logical argument which follows is that in contrast to money being the mediator between two different use-values in the C-M-C form (e.g. cups for plates), the principal of equivalence is bypassed when money becomes the object of exchange. For example, within the function of money as a means of payment, there is not only a temporal delay in the payment but the money changes its character entirely: now it no longer mediates the purchase (this has already been completed), it seals the deal. For the buyer, this means that he/she absolutely must sell to pay off the purchase. The buyer needs that money as an absolute existence of exchange-value or universal equivalent.[183] The general incentive for a hoarder to lend money, to start the circulation process with money, is what Keynes called the liquidity premium which is a

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180 (Marx & Engels, 1956a), 86.

181 *"The means of payment enters the circulation, but only after the commodity has left it. The money is no longer the means that brings about the process. It only brings it to a close, by stepping in as the absolute form of existence of exchange-value, or as the universal commodity. The seller turned his commodity into money, in order thereby to satisfy some want, the hoarder did the same in order to keep his commodity in its money-shape, and the debtor in order to be able to pay; if he do not pay, his goods will be sold by the sheriff. The value-form of commodities, money, is therefore now the end and aim of a sale, and that owing to a social necessity springing out of the process of circulation itself."* Ibid., 87.

182 See: (Harvey, 2010), 60.

183 See: (Heinrich, 1999), 244.

form of surplus at the end of the circulation; money has to become more money.[184] For this reason M-C-M becomes M-C- ΔM.[185] This general motion of circulation is crucial to Marx's entire theory because it forms the basis of what will later be called capital.

Money functioning as the means of payment implies, furthermore, another contradiction. The contradiction tapers off in phases of economic crises, which are known as monetary crises. "*In so far as the payments balance one another, money functions only ideally* (nominally) *as money of account, as a measure of value. In so far as actual payments have to be made, money does not serve as a circulating medium, as a mere transient agent in the interchange of products, but as the individual incarnation of social labour, as the independent form of existence of exchange -value, as the universal commodity."* (Additions my own)[186] In a monetary crisis, however, the settlement mechanism of payments becomes disturbed and "*no matter what its cause, money becomes suddenly and immediately transformed, from its merely ideal shape of money of account, into hard cash."*[187] In other words, the chain of IOUs comes to an end and the demand increases for the actual universal equivalent, that is to say money becomes scarce.[188] *Profane commodities can no longer replace it. The use-value of commodities becomes valueless, and their value vanishes in the presence of its own independent form. (…) In a crisis, the antithesis between commodities and their value-form, money, becomes heightened into an absolute contradiction."*[189] Marx points out here that surplus liquidity in the market could be based on fictional money (value).[190] This means that the connectivity to value (socially necessary labour-time) eventually becomes loose, which then can lead into a crisis (e.g. the subprime crisis from 2007-2009).

The money function as a means of payment is directly linked to credit-money, which is created by commercial banks.[191] Commercial banks are not solely mediators of the credit business, they also create money, i.e. book money or credit money. Credit money is a payment promise

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[184] See: (Krüger, 2012), 48.
[185] What becomes evident here is that Marx's argumentation is build up by unfolding one social necessity after another to show that it is the capitalist form of society which allows greed to flourish in certain situations, rather than human nature itself.
[186] (Marx & Engels, 1956a), 87.
[187] Ibid.
[188] See: (Harvey, 2010), 78.
[189] (Marx & Engels, 1956a), 88.
[190] It is the basis for what Marx calls later fictitious capital, i.e. debt.
[191] The way commercial banks make profit, is not only by fees and commissions, but first and foremost by the margin of interest rates on deposits and credit.

which has money functions itself when it is resold as promissory note. By lending money, book money is created from nowhere and disappears again into nowhere, when the payment promise is fulfilled.[192] "*Credit-money springs directly out of the function of money as a means of payment. Certificates of the debts owing for the purchased commodities circulate for the purpose of transferring those debts to others. On the other hand, to the same extent as the system of credit is extended, so is the function of money as a means of payment. (…)*" Marx concludes that money in its function as the means of payment then again leads into the commodification of everything, including non-labour products. "*When the production of commodities has sufficiently extended itself, money begins to serve as the means of payment beyond the sphere of the circulation of commodities. It becomes the commodity that is the universal subject-matter of all contracts. Rents, taxes, and such like payments are transformed from payments in kind into money payments.*"[193]

Finally, all the former functions repeat themselves on a universal level of world money. There it can function firstly again as a means of circulation in order to convey a purchase, secondly as a means of payment in order to complete a purchase, or thirdly *"as the universally recognised embodiment of all wealth"* in order to transfer wealth from one country to another, a transfer which neither concerns payments nor purchases, e.g. reparation payments after a war.[194] The national state or, nowadays, the reserve fund managers of a certain currency area, play a crucial role in monitoring and regulating qualities and quantities of money. When money acts as world money, however, the global stage sets some limits and coercive laws to this management. Although individual states manage their own money supply, they become disciplined by the world market. Generally, states cannot simply print more money without inflationary consequences and an immediate relative currency devaluation. In Marx's times the state's function is therefore to stabilise the initial monetary system within its borders by connecting it to a metallic base (gold and silver). For various reasons the metallic-based monetary system, however, was stressed very much in the 1960s. Since the 1970s, the gold standard has been abandoned. This raises the question "(…) *of how*

[192] See: (Heinrich, 2005), 157-158.
[193] (Marx & Engels, 1956a), 88.
[194] Ibid., 89; quoted from (Heinrich, 2005), 67.

*relevant Marx's arguments are in a world where the financial system works without a money commodity, without a metallic base (...).*"[195]

With the implementation of so-called fiat money, we know now that money does not necessarily have to be related to a commodity, and that this relation was rather a historical stage. Mistakenly, Marx could not imagine a capitalist monetary system without commodity-related money; in this case, he was truly a victim of his time. But Heinrich points out that Marx <u>assumed</u> a money commodity at the basis of the monetary system, that is to say he did not even question it. Marx was merely interested in explaining the circumstances of how a commodity becomes money, not if. Therefore, the question now is rather if the assumption itself is actually essential to his argumentation in the analysis of the value-form.

Heinrich's thesis is that any money (if a money commodity with its own value or not) is simply representative of value per se and, therefore, a valuable. On the one hand, even if one admits that Marx did not explicitly justify that the universal equivalent must be a commodity, such a conclusion seems almost self-evident. If the universal equivalent is supposed to express the value of commodities it should contain value itself, that is to say it should be a commodity itself. On the other hand, this conclusion is not mandatory, because the universal equivalent does not apply as an object of value just as the ordinary commodities. Marx rather introduces the universal equivalent as the sole and ultimate aspect of value. This means that although the natural form of the equivalent is said to be the <u>aspect of value</u>, the natural form of gold is as little ultimate value as a paper note. The particular natural form only becomes the ultimate appearance of value, because all commodities <u>refer to</u> this natural form as the ultimate form of value. The universal equivalent is therefore an abstraction, rather than a particular commodity.[196]

If this abstraction (the transcendent quality of the exchange-value of ordinary commodities becomes a sensual quality in money) is no longer represented by gold, what is its replacement? The fact that fiat money can exist without a metallic base does not necessarily imply that this relationship of moneys to socially necessary labour-time is non-existent. Different paper moneys dispensed by central banks, may become evaluated by exchange rates which are then again determined by supply and demand. The exchange rates of currencies,

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195 (Harvey, 2010), 82.
196 See: (Heinrich, 1999), 231-232.

however, are said to be an indicator of competitiveness of different national economies or currency areas and are therefore linked to material productivity. Instead of fixed gold relations we now have statistical data, which constructs the fiction that there is a national economy which performs well or badly, measured in the development of GDP. Furthermore, the relative value of a currency is nowadays evaluated by the purchasing power parity, which is based on a chosen commodity bundle. What serves as the universal equivalent, however, whether it is a commodity or simply paper money, cannot be explained at the level of simple circulation. Only when we look at the credit system is it clear that the existence of a commodity-related money was merely a historical state of transition, not determined for capitalist production.[197]

So far however, Marx emphasised that the symbolic forms of money seems to develop into an independent existence.[198] Harvey points out that *"the relationship of moneys to socially necessary labour-time, which was problematic even in the case of gold, has become even more remote and elusive"* when the gold standard was abolished.[199] To some extent Marx's argumentation in the *Genesis of Money* in Vol. I indicates the possibility of fiat money by giving the idea that credit could also function as a means of payment. Although a metallic base, i.e. the existence of a money commodity, was mistakenly indispensable for Marx, Heinrich points out that, alternative to the requirement of a money commodity, the creation of credit could function as a palliative in times of a monetary crises in which the central banks may act as a lender of the last resort.[200] The gold standard, or money commodity, turned out to be an obstacle for capitalist reproduction. Whereas an augmented issue of bank notes (cash) as a reaction to economic crises was limited by the consequence of gold outflow, fiat money (controlled by the key interest rate) without formal limits has proven to be the more flexible instrument.[201] The money commodity therefore was a historical particularity, but not a suitable generality of the capitalist mode of production.[202]

To conclude, although things have changed a great deal, Marx's argument could be quite useful to understand the current situation because the contradictions within the necessary

[197] See: See: (Heinrich, 2005), 68.
[198] See: (Marx & Engels, 1956a), 83.
[199] (Harvey, 2010), 70.
[200] See: (Heinrich, 1999), 296.
[201] See: (Heinrich, 2005), 161.
[202] See: (Heinrich, 1999), 290 et seq.

emergence of an imaginary form of value are still crucial to the system: "*The problematic relationship between the existing money-forms and commodity-values that Marx outlines is still with us and very much open to the line of analysis that he pioneered, even though its contemporary form of appearance is quite different.*"[203] Heinrich's monetary (labour) theory of value emphasises the qualitative context of money and abstract labour insofar as it bypasses difficulties with the problem of how to transform values into prices.

### 2.5. Capital: Thing vs. Process

So far, the following basic demarcations between binary economics and Marxian theory have been outlined: (1) With ambivalences, the concepts operate in two different theoretical fields. (2) This translates into two different definitions of value: Kelso addresses subjective marginal utility and Marx deals with abstract labour as the ultimate source of value. (3) Binary economics defines money as neutral and upholds Say's law under the condition of broad-based capital ownership, whereas the Marxian theory emphasises the non-neutrality of the value-form (money) and rejects Say's law.

It is worth noting that Locke was one step ahead of the neoclassical equilibrium theory by at least broaching the issue of hoarding. Locke acknowledged that money enables people to acquire property and not only directly through labour. Thus, by exchanging perishable items into non-perishable money, hoarding becomes a way to bypass the principle of limitation.[204] Locke justifies this procedure by saying: "*But, since gold and silver, being little useful to the life of man, in proportion to food, raiment, and carriage, has its value only from the consent of men—whereof labour yet makes in great part the measure—it is plain that the consent of men have agreed to a disproportionate and unequal possession of the earth—I mean out of the bounds of society.*"[205] In other words, money legitimately violates the principle of limitation because it was, according to Locke, introduced as a social agreement. In this way, Locke could, on the one hand, attack the parasitic aristocracy who lived from privileges and land rent and, on the other hand, justify non-ownership despite individual contribution of wage labourers.

[203] (Harvey, 2010), 70.
[204] See: (Heinrich, 1999), 30-31.
[205] (Locke, 2014), 125-126; quoted from Ibid., 31.

Kelso does not reject the theory of neutral money. For this reason he can also use a robinsonade (money excluded) to illustrate his entitlement theory, just as many classical and neoclassical authors before him.[206] Both the marginal productivity theory and Kelso's concept of binary productiveness is based on an equilibrium model, which is ultimately a barter system. In his text *Das Wesen des Geldes,* Schumpeter pointed out what constitutes the essence of money within such a theoretical framework. Thus, money has no other theoretical significance for equilibrium prices, but to transform the already formulated theory of relative prices into a theory of absolute prices.[207] In order to go from relative to absolute prices, an arbitrary number has to be assigned to an economic size, e.g. to a single commodity or a commodity bundle. Through this assignment the particular monetary system is basically already defined. Although fixing a modifiable arbitrary number can induce adjustments of economic sizes, these adjustments are absurd, because they are justified by a method of social accounting, i.e. money prices and not, however, in changes within the commodity itself.[208] Due to such absurd adjustments, money, although indispensable as it simplifies calculation, becomes a disturbing factor in an otherwise perfect neoclassical-model economy.[209] Binary economics proclaims precisely the same 'perfection', except for the condition of a 'just' and diverse distribution of capital ownership. If this condition were to be realised, the real purpose of capitalism would come to light again; the satisfaction of needs and reducing the extent of toil at the same time. The fact that Kelso wants to both limit and enable the people to acquire capital through credit indicates a strong consistency with Locke's theory of property and its implied principles. However, for Kelso, money is not the issue, but the physical performance of the machine. Thus, the binary theory abstracts from the difference between a market and a mere barter-constituted economy with namely money as a purpose of individual actions. Money is solely a numéraire in the neoclassical equilibrium theory; there is no argument for keeping money.[210]

These contrary assumptions culminate in the incompatibility of Marx's and Kelso's definition of capital. In binary economics capital is defined as productive thing, which one can either own or not. Marx, however, defines capital as merely a process, which is directly connected to the

[206] See: (Kelso & Adler, 1958), 66-68.
[207] See: (Heinrich, 1999), 63.
[208] See: (Schumpeter, 1970), 221-224; quoted from (Heinrich, 1999), 63.
[209] See: (Heinrich, 1999), 64.
[210] See: Ibid., 67.

dynamics of a pure (capitalist) monetary economy. As stated above, money as money performs the motion M-C-ΔM, whereby ΔM > M. The purpose of this process is the increase of the former sum of money. The money is not spent here, but invested to receive more. A sum of value, which performs this movement, is then called 'capital'.[211] Based on the principal of the equivalent exchange, for Marx, the question which arises is where the additional value of ΔM comes from. For Kelso, however, this question is not significant, because profit appears only to be relevant on a micro-economic level.

### 2.5.1. Surplus Theory and Machinery

As stated above, in Marxian theory, money is more than a numéraire, but defined as the universal equivalent of abstract labour. Marx's money theory already describes "*the way in which private persons can appropriate the universal equivalent for their own private purpose and we begin to see the possibility for the concentration of private and, eventually, class power in monetary form.*"[212] There are not only incentives to hold money, but coercive laws of competition which urge people to invest it.

Where does profit come from? Unlike Kelso asserts, Marx had not simply concluded that the basis for profit is an unjust exchange between capital and labour. This view actually belongs to socialists and left-winged Ricardians who had stated that within the capital-labour relation the principal of equivalent exchange is violated and, therefore, made the call for a fair exchange instead. Unlike the classics Marx distinguished between labour and labour-power, between value and use-value of the labour commodity. Marx assumes the value of the labour-power to be analogous to the value of all other commodities and determined by the necessary amount of abstract labour for their (re)production. The reproduction of the labourer means that he/she needs to consume a certain minimum of goods, which can vary in quality and quantity, depending on the social standard of living at a certain time: *"Therefore the labour-time requisite for the production of labour-power reduces itself to that necessary for the production of those means of subsistence; in other words, the value of labour-power is the value of the means of subsistence necessary for the maintenance of the labourer."*[213]

[211] See: (Heinrich, 2005), 83.
[212] (Harvey, 2010), 72.
[213] (Marx & Engels, 1956a), 119.

The use-value of the labour-power, on the other hand, is its practice, labour itself. By buying the labour-power, the capitalist consumes this use-value. The commodity labour-power, has the unique quality that its consumption creates value.[214] Hence, the expansion of capital in Marx's theory is explained by the fact that in the consumption of the labour-power in the capitalist production process creates more value than the value which is necessary for its reproduction.

The margin between the value that the labour-power produces and the value which is necessary to reproduce the labour-power, is defined as surplus-value.[215] The surplus-value is appropriated by the capitalist and, after its realisation, (discussed in Vol. II) it splits up into rents, interest and profit. It is important to note, however, that this appropriation is still situated within the principal of equivalents exchange because the <u>exchange</u>-value of the labour power is assumed to be fully paid. The term 'exploitation of the labour-power' then adopts a denotation which differs from any moral connotation it may suggest. Although Marx defines exploitation as the circumstance in which the labourer works more than it is necessary for his own reproduction, and the capitalist appropriates the fruits of this extra work without an equivalent, the laws of equivalent exchange are not violated. If the labourers sell their labour-power they are entitled to receive an equivalent of its value, but not its use-value.[216]

How is surplus value produced? As stated above, Marx defines capital as a process: M-C-ΔM. The crucial assumption of the surplus theory is that labour power is the only existing commodity which can produce surplus by its nature, whereas the means of production are not able to do that. Marx defines them as constant capital which is supposed to signal that *"the value of the means of production flows through the labour process to be congealed in the new commodity. The value remains constant as it flows."*[217] In the case of machinery as constant capital, its value is included in the set value of the product. In a ten year life span, a machine would transfer a tenth of its value each year.[218] The surplus which appears in ΔM

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[214] *"The possessor of money does find on the market such a special commodity in capacity for labour or labour-power. By labour-power or capacity for labour is to be understood the aggregate of those mental and physical capabilities existing in a human being, which he exercises whenever he produces a use value of any description."* Ibid., 117.

[215] See: (Heinrich, 1999), 250-251.

[216] See: Ibid., 251.

[217] (Harvey, 2010), 128.

[218] The life span of a machine depends only partly on its physical wear. With new and improved machines continuously appearing on the market, their economic life span can be significantly shorter than their physical.

comes from the variable part of capital; i.e. the purchased labour power. Additional value to a commodity is created by surplus labour-time, which is not paid. New value is created by unpaid labour.[219] Hence, the value of unpaid labour equals the surplus value(s), which is the origin of profit. It is important to remember that the amount of new value a labourer adds to a commodity does not depend on the value of labour, but on to which extent spent labour is value-creating, i.e. abstract labour.

The value of an amount of produced commodities can be written as: c+v+s. The accumulation of capital results from its variable part only. The degree of accumulation can be measured with the rate of surplus value: s/v. For example if s=40 and v=80, the rate of surplus value would be 50%.[220] Marx also calls the rate of surplus-value the 'rate of exploitation', which has nothing to do with morality. *"Après moi le déluge! [After me, the flood] is the watchword of every capitalist and of every capitalist nation. Hence Capital is reckless of the health or length of life of the labourer, unless under compulsion from society."*[221] The capitalist is interested in a high rate of exploitation, but not because he is an evil person. It is the logic of capitalist production and its principle of competiveness, which forces the capitalist to squeeze as much use-value out of the labour-power as possible. Surprisingly, a high exploitation rate does not necessarily imply a low standard of living. The development of the labour class in the fordist and post-fordist western countries shows that a high exploitation rate can go hand-in-hand with prosperity in the labour class and even with a reduction of the working day. This is due to the fact that the degree of exploitation is measured by the rate of surplus-value and not by the standard of living or general inequality in incomes.

Marx describes two ways of increasing surplus value. Firstly, in an accounting period, 'absolute surplus value' can be obtained by increasing the amount of time worked per worker.[222] The negotiations between the capitalist and labour class about the length of labour-time show a fundamental contrast in interests. The labourer needs to be able to sell his or her labour-power again the following day. Hence, a short working day is in his/her interest, whereas the

For this reason, computers are not usually discarded because they are no longer working, but because much better devices are available. (See: (Heinrich, 2005), 99).

[219] Although the value of labour power is assumed to be fully paid!

[220] See: (Heinrich, 2005), 100.

[221] (Marx & Engels, 1956a), 178.

[222] Marx talks mainly about the length of the working day or week, but in modern times the concern is about the number of hours worked per year.

capitalist wants to gain as much as possible out of his purchase of labour-power. An extended working day must, therefore, be in the capitalist's interest. The state and corporatist negotiations, can set a limit to the length of the working day. Another possibility to increase the amount of 'absolute surplus-value' is to cut down on the length of working breaks (or abandon them altogether) or to accelerate the production process itself.

Secondly, 'relative surplus-value' can be obtained by a decrease of 'necessary labour-time' which means the value of labour-power decreases. For example: during an eight-hour working day, four hours are required to produce the daily value of labour-power, the four remaining hours are counted as surplus labour. A relative increase in surplus-value would be obtained, if just three hours are needed to produce the value of labour-power. With this example, five hours of surplus labour are gained.[223] The necessary labour-time can only decrease if either the standard of living or the value of goods related to subsistence decreases. The latter is more typical because a decrease in the standard of subsistence is difficult to enforce. Hence, the production of relative surplus-value is normally related to the productivity of labour.[224]

The individual motivation of the capitalist to increase the productivity of labour arises from a temporal advantage over competitors: the realisation of 'extra surplus-value'. It is a temporal advantage because the individual capitalist can gain extra surplus-value by increasing the productivity of labour, which can be obtained, for instance, by implementing machinery. As long as the individual capitalist is the only one to implement a process to increase labour productivity, he or she will need less time to produce a commodity in comparison to his or her competitors; that is to say less than the 'labour-time socially necessary'. For this reason, assuming there is no problem with realisation of surplus-value (e.g. a lack of solvent demand), more goods can be sold for less. Market share increases as long as the competitors do not jump on the bandwagon, which they will be systemically forced to do if they want to survive. As soon as the competitors manage to implement similar machinery, the 'labour-time socially necessary' (that is to say the labour-time which is necessary with a certain standard of productivity) would decrease, vice versa, an increase of surplus-value.

To put it in a nutshell: relative surplus-value is obtained by everything which makes the share of variable capital smaller in relation to surplus labour-time. Possibilities include, firstly, the

[223] See: (Heinrich, 2005), 103.
[224] See: (Marx & Engels, 1956a), 217.

reduction of wages— this can only go to a certain point, because if wages fall below the ability of workers to purchase their means of subsistence, they will be unable to reproduce and capitalists will be unable to find sufficient labour-power. Secondly, relative surplus-value can be obtained by the reduction of the cost of wage-goods (goods needed for subsistence) by various means, so that wage increases can be curbed. Thirdly, by increasing the productivity and intensity of labour in general, through mechanisation and rationalisation in order to yield a larger output per hour worked.

In order to compare the binary concept of productiveness and Marx's surplus theory, one question becomes significant: how does Marx explain the value transfer of a machine? Whereas Kelso sees no difference between the value transfer of a machine and labour, Marx points out that "i*n the first place, it must be observed that the machinery, while always entering as a whole into the labour-process, enters into the value-begetting process only <u>by bits</u>. <u>It never adds more value than it loses</u>, on an average, by wear and tear. Hence there is a great difference between the value of a machine, and the value transferred in a given time by that machine to the product. <u>The longer the life of the machine in the labour-process, the greater is that difference</u>."* (Emphasis my own)[225] In contrast to cooperation and division of labour, machinery consumes itself and, hence, the purchase of machinery is, first and foremost, an investment which incurs costs.

There are certain conditions under which the capitalist would take this risk. Machinery is a special investment. There are types of constant capital, such as resources or energy, whose value is directly transferred to the commodity. In addition, the value of the labour power (variable capital) goes directly and in its entirety to the commodity.[226] In contrast to these factors, the value of machinery, as mentioned above, is transferred in small parts. For example, a particular machine with a life-span of ten years, transfers only one-tenth of its value to the quantity of goods produced in a year.[227] Hence, instead of reducing the cost of a product, the use of machinery leads initially to an increase in the price of the product. Nonetheless, on an overall scale, the product will be cheaper, because in the long-term, the value (concealed labour-time) transfer of the machine overcompensates for the increase, by

[225] Ibid., 264-265.
[226] The surplus-labour-time, which creates the surplus-value, goes also directly to the commodity, but the surplus-value does not cost the capitalist anything, because it is appropriated.
[227] See: (Heinrich, 2005), 98.

directly saving labour-time.[228] It is the initial increase of costs which is crucial to the capitalist's decision, whether to implement machinery or not. Let us illustrate this with an example. Let us assume that in the production of a specific product, 50 represents the value of the raw materials and 8 hours of labour-time under normal conditions gives a value of 80. Then the value of the product is: 50 (raw materials) + 80 (working hours) = 130.

Now we assume that the product is produced by the additional help of a machine. The machine has a value (concealed labour-time) of 20,000, and produces 1,000 units before it needs to be replaced. Hence, for a single unit, the machine transfers a value of 20. At first, the single product will be 20 units of value more expensive. If the machine now saves three hours of work, requiring only 5 instead of 8 hours, the result for the value of the machine-produced product would be: 50 (raw materials) + 20 (machine) + 50 (labour-time ) = 120. The product has been reduced by ten units of value. 20 units of value output from the machine are overcompensated by saving three hours of labour. If there had been only one hour of labour-time saved, the output-value would be higher; there would have been no increase in productivity and the machine would not have contributed to a reduction of the product value.

For the capitalist use of a machine, a reduction in price is not a sufficient incentive. The capitalist is not bothered about the value of a product, but about receiving an extra profit, an extra surplus-value. Now, let us assume the rate of surplus-value (s/v) is 100%. The labourer, who works 8 hours and thereby creates a value of 80, receives a wage of 40 units of value. The remaining 40 units are the surplus-value of the capitalist per product.

Before the capitalist implemented the machine, the production cost him: 50 (raw materials) + 40 (wages for 8 hours) = 90. After the implementation of the machine, costs are: 50 (raw materials) + 20 (machine) + 25 (wages for 5 hours) = 95.

Although this machine reduces the total amount of labour, it would not be implemented, because its implementation would not also reduce the costs for the capitalist. These costs would only decrease if more is saved in wages (per product), as the machine transfers value to the single product. If, in this same example, the value output of the machine amounts to 20, 4 hours of labour would need to be saved for the implementation of the machine to pay off. In other words, the additional 'constant capital' (c) that needs to be invested in the

[228] See: Ibid., 111.

production process, must be less than the reduced labour time in variable capital (v). The decision to implement a specific machine depends on how much variable capital can be saved by its implementation. The saved variable capital depends not only on the saved hours of labour, but also on the wage level. In the example above, there was a wage value of 40 for 8 hours. That makes 5 value units per hour. Three saved working hours would save 15 units of variable capital. The implementation of the machine for the capitalist would not be feasible. But, if wages were higher, for example, 8 units per hour, the 3 saved hours of work would have been paid with 24 units. At this wage level, the saved variable capital would have overcompensated the additional constant capital (20 in our example). The costs would have decreased. The same machine, which does not save costs at low wages and, therefore, would not be implemented, does save costs with higher wages and would be implemented.[229] In this example, one can see that high wage policy is, actually, an incentive for the capitalist to implement more machinery, such a policy which Kelso rejects and calls a 'labouristic distribution of wealth'.

### 2.5.2. Capital Fetishism in Binary Theory

What are the problems with the concept of binary productiveness? The idea of total independence of labour and capital is questionable, because without labour the 'productiveness' of any capital equipment would be zero and, additionally, the innovation and development of capital always requires labour.[230] Kelso claims that new higher skilled jobs cannot fill the gap of unskilled workers replaced by capital, because *"non-creative skills or muscular power, or both, are the worker's predominant contribution to the production of wealth."*[231] However, from a marginalist standpoint one could argue that "w*hile some labour might be replaced by a machine, new opportunities for labour will appear in the creation of that capital equipment"* or even in the production of innovative goods and services.[232]

Another point of critique could be formulated from a strictly empiricist perspective. Although there is data which indicates an increasing share of capital in the distribution of national income (e.g. Piketty), a correlation of this increase in distribution and an increase in the

[229] The whole example is taken from (Heinrich, 2005), 111-113.
[230] See: (Terrell, 2014), 34.
[231] (Kelso & Adler, 1958), 50.
[232] (Terrell, 2014), 34.

‘productiveness’ of capital lacks empirical proof. The attempts, also from substantialist Marxists, to determine the shares of income to the input of productive factors have failed. Kelso, however, claims that there cannot be any valid statistical evidence, because the real value of wages is masked by the welfare policy of governments.[233] For this reason Kelso writes that *“we can only draw inferences from the magnitude of the means employed to prevent the competitive fixing of wages and to increase the employment of labour.”*[234] The fact that real evidence for the binary view can only be found when the welfare state is destroyed unmasks the specific ideological notion of Kelso’s theory.

What is meant by capital fetishism? Marx’s surplus theory is an extension of the assumption that value is created on the production side, namely by abstract labour, i.e. the socialised form of concrete labour. It implies that the owners of the means of production are in power and impelled by a social structure to appropriate surplus-value out of the labour force. Thus, surplus-value as a non-empirical category, is the basis for the terms profit, interest and rent, which than ultimately describe the arithmetic surface of a capitalist society. *“In surplus-value, the relation between capital and labour is laid bare; in the relation of capital to profit (…) the capital appears as a relation to itself, a relation in which it, as the original sum of value, is distinguished from a new value which it generated. One is conscious that capital generates this new value by its movement in the processes of production and circulation. But the way in which this occurs is cloaked in mystery and appears to originate from hidden qualities inherent in capital itself.”*[235] In other words, the concrete production process is observable, but its socialisation is hidden until it comes to blurred light within the circulation sphere, where the particular commodity is ideally transformed into the universal, i.e. surplus-value becomes realised.

The exchange relations of the circulation sphere are subject of Vol. II and questions of limits to capital accumulation and distribution of surplus-value amongst different factions of capital (finance-capital, merchant-capital, industrial-capital and land owners) are taken up in Vol. III. According to Marx the motions within the circulation sphere cannot be sufficiently understood without the category of surplus-value. However, the circulation sphere without this category

[233] In the 1960s Kelso and Adler estimated that 70 percent of the income produced was falsely distributed through labour, because capital instruments would been owned by only 5 percent of the households, although capital produced at least 90 percent of the gross national product of the United States. (Kelso & Adler, 1961), 3.
[234] (Kelso & Adler, 1958), 54.
[235] (Marx & Engels, 1959), 30-31.

is the surface from which both binary economics and (neo)-classical theory start to operate. Therefore, Marx disparagingly calls them *"vulgar economists"*, because they falsely assign the particularities of profit/interest, rent and wages to the specific productive factors: capital, land and labour.

The concept of binary productiveness is a radical version of what Marx describes as 'capital fetishism' in his critique of the classical 'trinity formula'.[236] Both terms 'commodity' and 'capital fetishism' describe a deluding reality, which is that in daily life value is assigned to a thing rather than to a social application of human labour.[237] One radical example for this delusion is the attempt of the British luddites in the beginning of the 19th century to destroy the machines which evidently stole their jobs. The machine replaced their concrete labour, which put them in a situation of essential personal emergency. Their anger was expressed in a rage against the machine and, as Marx puts it: *"It took both time and experience before the workpeople learnt to distinguish between machinery and its employment by capital, and to direct their attacks, not against the material instruments of production, but against the mode in which they are used."*[238] Marx thereby explicitly refers to the mode of production and not to the mode of ownership. The mode of production forces the capitalist to seek for an 'extra surplus-value' by implementing machinery which replaces labour. This labourer is free from personal rule or domination, but also free of the means of production which makes him wage-dependent. Both the capitalist and the labourer are therefore ruled by impersonal domination of a social structure.

How is Marx's theory different to the binary theory, which stresses the structural 'defect' of concentrated ownership of capital instruments? Although binary economists offer an alternative solution, their analysis of the problem does not differ strongly from the luddites: *"As a factor in the production of wealth, man is progressively less successful in competing with capital instruments (...)."*[239] The binary theory is once again very close to Say's theory, who originally imagined "*that machines render the service of creating value which forms a part of*

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[236] See: Ibid., 568 et seq.

[237] Today the word fetish is mostly connoted with Freud's application of this term as a sort of sexual desire. In Marx's times, however, it was actually used to derogatively describe religious beliefs of rural tribes. The way Marx used the term fetish in his own work, could be interpreted as sarcasm against an arrogant bourgeois society, which believes in its own rational superiority.

[238] (Marx & Engels, 1956a), 284.

[239] (Kelso, 2013), 10.

*profits."*[240] From Marx's perspective, the binary theory is therefore stuck in an unsubstantiated appearance (form) of capitalism, in which value seems to correlate directly with its three sources, i.e. capital, (land) and labour. Although Kelso defines value as a matter of opinion, he emphasises the independent physical contribution of labour and capital instruments to produce products that fulfil social needs. Thus, the increasing physical performance of machinery has replaced that of labour, which then deserves to become less remunerated, whereas the owners of the machines should gain more.

Kelso's 'fetish' for machines goes even further: "*It may well have been Marx's failure to recognize that capital instruments in practice supplant not only physical forces, but intelligence that deterred him from recognizing that capital "works" just as labour."*[241] However, Marx did not deny that a machine works autonomously by aid of science laws and natural energy resources; independent from the tool-related skills of the labourer in a manufacturing process.[242] A machine is no longer a tool in the hands of men, but belongs to a mechanism. According to Marx, the autonomy of the production process is limited. The production needs to be initiated, observed and, from time to time, the machines also need to be repaired. The use of information technology does not fundamentally change those principles. Even if several control tasks are undertaken by algorithms, the computers need to be monitored and adjusted to new standards and demands.[243]

Nevertheless, one could be forgiven for thinking that a machine has a mind of its own, such is its impressive autonomy. The longer the life of the machine, the less it needs to be repaired and the more similar the automatic machine becomes to the cycle of nature's apple tree. The apple tree seasonally, and autonomously, produces use-values in the form of apples, which man just needs to harvest. As Marx puts it: *"After making allowance, both in the case of the machine and of the tool, for their average daily cost, that is for the value they transmit to the product by their average daily wear and tear, and for their consumption of auxiliary substance, such as oil, coal, and so on, they each do their work gratuitously, just like the forces furnished by Nature without the help of man. The greater the productive power of the machinery*

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[240] (Marx & Engels, 1956a), 329.
[241] (Kelso, 2013), 12.
[242] *"The machine, which is the starting-point of the industrial revolution, supersedes the workman, who handles a single tool, by a mechanism operating with a number of similar tools, and set in motion by a single motive power, whatever the form of that power may be."* (Marx & Engels, 1956a), 259.
[243] See: (Heinrich, 2005), 108-109.

*compared with that of the tool, the greater is the extent of its gratuitous service compared with that of the tool. In modern industry man succeeded for the first time in making the product of his past labour work on a large scale gratuitously, **like** the forces of Nature."*(Emphasis my own)[244] In this quote Marx demonstrates empathy for the daily life delusion, that the production of use-values is nothing different from the production of exchange-value.

However, in contrast to Ricardo who "*occasionally loses sight of the* (specific kind of) *value given up by machines to the product, and puts machines on the same footing as natural forces* (addition my own)*",* Marx aims to be more consistent within his own labour theory of value.[245] "*Thus —Adam Smith nowhere undervalues the services which the natural agents and machinery perform for us, but he very justly distinguishes the nature of the value which they add to commodities (…) as they perform their work gratuitously, the assistance which they afford us, adds nothing to value in exchange.*[246] Both an apple tree and a machine produce use-values, the difference is that a machine does not produce use-values out of a natural arrangement, but with help of natural laws discovered by men. The use-value of a machine is, therefore, to perform concealed labour or dead labour and, hence, to replace active labour, from one industry to the next. The higher productivity of labour then appears as a higher productivity of a thing, which could potentially create misunderstandings in the dynamics of capital accumulation.[247]

### 2.5.3. Accumulation and the Value Composition of Capital

Both Marx's general law of capitalist accumulation and Kelso's concept of productiveness hold that technical innovation principally or in the long run has a weakening effect on labour. Nevertheless, there are two completely different analyses of the dynamics, seen as significant within this process. Binary economics emphasises the question of ownership, because the dynamic of capitalist accumulation is reduced to the individual production of use-values, which is only limited to the specific base of property. Although Kelso also uses the term

[244] (Marx & Engels, 1956a), 265.
[245] Ibid., 329.
[246] (Ricardo, 2001), 195; quoted from (Marx & Engels, 1956a), 329.
[247] Any kind of machine system replaces concrete labour, not abstract labour. Referring to 'intelligent work', we remember that Marx introduced the term 'skilled labour-time'. Skilled labour-time only counts as multiplied simple labour-time. Hence, skilled labour as an intelligent arrangement of a machine or computer system is concealed multiplied simple labour. Labour and capital may seem independent but, Marx emphasises that, really, both are interdependent, which is evident from the fact that the implementation of a machine comes at a price.

accumulation (of wealth), the binary theory rejects the Marxian view that it is the surplus product of labour, which is accumulated in a monetary form. Instead Kelso claims that there is no surplus but rather an imbalance of distribution insofar as the principal of limited capital ownership is violated.

Kelso rejects Marx's surplus theory and wants to point out the advantages of machinery, which have the potential to liberate men of toil. On the surface of capitalist production, in the production of use-values only, his observation of a shift of *productiveness* from labour to machinery (which Kelso calls capital) is generally present. It is only fair to claim that everyone should have the chance to 'profit' from the development of productiveness. The obvious and substantial gratuitous work of a machine can never be appreciated enough. Under a capitalist mode of production, however, Marx emphasises that machinery is not primarily implemented in accordance with people's needs (Kelso's view), but when it ensures the accumulation of surplus-value, i.e. when labour-saving innovations are profitable.

In chapter 25 of Vol. I, *The General Law of Capitalist Accumulation,* Marx aims to describe the capitalist dynamics under certain assumptions. These assumptions are, firstly, that *"accumulation is occurring in its normal way (…)",* that is to say a free competitive market*;* secondly, "*the system is closed (no trade with an outside)";* thirdly, *"surplus-value is being produced through the exploitation of living labour in production";* and lastly, *"the division of the surplus-value between interest, profit of merchant's capital, rent and taxes has no impact."*[248] The capitalist dynamics are tackled by a closer examination of the relation between constant and variable capital and its implications for the working class. For this task, Marx introduces a conceptual apparatus which distinguishes between the technical, organic and value composition of capital.

The term technical composition describes the relation of the mass of means of production to the mass of labour.[249] Value composition is how much the capitalist lays out for means of production versus labour power, i.e. c/v. The value composition can be altered by non-technical variables such as bad harvests or a discovery of new energy resources, e.g. a

[248] (Harvey, 2010), 263.
[249] See: (Marx & Engels, 1956a), 428.

discovery of new oil fields. The organic composition of capital, on the other hand, describes the value composition c/v insofar as it is influenced by the technical composition.[250]

The definitions of these three compositions of capital differ insofar as the term value composition is more plausible than the term technical composition. Whilst the value composition terminologically refers to previously introduced measures of constant and variable capital, the technical composition refers to a metabolic perspective on production.[251] If one aims to find something similar to the binary concept of productiveness in *Capital,* it lays in this metaphysical and perplexing term. According to Marx's technical composition, the binary term of productiveness refers to a relation of heterogeneous quantities of use-values (means of production) to quantities of concrete labour. The question, however, is whether these quantities are measurable and, therefore, whether the technical composition truly is a quantitative category?

Binary economics claims they are measurable, because the physical ability of one factor of production to produce commodities (productiveness) is ultimately evaluated by supply and demand in a freely competitive market. Each factor is remunerated by an appropriate distributive share of wealth; its magnitude depends on how much marginal utility, that is, how much competitively determined market value the physical contribution has generated. In the Marxian theory, however, the technical composition cannot be a quantitatively determined category. To compare different quantities of means of production is impossible, unless one is talking about goods of the same kind. For a comparison of heterogeneous goods, a common dimension is needed. Different magnitudes of value cannot fulfil this role, because Marx introduced the term technical composition in order to distinguish from the value composition. The technical composition cannot rise or fall; not being a quantitative category, raises the question why Marx introduced the term anyway?

Heinrich gives two reasons. Firstly, progression in the production force goes hand in hand with an increase in labour productivity. Therefore, there is an increase of raw materials of the same kind which become processed. With respect to these raw materials, the mass of the means of production indeed increased in comparison to the amount of labour. Secondly, a large part within the progression of productive forces is caused by a quantitative improvement of

[250] See: (Heinrich, 2005), 123-124.
[251] See: (Heinrich, 1999), 315.

existing machine tools: a spinning machine with two spindles is replaced by one with four or eight spindles. The fact that a larger machine is synonymous with an increased mass of production is, in this example, intuitively plausible. However, this plausibility evaporates when fundamental technological change takes place.[252] Although the technical composition is not a quantifiable category, it may be translated with labour productivity, i.e. a measure which *"describes the physical ability of a worker to transform a certain quantity of use-values into a commodity in a given period of time."*[253] The advantage of this definition is that, consistent with Marxian theory, it emphasizes that the means of production are use-values and not, however, the source of exchange-values.

The category of organic composition is even more problematic. It is not clear whether organic composition describes an external or internal measure within a single capital. Whilst the impact of technological change on the value composition can be distinguished from other impacts within the single firm, the value composition of capital in total is not attributable to either impacts of technological change or changes in value of the means of production and labour power. Heinrich points out that, therefore, it is only the development of the value composition in total which is crucial, because the organic composition only applies to the single capital.[254] The impact of the technical composition (labour productivity) alters the value composition in total in one way or the other. It depends on the industry applying the technological innovation: in the case of an individual capitalist producing wage goods, an increase of labour productivity implies that the amount of variable capital decreases, and the value composition increases. In the case of an individual capitalist producing capital goods, an increase of the labour productivity within such an industry leads to a decrease of the value composition, because the means of production becomes cheaper for the other individual capitalists, including those who produce wage goods.[255]

In the long run, Marx assumed the organic (value) composition c/v would rise, despite the counteracting forces. This assumption became crucial within the heavily debated *Law of the*

[252] See: Ibid., 315.
[253] (Harvey, 2010), 264.
[254] See: (Heinrich, 1999), 315-316.
[255] See: (Harvey, 2010), 264.

*Tendency of the Rate of Profit to Fall* formulated in chapter 13 of Vol. III.[256] Marx claims here that *"the internal dynamics of technological change within capitalism, the search for relative surplus-value, that increases the organic (value?) composition of capital, c/v, which in the long run will lead to a falling rate of profit (s/ [ c + v ]) under the assumption of a limit on the rate of exploitation (s/v)."*[257] There are various problems with this law, which cannot be discussed here. The law of a tendency for the profit rate to fall, however, is reliant on the assumption of a limited rate of exploitation and a rising value composition in the long run. The latter assumption is highly questionable.

Firstly, Marx separates the economy into two sectors: those that produce wage goods and those with capital goods. In order to justify rising organic composition, a proper examination of the relative rates of change in physical productivity within these sectors is required.[258] Marx does not deliver such an examination, instead he *"assumes away the technological dynamism that lies at the heart of the Volume I analysis and is so vital to the Volume III analysis of falling profits."* [259] Secondly, the assumption can be questioned by broaching the issue of creative destruction (Schumpeter): the typical character of long business circles is that technological and organisational change *"opens up new paths of development for capital surplus absorption (…)"*.[260] The development of computerised production, for example, destroys jobs, but also creates new ones in a growing IT-sector. The internet lowers transportation costs which has counteracting consequences for the value composition within the transportation industry; both constant capital and variable capital becomes cheaper. Potentially, the organic (value) composition could rise and then lead into recurring production crises but, depending on the industry changes, the c/v ratio could also fall.

Marx himself described the rise and fall of the demand for labour power as a very dynamic process, although this description entails the heavily debated impoverishment hypothesis. Under the aforementioned limiting assumptions of Vol. I, Marx discusses two counteracting effects of the capitalist accumulation process which determine the magnitude of the so-called

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[256] Formula of the profit rate: $\left.{s/v}\middle/\left(\frac{c}{v}+1\right)\right.$.

[257] (Harvey, 2010), 265.

[258] See: (Harvey, 2010), 267.

[259] Ibid.

[260] (Harvey, 2011), 96.

*"industrial reserve army",* the number of the unemployed: a redundancy and an employment effect.[261] Assuming that there is no technological change, a constant value composition of capital (c/v), a constant value of labour power and a constant length of the working day, the demand for labour and capital would grow at the same pace. In the first instance the increasing demand for labour leads into an improvement of working conditions. In this moment the current price of labour could exceed its actual value which consequently decelerates the further accumulation. The surplus-value decreases and therefore the increase in demand for labour, as well as the increase of wages, has to stop. Assuming that there is technological change, however, the industrial capitalist has the additional opportunity to implement machinery, i.e. when the rise of production costs (because of the value transfer from the machine to the product) is less than the saving of variable capital.

The typical accumulation process does not happen under the former constant conditions, but rather under conditions of an increasing value composition. For this reason, the accumulation process could theoretically continue without an increasing demand for labour and a rise in wages. In Marx's theory, the value of labour power, however, can principally never increase to an extent which limits the production and realisation of surplus-value. On the one hand, assuming a constant value composition (c/v), the accumulation of capital and thus an extension of production requires an increasing number of workers (employment effect of accumulation). On the other hand, assuming a constant production volume, an increase in productivity of labour, expressed in a rising value composition, leads into less labour employed (redundancy effect of the productivity increase). Depending on which of these two effects dominates, the demand for labour either rises or falls.

In his analysis Marx concludes that there is a tendency of increasing unemployment. This is, however, only possible, if the redundancy effect exceeds the employment effect of accumulation.[262] Capital accumulation goes hand in hand with a positive rate of exploitation. Following on from this, there is also an increasing monetary surplus within the capitalist class. Although one cannot predict this for the individual capital, Marx says that there are only two opportunities for the single capital to grow: firstly, the concentration of capital assets by transforming surplus-value in more capital assets and, secondly, the merge of different

[261] See: (Marx & Engels, 1956a), 436 et seq.
[262] See: (Heinrich, 2005), 124-125.

individual capitals into one, i.e. centralisation.[263] In the case of centralisation, individual capital is growing significantly which then usually goes hand in hand with an accelerated technological change. The enlarged individual capital has more investment opportunities. Thus, it can afford more machines, where a smaller capital would otherwise have insufficient funds. However, in the first instance, centralisation also means that capital, in total, remains constant. For this reason, centralisation repeatedly leads into a rise in productivity with significant effects of redundancy, but without employment effects due to accumulation.[264]

Marx concluded that due to centralisation, capitalist accumulation ultimately tends to impoverish the labour class and concentrate wealth in a few hands. *"Capitalism produces poverty by creating a relative surplus of labourers through the use of technologies that throw labourers out of work. A permanent pool of unemployed labourers is socially necessary for accumulation to continue to expand."*[265] A number of sociologists and economists, pointed out that the course of history falsified Marx's impoverishment hypothesis. Joan Robinson, for example, emphasises that, on average, the labourer's standard of living in the 20th century improved.[266] Redistributive measurements, regulated markets and times of great prosperity cushioned or reversed the tendency of rising inequalities (at least temporally and geographically). However, if one pays attention to the framework of *Capital*, as Harvey did, this empirical fact does not falsify Marx's argument.

In order, to formulate a critique on the free-market utopianism of Adam Smith, Marx assumed, in Vol. I of *Capital,* the existence of the Smith's 'hidden hand', i.e. a perfectly functioning competitive market. In line with his classical predecessors, he excluded the possibility of regulated markets and redistributive measurement for the purpose of proving Smith wrong. Only by keeping the competition, understood as a particularity, constant, Marx concludes in Vol. I that a competitive market would form a wealthy capitalist class and an impoverished labour class.[267] Heinrich points out: Whether employment or redundancy effects dominate the economy depends on how frequently processes of centralisation occur and the extent of

[263] See: (Marx & Engels, 1956a), 435-436.
[264] See: (Heinrich, 2005), 126.
[265] (Harvey, 2010), 274.
[266] See: (Robinson, 1968), 50.
[267] Hence, unlike Kelso asserted, this particular assumption of Marx lead him through his analysis and towards his conclusions, rather than a sentimentalist view on the inequalities surrounding him. Particularities, like distribution, vary in time and place and are therefore a matter of history, geopolitics and geography, but not of Marx's abstract approach to the patterns of political economy.

the redundancy effects due to centralisation (in relation to employment effects of the other capitals). Although there were short periods of full employment in some countries in the history of capitalism, it is clear that unemployment in capitalism is unlikely to disappear in the long run. Capitalism with full employment is always an exception, because full employment allows the workers to push through higher wages. This results in slowing down the process of accumulation, which is a coercive incentive to implement labour-saving machinery, so that again an industrial reserve army is formed.[268]

### 2.5.4. Concentration and the Problem of Realisation

Marx's conceptional apparatus offers a refined model of acting and counteracting forces within the capital/labour relation. In comparison, the concept of productiveness focusses only on the technological composition, whereby a lot of dynamism is disguised as a labouristic distribution of wealth. It can be reasonably assumed that Kelso read some of Marx's argument and possibly that he thereby mistakenly adopted Marx's assumption of a rising organic composition, redefining/interpreting it as a composition of two productive factors with an increasing productiveness of capital instruments.[269] The binary assumption of total independence of capital instruments and labour is essentially unique. The concept of productiveness allows Kelso to agree with Marx's conclusion of a tendency towards centralisation and, on the other hand, to disagree with the surplus theory at the same time. Whereas Marx sees centralisation/concentration as a consequence surplus accumulation in a non-neutral monetary form, Kelso sees concentration as a result of unequal income opportunities for owners and non-owners; i.e. the higher productiveness of capital instruments evaluated by supply and demand and measured in neutral money. Both find common ground, however, that concentrated accumulation of wealth leads into a problem of realisation.

By rejecting the surplus theory, Kelso bypasses a lot of problems which Marx tackles within the analysis in Vol. II; problems which might occur within the realisation of surplus-value in the circulation sphere of commodities. As stated in the chapter on money, it is generally more

[268] See: (Heinrich, 2005), 126.
[269] *"Marx recognized the technological trend and even acknowledged that it appeared to be the case that the net wealth remaining after payment for raw materials and labour was wealth created by capital. Yet he refused to believe this appearance, and simply asserted again and again that this excess was surplus value."* (Kelso, 2013), 13

difficult to go from the particular to the universal (C-M). One condition for the realisation of surplus-value is to sell use-values, something which consumers need. Anticipation and manipulation of these needs becomes crucial. Another condition is, once more, sufficient purchasing power. Marx also tackles the possibility of an underconsumption crisis at this point. Other than Kelso, however, Marx does not trace the lack of purchasing power back to the question of ownership, but rather back to the following question: how can there be sufficient purchasing power within the labour class, if surplus-value is ultimately accumulated by the different fractions of capital?

Workers spend their wages, of course, but *"variable capital is always less than the total capital in circulation, so the purchase of wage goods is never sufficient for the realization of the whole value stream"*.[270] Therefore, raising wages may be able to stabilise purchasing power, but it can never entirely solve the problem of realisation, because an increase of wages has to stop at a certain point. This point is reached, when rising wages jeopardise the production of surplus-value. Capitalist accumulation goes hand-in-hand with the so-called profit paradox, which Marx described in the following example: "*The capitalist class remains consequently the sole point of departure of the circulation of money. If they need £400 for the payment of means of production and £100 for the payment of labour power, they throw £500 into circulation. But the surplus-value incorporated in the product, with a rate of surplus-value incorporated in the product, with a rate of surplus-value of 100%, is equal in value to £100. How can they continually draw £600 out of circulation, when they continually throw only £500 into it? Nothing comes from nothing. The capitalist class as a whole cannot draw out of circulation what was not previously thrown into it."*[271] The profit paradox culminates in the question, where the solvent demand comes from, assuming that wages stagnate at the value of labour power?

According to Harvey, the solution "*follows logically from Marx's argument (…)"* and "*lies in capitalist consumption*."[272] For the purpose of personal consumption, but merely in order to reinvest it under the coercive laws of competition, the capitalists themselves need additional money in order to buy the accumulated surplus-value from each other. *"Surplus-value*

[270] (Harvey, 2010), 327-328.
[271] (Marx & Engels, 1956b), 204.
[272] (Harvey, 2010), 329.

*production has to internalize its own increasing monetary demand. The demand for yesterday's surplus product depends on tomorrow's expansion of surplus-value production!"*[273] In other words, an underconsumption crisis is a permanent possibility. Its actual occurrence, however, depends on the faith of the capitalist class in a successful expansion of capital accumulation. *"The solution to the realization problems encountered at the end of the circulation process depends upon going back to the beginning and expanding even more. The logic of perpetual compound growth takes over."*[274]

One question, however, still remains: where does the additional money for capitalist consumption come from? Although in his genesis of money Marx himself set the foundations to answer this question by mentioning the rise of credit money and money of account, in Vol. II he tries to find answers which exclude the credit system. In Marx's opinion, the credit system is a particularity which should not be central within an analysis of generalities. In Vol. II, in respect of the profit paradox and the potential money famine, Marx aporetically discusses, firstly, the rationalisation of the money use, acceleration of money circulation and activation of gold hoards, which were formed before capitalism became dynamic. Furthermore, he broaches the issue of gold production and imports of gold by exporting surplus-value. Finally, there is a short reference to the credit system, which diminishes the cost of gold production: *"(…) whether capitalist production in its present volume would be possible without the credit system (…) Evidently this is not the case. It would rather have encountered barriers in the volume of production of precious metals. On the other hand one must not entertain any fantastic illusions on the productive power of the credit system, so far as it supplies or sets in motion money-capital. A further analysis of this question is out of place here."*[275] Marx's further elaboration once again seems to exclude the credit system, but he also refrains from the less-than-ideal solution of gold imports in exchange for an export of surplus-value. Instead Marx wants to "*view the matter as it takes place in reality (…)."*[276]

Marx states that, in the end, money is not accumulated as 'real' value, but accumulated as an increasing number of future claims on 'real' value. The money of account forms a latent money-capital, which is recorded in bank deposits, government bonds and stocks. Marx does

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[273] Ibid., 329.
[274] Ibid.
[275] (Marx & Engels, 1956b), 211.
[276] Ibid., 212.

not provide a solution for the problem of realisation within a static model. The profit paradox is never finally resolved, but again rather replicated within the dynamic of capitalism. "*On the basis of capitalist production the formation of a hoard as such is never an end in itself but the result either of a stagnation of the circulation — larger amounts of money than is generally the case assuming the form of a hoard — or of accumulations necessitated by the turnover; or, finally, the hoard is merely the creation of money-capital existing temporarily in latent form and intended to function as productive capital."*[277] In Vol. I, Marx talked already about money functioning as a hoard, which directly implied another function of money as a means of payment. By transforming a buyer-seller relation into a creditor-debtor relation, money as means of payment forms the basis for credit money. Unfortunately, Marx is reluctant to resume this point here, but it is obvious that money claims correspond to the liabilities of others: bank balances correspond with loans, government securities correspond with public debt and stock value is an entitlement to a future payment of profit shares of the company.

In the context of realisation, Marx missed out in Vol. II on elaborating on the credit system, although it plays such an important role. Harvey points out: *"If it is the further expansion of capitalism that creates the demand for yesterday's surplus product, then this means that the realization problem cannot be solved, particularly under today's conditions of globalized capitalist development, without the construction of a vibrant and extensive credit system to bridge the gap between yesterday's surplus product and tomorrow' s absorption of that surplus product."*[278] Marx's credit theory is unfinished business. One can find fragments of such a theory in Vol. III, but the argument is still incomplete. For this paper, however, it is necessary take these fragments and elaborations from other authors into account, because the credit system plays a crucial role within the binary theory.

### *2.6.* The Fictitious Character of Kelso's *General Theory*

Binary economics claims that the accessibility of credit for all is key to the diffusion of capital ownership, that is to say a well-functioning capitalist utopia. The final chapter, therefore, tackles the general binary financing plan, and the differences between binary economics and Marxian theory are crystallised.

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[277] See: Ibid.
[278] (Harvey, 2010), 331.

### 2.6.1. Interest-bearing Capital and Fictitious Capital

What is credit in the context of the surplus theory? There are all sorts of credit. Kelso mentioned the usury character of consumer credits. In a way, these credits are related to forms of credit which existed in pre-capitalist societies. Money was always lent in exchange for interest. Feudal lords, for example, financed their wars and luxury consumption by running into debt. They paid it back out of feudal taxes and captures. Furthermore, if peasants and craftsmen fell into debt they had to pay it back by working harder than ever before. Sometimes they lost their houses and homes, because of this usury. However, under the capitalist mode of production, lending of money takes place under different circumstances: money can be transformed into capital and investors can expect that this capital provides an average profit.[279]

In Vol. II, Marx specified the general formula of capital M-C-ΔM. Capital emerges here in three different alternating forms: firstly as advanced money capital M, secondly, as productive capital P (labour and means of production) and, thirdly, as surplus-value bearing commodity-capital ΔC, which is then again transformed into money-capital ΔM. The circular course of capital is than expressed in the formula M-C ... P ... ΔC-ΔM.[280] At any moment in a capitalist economy, there is capital existing as both commodity and money capital within the sphere of circulation, and another part as productive capital within the sphere of production. Presenting the transformation of profit into average profit, Marx has initially assumed that this circuit is accomplished by each individual capitalist. However, with greater social division of labour the different sections of the circuit become filled by specialised capitals. Alongside the industrial capital there is the commercial capital and money-dealing capital.

Commercial capital does not produce anything, but specialises in the transformation of commodity capital into money capital. The money-dealing capital, on the other hand, deals with issues of financial administration, i.e. of deposits, withdrawals and netting out claims. This kind of task-sharing reduces the turnover time for the industrial capital, but also the other capitals benefit from this enhanced specialisation. The single sum of capital can be invested in any of these areas desired. For this reason, it is not only the industrial capital, but also commercial and money-dealing capital which have an impact on the adjustment process of

[279] See: (Heinrich, 2005), 154.
[280] See: (Marx & Engels, 1956b), 32 et seq.

the general rate of profit. This leads to a modification of the general rate of profit: any capital, laid out in the industrial or mercantile area, yields a profit rate under average conditions, although there is no production of surplus-value within the mercantile area.[281]

Therefore, money has a new ability in being potential capital: *"In this way, aside from its use-value as money, it acquires an additional use-value, namely that of serving as capital. Its use-value then consists precisely in the profit it produces when converted into capital. In this capacity of potential capital, as a means of producing profit, it becomes a commodity, but a commodity sui generis. Or, what amounts to the same, capital as capital becomes a commodity."*[282] Interest-bearing capital is this commodity sui generis; e.g. credit money which can be sold or rather lent as capital. Alongside credit money there are other commodities of this sort: *"Money may be loaned out in either form. It may be loaned as fixed capital, for instance, if it is paid back in the form of an annuity, whereby a portion of the capital flows back together with the interest. Certain commodities, such as houses, ships, machines, etc.* (Harvey adds land)*, can be loaned out only as fixed capital by the nature of their use-values. Yet all loaned capital, whatever its form, and no matter how the nature of its use-value may modify its return, is always only a specific form of money-capital."* (Additions my own)[283]

Interest-bearing capital then has a specific form of circulation, because it duplicates the general formula of capital M-C-ΔM into M-M-C-ΔM-ΔM. The 'money capitalist' advances a sum of money as capital for the 'functioning capitalist' (contractor), who then advances capital in order to start the production process. The double advance of capital corresponds with a double reflux: the productive capital is transformed in commercial and money capital, which then firstly goes back to the functioning capitalist and secondly to the original, legally declared owner. The debtor, who used the borrowed money as capital, has to pay back the whole sum to the creditor, but also a part of the profit as interest. Accordingly, interest is the price, which the debtor has to pay for the potential capital.[284]

The crucial difference of interest-bearing capital and any other commodity, is that its price is no longer connected to value, but to the realisation of value. *"All the relations in evidence here*

[281] See: (Heinrich, 1999), 284-285.
[282] (Marx & Engels, 1959), 222; quoted from Ibid., 285.
[283] (Marx & Engels, 1959), 225.
[284] See: (Heinrich, 1999), 285.

*would therefore be irrational from the standpoint of an ordinary commodity, or from that of capital in so far as it acts as a commodity-capital in the process of reproduction."*[285] There is no natural price of interest-bearing capital and Marx calls it therefore an 'irrational' expression. Harvey has the theory that the word 'irrational' stands for an analogy with mathematical number theory: *"The irrationality and the contradictory character of interest on capital has to be appreciated in this number-theory sense. We can then more easily see how fictitious forms get produced and with what effects, in much the same way that constants like π can be used in engineering."*[286] As irrational numbers (e.g. π) stand for something which *"cannot be reduced to a fraction"*, but are still important constants in mathematical theory, the interest rate is accordingly determined by something incommensurable, but is still a constant within the motion of capital.[287]

Harvey points out that this is a turning point in Vol. III, because Marx (edited by Engels) breaks here with the original framework, outlined in *Grundrisse*. Hitherto, Marx dismissed supply and demand and competition as particularities, but now they actually determine the interest rate alone. Therefore, they suddenly explain a lot of general motion within the capitalist economy. Value can put on value and it happens all the time. According to Harvey, this imposes again that *"capital cannot survive without its fetish forms (…)"*. [288] The reason why Marx excluded the credit system from his analysis until Vol. III, is that he aimed to go *"beyond the fetishism, not by treating it as an illusion, but by addressing its objective reality."*[289] However, it seems as though Marx had to accept in the end that some irrationality within the capitalist system remains.

The only rational thing to say about the interest rate is that it has to be greater than zero, because money capitalists would not lend otherwise, and lower than the average profit, because functioning capitalists would not demand credits otherwise.[290] The gross profit divides in interest and entrepreneurial profit; for both fractions of capital there has to be enough

[285] (Marx & Engels, 1959), 231.
[286] (Harvey, 2013), 180.
[287] Ibid., 180.
[288] Ibid., 174.
[289] (Harvey, 2010), 46.
[290] The up-to-date situation of European Central Bank (ECB) imposing a negative base rate is no exception to this principal: The negative base rate is a reaction to low investments ratios and it is aimed to stimulate the extension of credit by commercial banks (with interest rates greater than zero). The interesting question in the current situation is whether the reluctance of commercial lenders is not only due to the ballast in their portfolios (financial crisis 2008), but also have to be seen in context with low profit rates in the "real" economy.

surplus. The money-capitalists are the owners of the interest-bearing capital. In exchange for providing their property, they receive interest. The interest seems, therefore, to be the mere fruit of the capital ownership, that is to say capital which exists external to the production process. In contrast, the entrepreneurial profit appears to be the result of functioning capital in the production process.

This perspective is at the core of binary economics. Interest and entrepreneurial profit appear as qualitatively different quantities, originating from different sources. This appearance is exacerbated by the fact that the interest rate in the market emerges as a single entity, which does not depend on the individual capitalist, whilst the rate of profit of the single capital (and thus also the respective entrepreneurial profit as surplus over the interest rate) can be influenced by the functioning capitalist; e.g. by saving of means of production, reducing turnover time, etc.[291]

The split of the gross profit into interest and entrepreneurial profit is first and foremost a quantitative division, but implies also a qualitative decision between two alternatives: *"All capitalists embrace two very distinctive roles. Industrial capitalists must always hold some of their capital in money form. They always have the option, therefore, to use their money to produce more surplus-value (and profit) through the expansion of production, or simply to lend it to someone else in return for interest."*[292] Although it might be tempting to lend money instead of investing it directly into production or realisation of surplus-value (the "real" economy), there is an obvious limit to an excess of a direct M-ΔM motion: *"If everyone would become a rentier trying to live off interest or rent and no one produces surplus-value, Marx observes, then the interest rate would fall to zero, while the potential profit on reinvesting in production would soar to untold heights."*[293]

In Marxian theory, interest is an expression of the production and realisation of surplus-value, i.e. the exploitation of labour power. However, the antagonism of capital and wage labour is only vivid within the process of exploitation. In interest-bearing capital this antagonism disappears because capital bears interest as property and not as part of the production process. The antagonist of the lending money-capitalist is the borrowing functioning capitalist

[291] See: (Heinrich, 2005), 156.
[292] (Harvey, 2013), 176.
[293] Ibid.

and not the wage labourers. Taking the credit system into account, however, the antagonistic relation between the functioning capitalist and wage labourers disappears and becomes fetishized as well. The entrepreneurial profit appears to be independent from capital ownership (the ownership is already purchased with interest) and is rather perceived as the result of capital 'functioning' during the production process. The production process has lost its capitalist characteristic and therefore appears as a simple labour process. The functioning capitalist receives entrepreneurial profit not as an owner but as a special worker, a worker who is responsible for the control and management of the labour process. The concrete labour of exploitation and the exploited labour are then equally classified as labour.[294] Overall Marx is saying here that the *"social form of capital falls to interest, but expressed in a neutral and indifferent form. The economic function of capital falls to profit of enterprise, but abstracted from the specific capitalist character of this function."*[295]

Kelso coined a new word, an alternative to rentier, which is free from the often negative connotations of 'rentier class' or 'rentier state'. This word is: capital worker. *"Smith said: every consumer a producer, and vice versa. But what neither Smith, nor Marx, nor the economists who have followed them have noticed is that capital workers are doing more and more of the producing. (…)Our answer is: adopt economic policies that acknowledge every Citizen's right to become a capital worker as well as a labour worker."*[296] Referring to labour work, Kelso distinguishes between the involvement of managerial/technical work and mechanical work. The latter kind of work refers to *"all the noncreative skills that men contribute to the productive process."*[297] The former kind of work refers to all 'creative' skills, i.e. technical in the sense of inventing or improving machines and managerial in the sense of organising the production process.[298] Capital work, however, is neither of those. Kelso defines a 'capital worker' as someone *"(…) who engages in economic production and earns income through his or her privately owned capital. A Capital worker is not generally required to be personally present at the scene of production, although astute management of the ownership interest in capital is constantly required."*[299] What does Kelso's 'capital worker' do then? The answer is

[294] See: (Heinrich, 2005), 157.
[295] (Marx & Engels, 1959), 249; quoted from (Heinrich, 2005), 157-158.
[296] (Kelso & Kelso, 1991), 18.
[297] (Kelso & Adler, 1958), 48.
[298] See: Ibid., 38.
[299] (Kelso & Kelso, 1991), 180.

nothing. *"Yet even a person who sits in a chair trading stocks is labouring physically, if only to think and communicate by voice or keystrokes."*[300] The key idea of the 'capital worker' is literally that the ownership of interest-bearing capital solely can make people productive.[301]

Can fetishism, in any way, be pushed further towards its limits? From the Marxian perspective, it is not surprising that binary economics was created in the head of an investment banker, dealing with interest-bearing capital every day: *"The relations of capital assume their most externalised and most fetish-like form in interest-bearing capital."*[302] Heinrich points out that the special feature of interest-bearing capital is not interest itself, which is only a special expression of the production and realisation of surplus value, but that interest appears as the immediate or abrupt form of realisation, expressed in the formula M-ΔM.[303] *"The result of the entire process of reproduction appears as a property inherent in the thing itself. (…)Money as money is potentially self-expanding value and is loaned out as such – which is the form of sale for this singular commodity. It becomes a property of money to generate value and yield interest, much as it is an attribute of pear-trees to bear pears. And the money-lender sells his money as just such an interest-bearing thing."*[304]

Alongside interest-bearing capital there is another related form of capital, which Marx calls fictitious capital. This includes various kinds of payment promises circulating on the capital market, such as fixed-income securities and shares and, nowadays, financial innovations such as derivatives or credit default swaps.

Fixed-income securities are an alternative way for enterprises and states to borrow money on the capital market, instead of taking loans from banks. On the capital market, borrowers and money owners are dealing directly with each other. In exchange for their money the money owners receive a fixed-income security, which 'secures' a repayment of the debt to a fixed date and a fixed annual payment of interest. Commercial banks are merely mediators of these trades and get provisions for this service, but deposits remain untouched. This is an advantage, because the interest margin between the deposit interest rate and credit interest rate of the

300 (Terrell, 2014), 35.
301 See: Ibid.
302 (Marx & Engels, 1959), 255.
303 See: (Heinrich, 2005), 158.
304 (Marx & Engels, 1959), 255; quoted from (Heinrich, 2005), 158.

bank can be saved. On the other hand, it is the creditor who takes the full risk of credit default here, whereas in the other case banks can incorporate this risk, because single credit defaults normally do not affect the deposits, but only the profit of the bank.[305]

Within Kelso's *General Theory,* another form of fictional capital is central: the share or stock. Corporations can procure money in the capital market not only through bonds, but also by issuing shares. With a share, one acquires stock of a company and becomes a co-owner. Similar to the fixed-income securities, a share is a claim. According to the proportion of the total number of shares, a share entitles shareholders to have a certain voting right on the shareholder's meeting and also to a portion of the distributed profit of the corporation, i.e. the dividend. There is, however, no entitlement of a repayment of the price of the share price by the company, and the amount of the distributed profit is also not fixed but depends on the development of the business.[306]

The circulation of fictitious capital poses a similar duplication as credit money. Accordingly, both real money and payment promises circulate on the one hand, as real capital which flows from the money owner to a functioning capitalist, and the other hand, as claims of interest or dividend payments. The latter circulate with changing market values, which are based on expectations of future developments.[307] Thus, the success of Kelso's *General Theory* depends on whether these expectations are met or if the circulation of interest-bearing capital "*within a monetary system that has no limits"*, which "*can spiral onwards and upwards into the stratosphere of compounding asset and fictitious capital values",* ultimately clashes with the "*quantitative limits of real surplus-value production (…)".*[308]

### 2.6.2. Capital Ownership through Credit –A transition form?

The *General Theory* relies entirely on legal regulations within the credit system. Credit is presented as a tool for economic freedom, a utopia where production equals consumption, because the labouring masses are associated in the production process as owners. As the former chapter implies, Marx mainly emphasised the fictitious character of the financial world. He aimed to integrate the credit system into his general laws of motion of capital, i.e.

[305] See: (Heinrich, 2005), 161.
[306] See: Ibid., 162.
[307] See: Ibid., 163.
[308] (Harvey, 2013), 203.

subordinate it under the production and realisation of surplus-value (the real world). Marx presents the credit system as *"the main lever of over-production and over-speculation in commerce"*.[309] Interestingly, however, there is a dialectical transition of his argument from seeing the credit system as an indispensable disruptive particularity to seeing it as a potential accelerator of the emergence of a post-capitalist production mode. At this point, Marx tackles the emphasis on the sociality of production within joint-stock companies: *"There is antagonism against the old form in the stock companies, in which social means of production appear as private property; but the conversion to the form of stock still remains ensnared in the trammels of capitalism; hence, instead of overcoming the antithesis between the character of wealth as social and as private wealth, the stock companies merely develop it in a new form."*[310] Does Marx anticipate Kelso's *General Theory* at this point, indicating that there is a contradiction within the stock market itself, which might be resolved in a class-free society which liberates the sociality of production?

Marx writes: *"The co-operative factories of the labourers themselves represent within the old form the first sprouts of the new, although they naturally reproduce, and must reproduce, everywhere in their actual organisation all the shortcomings of the prevailing system. But the antithesis between capital and labour is overcome within them, if at first only by way of making the associated labourers into their own capitalist, i.e., by enabling them to use the means of production for the employment of their own labour. (…)The credit system is not only the principal basis for the gradual transformation of capitalist private enterprises into capitalist stock companies, but equally offers the means for the gradual extension of co-operative enterprises on a more or less national scale. The capitalist stock companies, as much as the co-operative factories, should be considered as transitional forms from the capitalist mode of production to the associated one, with the only distinction that the antagonism is resolved negatively in the one and positively in the other."*[311]

Unfortunately Marx's discussion of diffused capital ownership stops right here. There is no further elaboration on how this transition towards an associated mode of production could look like. However, on the basis of the surplus theory there are structural restrictions to any

[309] (Marx & Engels, 1959), 306.
[310] Ibid., 305; quoted from (Harvey, 2013), 237.
[311] Ibid.

plan of diffused ownership. If associated labourers become their own capitalists, this would not necessarily signal the end of class struggle.

From a Marxian perspective, this would almost certainly apply to Kelso's *General Theory*. If the coercive laws of competition remain politically untouched and the capitalist system relies on compound growth even under a regime of diffused capital ownership, exploitation is unlikely to disappear. Exploitation would be rather transformed into a form of self-exploitation, fuelled by the pressure to pay off private acquisition loans plus interest. Kelso argues that the application of the principles of binary economics leads into a democratisation of production. However, the binary financing plan is supposed to be part of a capitalist, not anti-capitalist movement.[312] As stockholders, labourers might have a say as to where the corporation is heading to, but this democratic notion finds its inevitable limit in competing with other corporations for the best profit rate; exploit yourself or go bankrupt. This is pretty much the opposite of Kelso's idea that capital ownership enables everyone to enjoy more and more leisure time, because one can let the machines do their work.[313] In this case, profit rates would decline to zero. *"Money capital and, even more importantly, money capitalists become autonomous and independent, but in some way subordinate to surplus-value production. The fetish character of the money form permits the creation of fantasies and fictions that periodically explode as uncontrollable and violent financial and commercial crises."*[314] Kelso emphasises the productiveness of capital instruments, but does not explain where profit comes from, contrary to Marx, who argues that it is generated in the capital accumulation process itself. Without profit accumulation, i.e. accumulation of surplus value, however, there can be no credit extended to implement the diffusion of capital. In other words, if class struggle dissipates and with it the accrued profits of capital through the exploitation of one's own labour or of others, the binary financing plan would be deprived of its basis: the fantasy of self-realising fictitious capital.

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312 There are other plans for the diffusion of capital ownership to workers, which are designed as a gradual displacement of capitalism. The "Rudolf Meidner plan", for example, does not rely on acquisition loans, but rather on an annual compulsory levy of shares on the part of the corporation, and a strong welfare state in the background. (The Swedish model) See: (Blackburn, 2005); quoted from (Harvey, 2013), 237.

313 *"If it was a great step forward in the history of man for the rise of civilization to permit a small class of free men to engage in the liberal pursuits of leisure and to advance civilization itself by their efforts, how much greater is the step that can be taken by our emergent mass society when it sees how to turn the twin institutions of democracy and capitalism into a school for the good use of the political and economic freedom they confer on all men alike."* (Kelso & Adler, 1958), 124.

314 (Harvey, 2013), 178.

Binary economics boils down to a plan, which relies completely on specific applications of loan capital. Kelso acknowledges that there is a speculative element within the scheme. In a free competitive market a business can go bankrupt, because competitors might produce better products (remember value is matter of opinion) or at lower cost. For this reason, Kelso's plan includes a double insurance mechanism. However, assuming that in an economy with diffused capital ownership, supply creates its own demand and machines produce value, the acquired capital is principally expected to lay golden eggs. The great majority of the constituency trusts regularly receive dividends, which are ultimately capital income of the constituents after the discounted acquisition loan is paid off.

Kelso's general theory is routed towards a capitalist utopia. Bits and pieces of this vision have been put into practice. A great number of ESOPs have already been implemented, mainly in the United States and the UK. None of them, however, was part of a fully established binary scheme. Ashford points out, *"studying ESOPs in the present economic environment is somewhat like studying the first horseless carriages before systems of roads and service were established. (…)Analyzing the full potential of ESOPs and other binary financing proposals requires a calculus that adequately reflects the economic infrastructure designed to support them and the alternative private property rights system on which they are predicted."*[315] The main incentives within the scheme have to be politically enforced. It is true that the exact infrastructure of specific tax reductions, targeted discount lending etc., that Kelso had in mind, is not given. For example, there is no institution, which functions as a funded insurance, such as the CDIC. There is, however a financial instrument called credit default swaps (CDS).

A CDS transfers the credit exposure of fixed income products between different parties and is traded on the capital market. It is an open question if a CDS works as the private insurer within the binary financing plan. These swaps are certainly designed to provide some risk diversification, but maybe also to increase the supply of highly speculative products on the capital market. Within Kelso's scheme, the commercial lender could buy a CDS in order to receive credit protection, whereas the seller of the swap guarantees the estimated credit worthiness of the debt security, i.e. the acquisition loan. In doing so, the default risk of the loan would be transferred from the commercial lender to the seller of the swap. Credit default swaps are ultimately fictitious in their character and extend the chain of tradable IOUs. The

[315] (Ashford, 1994), 105.

fact that various swaps can be tied up and be traded on the capital market gives an extra speculative notion to the whole process.

Within the *General Theory,* the acquisition loan given by a commercial lender is assumed to be at a low interest rate. The other instrument within the scheme which is supposed to ensure these low rates is discount lending.[316] The ability of banks to lend money is not solely dependent on the deposits of asset holders, commercial banks can also place themselves into debit with central banks. Since the gold backing of paper currencies was abolished, this is the way central banks have created fiat money, a procedure which has, principally, no formal limits.[317] Money creation is crucial to the binary financing plan. The key demarcation between conventional growth theory and Kelso's general theory is that, based on the binary principles, loans could be provided without postponing consumption. From a neo-classical perspective, this is not possible, even under the application of discount lending. Terrell writes: "*For someone to borrow for the purpose of acquiring capital, someone else must ultimately reduce current consumption. Through money creation by a central bank, that link can be temporarily stretched, but only at the cost of a subsequent recession."*[318] According to Terrell, an implementation of the binary financing plan would, ultimately, lead into inflation caused by a massive credit bubble. *"What binary economics overlooks is that in order to acquire these capital assets, the firm must entice people to give up current consumption of goods and services in order that resources may be devoted to production of capital goods. However, money creation by the central bank does not alter time preferences. People have the same internal interest rate, dictated by the intensity with which they prefer present goods to future goods."*[319]

As an economist of the Austrian school, Terrell expects that the additional demand for capital goods (stimulated by the new 'uncovered' money) leads into an increase of consumer goods

[316] Ironically the current situation of extremely low prime rates in the most important currency areas of the US and the European Union does not allow much leeway to go even lower. Furthermore, national states are reluctant to enforce such a strategy, as it might jeopardise monetary stability (Kelso would argue against it) and the central bank's 'independence'.[316] In the aftermath of the crisis of 2008, especially in Europe one could see that even extremely low key interest rates were not sufficient to overcome the current reluctance of commercial banks to offer loans at low interest rates. In this situation, lending through the discount window does not make any sense.

[317] The non-formal limit is to ensure the stability of prices and exchange rates.

[318] (Terrell, 2014), 39.

[319] Ibid., 41.

prices. As a result, workers in capital goods industries would require an increase in their nominal wages as compensation for their decline in purchasing power. For this reason, the capital goods industry finds itself in trouble which ultimately affects the value of stocks in the constituency trust. Loans cannot be paid off and even the insurance mechanism would fail. In the end tax money has to be used for bail outs.

The Marxian theory rejects the quantity theory of money.[320] Therefore, there is no causal dependence of price level and money supply. An increase of the money supply by symbolic money forms does not necessarily lead into inflation, it happens all the time in the within the extension of the chain of IOUs, i.e. fictitious capital. Nevertheless, at a certain point an augmented issuing of representative money on the part of the central bank can lead into a crises of confidence in the quality of money and maybe into a collapse of the national currency.[321] The central bank can only maintain the acceptance of its money if its internal and external purchasing power (and thus also its function as a store of value) can be guaranteed.[322] Whether the binary financing plan leads into inflation is probably dependent on the scale of its implementation. A crisis occurs if the confidence in the quality of money decreases, that is to say the chain of new IOUs breaks due to false expectations on future production and realisation of surplus-value. This might happen in a time of general overproduction, a situation where many people decide to hold money. This risk goes hand-in-hand with capitalism, unless one believes in the accuracy of Say's law, which Kelso does.

[320] See: (Heinrich, 1999), 242.
[321] See: (Harvey, 2010), 337.
[322] See: (Heinrich, 1999), 300.

## CONCLUSION

The thesis discussed the theory of binary economics in conjunction with Marxian theory. The central question was why the two theories were incompatible, despite their apparent similarities in tackling the concentration of capital. It can now be said that binary economics, from the Marxian perspective, belongs to the classical field of economic theory; it contains assumptions deriving from a fetishized perspective on political economy.

Firstly, it was shown that this fetishism applies to the binary understanding of value. For Kelso, value arises from the utility of a produced good or service and is therefore down to a matter of opinion. With the assumption of the "needy" and rational individual and their demand for use-values, Kelso, in line with the marginalist theorists, chooses a starting point which is seemingly valid for any form of society. Marx, on the other hand, emphasises the twofold character of commodities, including labour, in having both a use-value and an exchange-value. Accordingly, use-values existed in all forms of society in human history, but the determination of exchange-value differs between different modes of production. In Marx's labour theory of value, the universality of human societies being organised in different forms of collaborative production, becomes specified in a generality of the capitalist mode of production. Here, labour products of private individuals become socialised by a social structure which abstracts from commodities being use-values, but being products of human labour per se. Thus, Marx finds commensurability of commodities, by referring to them as products of abstract labour. The exchange-value of commodities is then not determined by their abstract utility, but by the socially necessary labour time of their production, expressed in a 'natural' price. Just as abstract marginal utility, abstract labour forms a non-empirical basis for a theoretical determination of value. The crucial difference to the concept of utility, however, is that the concept of socially necessary labour time connects value to a specific form of social relation, namely a fetishized social relation of objects rather than persons. Thus, the utility theory of value and Marx's labour theory of value define two different ideological starting points of analysis.

Secondly, it was shown that starting from these different theories of value, money is either defined as a pure medium, which neutrally evaluates marginal utility, or as the material representative of abstract wealth which can be withdrawn from circulation and function as potential capital. By defining money as neutral and simply as a numéraire, binary economics characterises the rationality of capitalism by referring to the motives of bartering for use-values. This characterisation implies that the ultimate purpose of the capitalist economy is the satisfaction of needs and, furthermore, that production principally equals consumption (the acceptance of Say's law). The Marxian view, on the other hand, sees the rationality of capitalism rather being targeted on (exchange)-value and profit. In its various forms and functions, money becomes the object of exchange per se. In this respect, from a Marxian perspective, Kelso's understanding of the value-form, i.e. money, contains an apologetic moment.

The fact that binary economics merely discusses a fictional economy, which is based on primitive bartering, thirdly, leads into capital fetishism, which lies at the heart of the binary logic. The binary theory defines capital as a thing, a source of use-value production, independent from labour. From this binary perspective, it is then completely logical to call for a diffusion of capital ownership, considering that the inherent productiveness of capital instruments is assumed to be greater than those from labour input. Concentration of capital ownership, on the other hand, fosters more concentration and periodically leads into underconsumption crises. Although the disposition over the means of production is also central to Marx's argument, the Marxian theory holds that it is exploitation which is an inherent condition for profit, whereas Kelso denies such a thing. In Marxian theory, the race for surplus-value under the coercive laws of competition is the prerequisite for compound growth.

The central thesis in *Capital* is that capital accumulation (M-C- ΔM), i.e. the transformation of constant and variable capital in surplus-value, is the purpose of production itself. The capitalist is impelled to reinvest, not only to produce and realise surplus-value, but also to consume it within further expansion. Within (unregulated) capital accumulation, centralisation and concentration of capital is an inevitable result. The reason why asset formation policies are prone to failure lies, therefore, in the dynamic of the capitalist society itself. Asset formation presupposes private property. Even if one starts from the utopian assumption that every European has an equal amount of capital assets at a given moment in time, the struggle for the highest return on assets would eliminate the evenness or the scope of the diffusion of assets. This leads into a concentration of assets in the same way perfect competition under the capitalist mode of production culminates in its own negation i.e. a monopoly or oligopoly.[323]

Lastly, it was shown that, alongside commodity and capital fetishism, binary economics applies to money fetishism. The ability of a 'thing' to be money is an objective feature of said 'thing' and is not an expression of a general social relation which enables the 'thing' to become money in the first place. The thing could be any commodity. In the binary financing plan it is the commodity sui generis, i.e. interest-bearing capital, which is, significantly, declared to be the tool for economic freedom. Kelso believes that the expansion of credit accessibility is the only 'just' way to enable non-owners to become owners of assets. From the Marxian perspective, this binary fantasy assumes away that the driving force of capitalism is self-expanding value, expressed in the profit rate. Accordingly, there cannot be interest without profit and there can be no profit without production and realisation of surplus-value, that is to say exploitation of variable capital. By enabling 'labour workers' to additionally become 'capital workers' through credit or other tools, this driving force is still present. Exploitation becomes self-exploitation and other contradictions of the capitalist system, such as concentration, are most likely inevitably reproduced. From the Marxian perspective, most asset formation policies would probably miss most their former objectives, such as individual freedom, better working conditions or more leisure time. The only goal which is most likely to be realised is the greater loyalty of stockholding workers to the company, as it is directly related to self-exploitation.

In Vol. III Marx briefly mentions that the sociality of production within joint-stock companies potentially paves the way for not only a new mode of ownership, but also a new mode of production. Therefore, associated and collective labour could constitute the foundations of an anti-capitalist alternative. How this alternative could look like and which sort of plan or political action needs be chosen, is a question which will be asked again and again and will long remain an open one. What can be said about the binary financing plan, however, is that, from the Marxian perspective, it is certainly not an alternative to capitalism as it is built on assumptions derived from fetishism.

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[323] See: (Altvater, 1965), 347.

The binary solution is also no alternative to the re-distributive welfare state, as it claims to be. So far, the welfare state ensured a certain degree of social cohesion in a competitive world, although since the 1980s its de-commodifying effect is strongly challenged by neoliberal policies. It depends on the ideological perspective, but call it the pessimist or optimist essence of the Marxian theory: capital accumulation hits, time and time again, certain limits and ends up in different kinds of crises. These limits may lie in the production of surplus-value, for example, when labour is too well-organised and supported by a strong welfare state; or in the realisation of surplus-value, when commodities remain unsold due to a weak labour force, unemployment and lack of effective demand. Another limit, which was not elaborated on in this paper, lies in the universal metabolic relationship of human beings to nature, a relationship which is threatened by factors such as climate change.

There are many reasons for the human society to become independent from compound growth and, somewhere along the line, there might be a real alternative.

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