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The Value-Price Transformation in Marx and the Problem of Crisis

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1 Concrete Reality as the Object and Goal of Marx's Research

The task of all science is the exploration and understanding of the concretely given totality of phenomena, of their interconnections and their mutations. The difficulty of this task is that phenomena are not immediately identical with the essence of things. The exploration of the essence constitutes a precondition for understanding the world of appearances. Marx, in opposition to vulgar economics, seeks to identify the 'hidden essence' and the 'inner connection' of economic reality;[1] this is not to say that he is not interested in concrete appearances. On the contrary! Only appearances present themselves to consciousness, which means that – purely methodologically – their hidden, essential 'core' can only be accessed through the analysis of appearances.[2]

But the concrete appearances are important to Marx not only because they are the starting point and the medium for understanding the 'real movement'. They are, rather, the very objects that Marx ultimately wants to identify and understand in their interconnection. By no means does he simply want to restrict himself to the exploration of the 'essence' while ignoring the phenomena. In fact, the essence, once identified, has the function of enabling us to comprehend concrete appearances. This is why Marx strives to find 'the law which governs these phenomena', i.e. 'the law of their variation'.[3]

Only phenomena *in themselves* and without the context of the 'hidden essence of things' are, according to Marx, incomprehensible and '*prima*

[Originally published as Grossmann 1932a. The editor is grateful to Fred Moseley for his advice, particularly on the concepts of cost prices and prices of production. This essay, along with many others on economic theory, will appear in the first of four volumes of Grossman's works to be published in the *Historical Materialism* Book Series.]

1 Marx 1981, p. 956.

2 Marx 1981, p. 311.

3 From a Russian review quoted by Marx (Marx 1976, p. 100).

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facie vulgar'. But it would be a disastrous mistake – falling into the opposite error of vulgar economics – if economic science contented itself with the 'hidden essence' of the things that have been discovered, without finding the *way back to concrete appearances* with whose explanation we are, after all, concerned, that is, without reconstructing the *many mediations* between the essence and the form of appearance! Marx therefore regards this path from the abstract to the concrete as 'obviously the correct scientific method'. Here 'abstract determinations' lead, '*by way of thinking to the reproduction of the concrete*' because 'the method of advancing from the abstract to the concrete is simply the way in which thinking *assimilates the concrete* and reproduces it *as a mental concrete*'.[4]

By using a concrete example, Marx shows that it is not enough to reduce the values created in industrial production to the general law, i.e. to state 'that commodity values are determined by the labour-time they contain'. This is because empirical processes in the sphere of circulation, e.g. the influence of commercial capital on the commodity prices, which are visible in practice, show 'phenomena which, in the absence of a very far-reaching analysis of the intermediary stages of the process, seem to presuppose a purely arbitrary determination of prices' so it appears that 'the circulation process as such determines the prices of commodities, and that this is within certain limits independent of the process of production', that is, of labour time. Therefore, in order to demonstrate the illusion of this appearance and to establish the 'inner connection' between the phenomenon and the 'actual process' – which is 'a very intricate thing and a work of great detail'; 'it is one of the tasks of science to reduce the visible and merely apparent movement to the actual inner movement',[5] 'just as the apparent motions of the heavenly bodies are intelligible only to someone who is acquainted with their real motions, which are not perceptible to the senses.'[6]

The decisively important 'task of science' is thus to find the 'mediations', the 'intermediary stages', which lead from the essence to the concrete phenomenon. Without these intermediaries the theory, i.e. the 'essence' of things, would be in contradiction with concrete reality. Marx rightly scorns those 'theorists' who lose themselves in unrealistic constructs. Only '[t]he *vulgus* has therefore concluded that theoretical truths are abstractions which are at variance with reality.'[7]

4 Marx 1986, p. 38 [Grossman's emphasis].
5 Marx 1981, p. 428; Marx 1976, p. 710.
6 Marx 1976, p. 433.
7 Marx 1992, p. 72.

The structure of Marx's *Capital* and the procedure of successive approximation he applies there, as I have shown,[8] also conform to Marx's basic methodological idea, which finds its most concise expression in the construction of his reproduction schema. Applying numerous simplifying assumptions, the 'journey' from the concrete towards the abstract is undertaken there. The given world of appearances, the concrete partial forms in which surplus value appears in the sphere of circulation (profit of enterprise, interest, commercial profit etc.) are ignored and the entire analysis of Volumes I and II of *Capital* focuses on *aggregate* value and surplus value, on their creation and their changes in size, in the processes of production and circulation. The 'mere semblance belonging only to the process of circulation' is thus excluded.[9] While the purpose of the analysis in Volumes I and II of *Capital* was to research the *creation of* surplus value as the essence of the total economic process, the following task – and, as Marx expressly emphasises, this constitutes the purpose and the content of Volume III – was to construct the 'inner connection' between the 'essence', which had been discovered, and the form of its appearance, the empirically given forms of surplus value. That is, '[o]ur concern is rather to *discover and present the concrete forms* which grow out of the *process of capital's movement considered as a whole*. In their actual movement, capitals confront one another in concrete forms.'[10]

Here, in Volume III, the simplifying assumptions previously made (e.g. the sale of commodities at their value, the exclusion of the sphere of circulation and competition, treating surplus value in its totality, excluding the partial forms into which it divides itself) are dropped. Subsequently, in this *second stage* of the procedure of successive approximation, the mediations thus far neglected are taken into consideration, step by step, and the concrete forms of profit (ground rent, interest, commercial profit etc.) are dealt with. Only in this way is the circle of Marx's analysis completed and proof is provided that the labour theory of value is not an unrealistic construct but that it indeed constitutes 'the law of phenomena', i.e. the foundation which enables us to *explain the real world of appearances*. Marx formulates this basic methodological idea with unmistakable clarity when he says: 'In Volumes 1 and 2 we were only concerned with the *values* of commodities. Now [in Volume III] ... the *price of production* of the commodity has also developed, as a transformed form of value.'[11] 'The configurations of capital, as developed in this volume, *thus approach step*

8 Grossmann 1992, pp. 29–31; Grossman 2013, p. 152.

9 Marx 1981, p. 729.

10 Marx 1981, p. 117 [The first emphasis is Grossman's].

11 Marx 1981, p. 263.

by step the form in which they appear on the surface of society, in the action of different capitals on one another, i.e. in competition, and in the everyday consciousness of the agents of production themselves.'[12]

2 The Contradiction between the Value Schema and Reality

If, as we have shown, the reproduction in thought of concrete reality is the goal of Marx's research then the function of Marx's reproduction schema within Marx's research method is readily apparent: *it does not claim that, by itself, it is a representation of capitalist reality*. It is only an element in Marx's procedure of successive approximation that together with simplifying assumptions (which are the basis of the schema) and subsequent *modifications* (giving rise to progressive concretisation) constitute an indivisible whole. Without the other two, each of these three parts by itself consequently loses all significance for understanding the truth and can therefore only constitute a preliminary stage of understanding, the first step in the procedure of successive approximation of concrete reality.

Once this character of Marx's reproduction schema is clear, it is apparent that it is only an aid to our thought and is not a representation of concrete processes. There can also, then, be no doubt about the character of the individual elements out of which the schema is constructed – value, surplus-value, different profit rates in the individual spheres of production. As I have shown elsewhere, surplus value is *a real quantity*.[13] This is only true, however, for *society as a whole* in which values and prices, and therefore surplus value and profit, are quantitatively identical. Matters are different as regards *individual spheres of production*. Within these, in capitalist reality, we do not have values but prices of production which diverge from them. There are not quantities of surplus values but of profits. In short, the values and surplus-values that figure in the reproduction schema are, from a quantitative perspective, not categories of reality; they are not immediately given in the world of capitalist reality. They are, rather, assumptions which initially contradict reality, that are chosen arbitrarily for the methodological purpose of simplification. Let us examine *values* first. Is it still necessary to recall that for Marx the sale of commodities at their values only has the character of a preliminary theoretical *assumption*, but that Marx did not claim anywhere or at any time that this assumption accords with reality? In Volume I of *Capital*, he explicitly says 'We

12 Marx 1981, p. 117 [Grossman's emphasis].

13 Grossmann 1992, p. 103.

assume here that the capitalist sells the commodities he has produced at their value.'[14] – 'I *assume* ... that commodities are sold at their value.'[15] In the second volume too, Marx emphasises the *theoretical* character of this premise when he writes, 'In Volume 1 ... it was assumed ... that the capitalist sells the product at its value.'[16] But nowhere is it claimed that this assumption accords with reality. Rather, the opposite is said, that this assumption diverges from and is, *prima facie*, in apparent contradiction with reality. With exceptional clarity Marx even states in Volume I of *Capital* that the circulation of commodities at their values is an assumption that holds true only in the theoretical, 'normal course' that he assumes, 'in so far as' and 'provided' that the phenomenon proceeds 'in its purity'. 'In its *pure* form, the circulation process necessitates the exchange of equivalents, *but in reality processes do not take place in their pure form*.'[17] Here, then, the 'pure' process is counterposed to reality. Only in the former but not in the latter are the commodities exchanged at their values. So, in a letter to Kugelmann of 11 July 1868, Marx with his typical sarcasm flagellates the confusion of theoretical assumptions for experience that is frequently apparent in bourgeois economics. 'The vulgar economist has not the slightest idea that the *actual*, everyday exchange relations and the value magnitudes *cannot be directly identical*.'[18]

On innumerable other occasions in all three volumes of *Capital* as well as *Theories of Surplus Value*, Marx reiterates that in reality commodities are *not* sold at their values but at *prices of production* while 'the prices of production of *most commodities must differ* from their values.'[19] For this very reason, he polemicises against David Ricardo's claim that commodities are sold at their values: 'This is the first *erroneous assumption*. ... Only in exceptional circumstances are commodities exchanged at their value.'[20] And, against Adam

14 Marx 1976, p. 710 [Grossman's emphasis].

15 Marx 1976, p. 655 [Grossman's emphasis].

16 Marx 1978, p. 428.

17 Marx 1976, p. 262 [Grossman's emphasis].

18 Marx 1988b, p. 69 [Grossman emphasises 'actual'].

19 Marx 1910b, p. 91. [Grossman's emphasis, quoting accurately from this, Karl Kautsky's edition of *Theories of Surplus Value*. Kautsky here and in the other relevant passages that Grossman quotes from *Theories of Surplus Value* had changed 'cost prices' in Marx's original manuscript to 'price of production'. This was because Marx used the term 'cost price' in *Theories of Surplus Value* for what he termed 'price of production' in *Capital* Volume III where 'cost price' meant the cost of inputs, i.e. c+v. For the literal translation of the original text, see Marx 1992, p. 272; also see note 6, p. 548.]

20 Marx 1989, p. 266 [Grossman's emphasis].

Smith, he says, 'as I shall show later, even the average price of commodities is *always different from their value*.'[21]

What has been said here about value is true of *surplus-value* too. We have surplus values in the reproduction schema but not in reality. Surplus value is 'invisible' while in the reality of capitalism only different *forms of profit* such as profit of enterprise, interest, commercial profit, and ground rent occur. The surplus values represented in each sphere of production of the reproduction schema are therefore only preliminary assumptions which do not correspond with reality. The same is finally true of the profit rates visible in the schema. In a reproduction schema based on values, in other words, on the assumption that commodities are sold at their values, there have to be *different profit rates* in each of the departments. The *experience* of the capitalist system, conditioned by competition, shows that in reality a *tendency for the different profit rates* in the individual spheres *to equalise*, to form a *general*, i.e. *an average rate of profit*, prevails. This process is immanent to the concept of prices of production: 'the existence and concept of price of production and the *general rate of profit* it involves rest on the fact *that individual commodities are not sold at their values*',[22] as, conversely, 'the mere existence of a general rate of profit necessitates prices of production that differ from values.'[23]

Hence the reproduction schema, in which only values, surplus-values and different profit rates in the individual spheres of production feature, initially *contradicts concrete reality*. The theoretical, preliminary character of the reproduction schema and particularly the assumption that commodities exchange at their values is thus clear. *Real processes* play out quite differently to those in the reproduction schema. And it is not, indeed, a matter of their accidental or temporary deviations from the processes represented in the schema, which can be disregarded by science. Rather, the real process of reproduction is *fundamentally* different from that represented by the schema. The deviations of prices from values as they occur in reality are not merely *temporary* fluctuations, as is the case, e.g. with market prices; on the contrary, the transformation of values into prices of production that actually occurs 'creates *PERMANENT* DEVIATIONS FROM VALUES.'[24] In the schema, the *surplus values* produced in the individual spheres are realised in them. It is very different in reality. In the long run, it is not the surplus values that are realised but the *average profit*, which continuously deviates from them.

21 Marx 1988a, p. 400 [Grossman emphasises 'from their value'].

22 Marx 1981, p. 895 [Grossman's emphasis].

23 Marx 1989, p. 402.

24 Marx 1989, p. 435 [Grossman's emphasis].

'[A]ll capitals, whatever the surplus value they themselves produce, tend to realise in the prices of their commodities not this surplus value, but rather the average profit.'[25] 'The theory of value thus appears incompatible with the actual movement, incompatible with the *actual phenomena of production*, and it might seem that we must abandon all hope of understanding these phenomena.'[26]

3 Prices of Production and the General Rate of Profit as 'Regulators' of Capitalist Reproduction

To understand the capitalist mechanism, however, it does not suffice to state that the value schema of the reproduction process and the categories of surplus value as well as the particular profit rates in the individual spheres of production do not correspond with reality. We have to ask: which categories, then, determine the character of capitalist reality and are of decisive importance for the 'real movement' of the capitalist mechanism? Marx's answer to this question – and it constitutes the content of the third volume of *Capital* – is well-known. It is not values, assumed in theory, but the empirically-given prices of production which form the objective centre of gravity around which everyday market prices oscillate. For concrete movements of capital, the empirically-given general average rate of profit is decisively important, rather than the theoretically different profit-rates assumed in the schema.

'There is no doubt, however', Marx says, 'that in *actual fact*, ignoring inessential, accidental circumstances that cancel each other out, no such *variation* in the average rate of profit exists between different branches of production, *it could not exist without abolishing the entire system of capitalist production*.'[27] Marx says that this *general* rate of profit is '*the driving force* in capitalist production'.[28] 'This average profit' should be understood '… as is the case in the capitalist mode of production, as the overall *regulator* of production'.[29] It is 'the law … governing capitalist production'.[30] For the same reason, for Marx, 'the basic law of capitalist competition …' is 'the law that governs the *general rate of profit* and the so-called *prices of production*

25 Marx 1981, p. 274.
26 Marx 1981, p. 252 [Grossman's emphasis].
27 Ibid. [Grossman's emphasis].
28 Marx 1981, p. 368 [Grossman's emphasis].
29 Marx 1981, p. 918 [Grossman's emphasis].
30 Marx 1981, p. 959.

determined by it'.[31] Finally Marx believes that '*the movement of this equalisation* [is the foundation] *on which the whole of capitalist production depends*'.[32] For not values but prices of production 'are the actual averages governing market prices', i.e., they are the point around which real market prices oscillate: 'Market prices rise above these *governing production prices* or fall below them'[33] since 'it is not values but rather *prices of production* differing from them that form the *governing average prices* in each sphere of production.'[34]

'Regulating average prices', however, means nothing else than that, in the long run, production price and not value constitutes the *condition for reproduction*. As Marx explicitly states, it 'is in fact the same thing that ... Ricardo [calls] "price of production" or "cost of production", and the Physiocrats "prix nécessaire" ... *because in the long term it is the condition of supply, the condition for the reproduction of commodities*, in each particular sphere of production.'[35]

But there is more! The practical importance and relevance of the general rate of profit will become even more clearly apparent when we consider that it forms the basis of *the community of economic class interests among entrepreneurs*. For if commodities were exchanged at their values, each entrepreneur would only be interested in the exploitation of the workers he personally employs and his profit would be identical to the surplus value that 'his' workers produce. Only the transformation of surplus value into the general rate of profit ensures 'that each individual capitalist, just like the totality of all capitalists ... *participates* in the exploitation of the entire working class as a whole, and in the level of this exploitation; not just in terms of general class sympathy, but *in a direct economic sense*, since ... the average rate of profit depends on the level of exploitation of labour by capital as a whole.'[36]

If we remain in the schema, where commodities are sold at their values and hence there are *different* profit rates in individual spheres, then competition and its result – the fact of regulation by prices of production – are not considered.[37] And the average rate of profit, which is the 'driving force' – 'on which the whole of capitalist production depends' – is lost!

31 Marx 1981, pp. 127–8 [Grossman's emphasis].
32 Marx 1981, p. 566 [Grossman's emphasis and interpolation].
33 Marx 1981, p. 1000 [Grossman's emphasis].
34 Marx 1981, p. 1013; cf. Marx 1981, pp. 302, 308, 967, 1000, 1009, 1022 [Grossman's emphasis].
35 Marx 1981, p. 300 [Grossman's emphasis].
36 Marx 1981, pp. 298–9 [Grossman's emphasis].
37 The objection of Fritz Sternberg (1930) to my conception of value, that it 'neglects the importance of competition under capitalism', turns matters on their head. It is not I who has overlooked competition. It was, in fact, not considered in the course of the entire 30-year debate over the problem of accumulation and crisis. Mr Sternberg *indeed speaks*

Since, however, such a value schema does not and cannot tell us anything about prices of production and the average rate of profit as a whole, it is obvious that it can explain just as little about the individual *partial forms of profit*, which arise from the division of surplus value. It is not suited to 'present *the concrete forms* which grow out of the *process of capital's movement considered as a whole*.'[38] The existence of all these forms of profit is inconsistent with the value schema and therefore not immediately explicable from the standpoint of the value theory which underlies it.

That is to say, the value schema only encompasses *productive* capital, that engages in the production of value and surplus value, but not money and merchant's capital that operate in the sphere of *circulation*. Hence, if industrial producers sell commodities at their values, i.e. at '*value prices*'[39] quantitatively identical to values (as happens in the value schema), the existence of *commercial profit*, i.e. the profit of *merchant*'s capital that does not engage in

of the necessity of taking competition into account *but does it* just as little as other authors, from [Michael] Tugan-Baranowsky to [Nikolai] Bukharin, since all of them operate with a schema that only knows values. The *very concept of value*, however, includes *diversity of profit rates* in individual spheres and, therefore, also the exclusion of competition since '*it is only the competition* of capitals in different spheres that brings forth the production price that *equalises* the rates of profit between those spheres' (Marx 1981, p. 281). If one treats *crises primarily* as partial, resulting from disproportionality between the individual spheres – as in the works of the authors mentioned – then it is absolutely necessary to consider competition, i.e. the tendency of profit-rates to equalise. This is not the case in my book, which attempts to explain the *primarily general* crises of over-accumulation that affect all spheres. For society as a whole, 'the distinction between values and prices of production loses all significance', since here the dimensions of the two are identical (cf. Grossmann 1929, pp. 107, 211).

Just as incorrect is the further objection that the effects of competition are already contained in values, because competition determines value, i.e. socially-necessary labour time. This conception is absolutely irreconcilable with the essential foundations of Marx's theory of value. In fact, the function competition fulfils for values is not constitutive but merely declaratory. It does not determine socially-necessary labour time but only registers it after the fact. Competition, after all, plays out on the *market*, i.e. in the sphere of circulation. Values, however, are created in the sphere of *production*, they therefore precede all competition. 'The value of a commodity', Marx says, 'is expressed in its price *before* it enters into circulation, and it is therefore a *precondition of circulation and not its result*' (Marx 1976, p. 260; cf. Marx 1987, p. 350). The Physiocrats François Quesnay and Pierre-Paul Mercier de la Rivière already knew that commodities have an exchange value before they enter the market to be exchanged (cf. Marx 1981, p. 260, and Oncken 1902, p. 370).

38 Marx 1981, p. 117 [Grossman emphasises 'concrete forms'].

39 Marx 1981, p. 275 [Grossman's emphasis].

production at all, becomes an insoluble riddle. 'At first appearance, pure and independent commercial profit seems impossible so long as products are sold at their values.'[40] 'The principles about value formation, profit, etc. derived straight from the examination of industrial capital *cannot be applied directly to commercial capital*.'[41] As long as we restrict ourselves to the investigation of *value*, a large and important portion of the phenomena of capitalist reality – the profit of commercial capital – particularly in its international form, i.e. the *appearances of the world market and global trade*, remains inexplicable.

However, the transformation *of values* (value prices) of the schema into prices of production and also the equalisation of the different profit rates in the individual spheres of the schema into the general rate of profit would by no means suffice to explain the existence of commercial profit. We would merely be taking into account productive capitals, i.e. those contributing to the *creation* of surplus value in the formation of the general rate of profit and the transformation of value prices into prices of production. Such a process of equalisation would therefore only be 'our *first* consideration' of the general rate of profit but by no means its '*finished* form'.[42] Commercial capital, which has no part in the creation of surplus value, still remains to be considered. To explain the existence of commercial profit yet another stage in the procedure of successive approximation would be necessary, to 'supplement' the first process of equalisation of *productive* capitals alone with 'the *participation of commercial capital* in this equalisation', i.e. by a second-order equalisation.[43] Only in this way can the 'finished form' of the profit rate be attained, after *prices of production* have been given a 'more accurate definition'[44] and been modified into '*commercial prices*',[45] which presents the original average profit-rate 'within more closely defined limits than before'.[46] We see that if the concrete, empirically-given form of commercial profit is to be understood, the value schema has to be modified by the procedure of successive approximation in a number of ways. Under the premises of the value schema, i.e. without these intermediary steps which lead from 'value prices' via 'prices of production' to the phenomenon of 'commercial prices', the existence of commercial profit would be neither possible nor comprehensible.

40 Marx 1981, p. 447.
41 Marx 1981, p. 441 [Grossman's emphasis].
42 Marx 1981, p. 459 [Grossman's emphasis].
43 Marx 1981, p. 460 [Grossman's emphasis].
44 Marx 1981, p. 398.
45 Marx 1981, p. 429 [Grossman's emphasis].
46 Marx 1981, p. 336.

But that is not all! There is the further circumstance, that the *course of the accumulation process*, as presented in the value schema, is powerfully *modified* by the existence of commercial profit, i.e. by the transformation of values into prices of production and then commercial prices.

For it is evident that the portion of the surplus value shown in the value schema which accrues to commercial capital as profit and is accumulated in the sphere of circulation (the commercial buildings of trading companies, office fittings, operating capital etc.) constitutes a 'deduction from the profit of industrial capital'[47] and 'proportionately reduces the scale on which the capital advanced functions productively.'[48] This portion of surplus value is excluded from future accumulation of productive capital, as presented in the value schema, and is no longer involved in the *creation* of surplus value. It does, however, participate in the *distribution* of profit. Both facts, the reduction in the active side and the increase in the passive side, slow down the pace of the accumulation of industrial capital *pro tanto*.[49] 'The bigger commercial capital is in comparison with industrial capital, the smaller the rate of industrial profit.'[50] At the same time, it is clear that the existence of commercial profit transfers a portion of surplus value – from Rosa Luxemburg's standpoint part of the 'unsaleable remainder'[51] of surplus value – from the sphere of production to the sphere of circulation. The conversion of value prices into production and commercial prices consequently disturbs all of the ratios calculated in the value schema!

What has been said here about commercial capital is literally true, and for the same reasons, of *money* and *bank* capital. This capital, too, functions exclusively in the sphere of circulation, and *indeed* participates in the distribution but not in the production, of surplus value. If commodities were sold *at* their values, i.e. if industrialists retained *all* of the surplus value they initially appropriated, then 'upon that supposition, merchant's capital and banker's capital would be impossible',[52] since it would make no profit.

Finally, on the basis of the value schema, not only the existence of interest but also *interest-rate* movements are impossible. 'The rate of interest is related to the profit rate in a similar way as the market price of a commodity is to its value. In so far as the rate of interest is determined by the profit rate, this is

47 Marx 1981, p. 400.
48 Marx 1978, p. 211.
49 ['to that extent']
50 Marx 1981, p. 400.
51 Luxemburg 1913, p. 308.
52 Engels 2001a, pp. 228–30.

always through the *general* rate of profit and not through the specific profit rates that may prevail in particular branches of industry.... The general rate of profit, *in fact, reappears in the average rate of interest as an empirical, given fact*.'[53] 'In this sense', it is stated elsewhere, 'interest is governed by profit, and more precisely by the general rate of profit.'[54] In a value schema with different profit rates in the individual spheres of production and its aggregate surplus value, neither the existence of an interest rate nor its movements can be explained, nor can bank and financial capital, to which [Rudolf] Hilferding ascribes a decisive significance in capital's most recent development.[55]

And the same is true of *ground rent*, in its modern, capitalist form which 'only exists in a society the basis of which is the *capitalist* mode of production.'[56] The existence of ground rent is impossible to explain on the basis of a value schema, i.e. under the assumption that commodities are sold at their values.[57]

The discussion above has made it sufficiently clear that the categories presented in the value schema, value, surplus-value and different rates of profit are not of immediate, decisive importance for understanding the *concrete* process of capitalist production. On the contrary, the important categories are *those not encompassed by the schema: prices of production, profit* and *its partial forms*, and finally the general *average profit-rate*. These categories must be awarded primacy for the immediate understanding of concrete capitalist production, precisely because the average rate of profit is the 'regulator' and the

53 Marx 1981, p. 487 [Grossman's emphasis].

54 Marx 1981, pp. 481–2.

55 [Hilferding 1981.]

56 Marx 1993, p. 322 [Grossman's emphasis].

57 Because *absolute rent* is merely a 'surplus profit', i.e. an 'excess over and above the AVERAGE PROFIT' (Marx 1993, p. 332); also Marx 1989, p. 271; Marx 1981, pp. 297, 918. 'If then the value of agricultural produce is higher than the price of production determined by the *INDUSTRIAL AVERAGE* profit would be, the excess of this value over the price of production constitutes the absolute rent. But in order that this excess of value over price of production can be measured, the price of production must be the *prius*; it must therefore be imposed on agriculture as a law by industry.... Rent ... cannot possibly be explained if industrial profit does *not* regulate AGRICULTURAL profit' (Marx 1992, p. 289). 'If we are to speak of an excess over the average profit, this average profit must first be established as a measure and, as is the case in the capitalist mode of production, as the overall *regulator of production*' (Marx 1981, p. 918). The existence of an absolute ground rent cannot, therefore, be explained by a value schema in which this regulator does not exist.

'driving force' of this production and because the whole capitalist movement rests on the *equalisation* of different profit rates.[58]

If one recalls this state of affairs, it becomes clear that a value schema which lacks all of these real categories, on which real capitalist movement rests, allows us to recognise the tendencies of historical development, in other words 'the *general law* of capitalist accumulation' as Marx already presents it in the first volume of *Capital*.[59] But it is not at all suited to reproduce in thought the *concrete forms of the movement* of capital. This is precisely why deductions based on the *value* schema regarding proportionality or disproportionality of individual spheres of production are not conclusive and at least premature.

4 The Value Schema as an Historical and Theoretical Point of Departure

If we allocate the role of the regulator and driving force of capitalist production to the categories provided by experience – prices of production, average profit rate and general rate of profit – this raises the urgent question: what function, then, do values fulfil? Is not a reproduction schema based on values irrelevant if it does not provide an adequate depiction of capitalist commodity production and does not immediately apply in the real world? Such a conclusion would be mistaken. Despite the reality of prices of production, values retain their central significance, indeed, as Marx stresses, in *two* respects:

1. They are an *historically primary form*, valid for the epoch of simple, i.e. *pre*capitalist commodity production of independent producers – artisans, peasants – 'as long as the means of production involved in each branch of production can be transferred from one sphere to another only with difficulty',[60] i.e. as long as there are legal or material barriers to the movement of capital which hinder the formation of a general rate of profit.[61] *Only in this period* of simple commodity production is the exchange of commodities at their (market) values not only a theoretical assumption but an *actual occurrence*, in the sense that *values form the centre of gravity* for the daily fluctuations of market prices.[62]

58 Marx 1981, pp. 368, 918.
59 Marx 1976, p. 762 [Grossman's emphasis].
60 Marx 1981, pp. 278–9.
61 Marx 1981, p. 298.
62 Marx 1981, p. 279.

2. Under *capitalist* commodity production, on the other hand, the previous function of values in the exchange is modified. Commodities now exchange at *prices of production* which differ quantitatively from values, while values only fulfil the function of a *theoretically primary factor*, from which prices of production are derived. *Prices of production* are the *regulator* of the scope of production under capitalism, they determine the movement of capital, i.e. the steady injection and withdrawal of capital in individual spheres of production and, therefore, of the distribution of aggregate social capital. They and not values are therefore *responsible for the proportionality or disproportionality of this distribution*. While bourgeois economics accepts prices of production as a fact without investigating their origins any further, Marx proves that prices of production must be derived from values, that without such a derivation 'the general rate of profit (and hence also the price of production of the commodity) remains a meaningless and irrational conception.'[63] If average profit is to be discussed, then the components from which the average is calculated must be known. 'Without this, the average rate of profit is the average of *nothing*, pure fancy.'[64] Only in this sense does the *law of value* govern the movement of commodity prices under capitalism. In *individual spheres of production*, that does not prevent *prices of production rather than values* from constituting the *centre* around which daily market-prices fluctuate[65] and 'at which they are balanced out in definite periods'.[66] Furthermore, prices of production and *not values* regulate production, its scope and the distribution of capital, They, therefore, directly determine the very elements that are of crucial significance for understanding *crises*, insofar as these can be attributed to disproportionality in the distribution of capital.[67]

63 Marx 1981, p. 257. [Grossman also cited Marx 1989, p. 416, which should have been the reference for the next quotation, here.]

64 Marx 1989, p. 416; Marx 1992, pp. 273–4. [Grossman mistakenly cited Marx 1981, p. 277, for the quotation and included the next sentence in it. The next sentence is, however, a paraphrase of text on that page. The additional reference, to Marx 1992, pp. 273–4, seems more relevant to the previous quotation.]

65 It is, consequently, incorrect when Karl Diehl, in what seems like a concession to Marx, acknowledges that, within Marx's schema, *incongruence between the values and the prices* of individual commodities is justified and necessary, yet then claims 'Marx decisively assumes that labour value is *the gravitational centre* of *average market prices*' (Diehl 1898, p. 6), and likewise as late as Diehl 1921, p. 96.

66 Marx 1981, p. 280.

67 'The entire capitalist production process, moreover, is governed by the prices of products. But the *governing prices of production* are themselves governed in turn by the equalisation of the rate of profit and the *distribution of capital* among the various spheres of social

We see that the sale of commodities at their values does not occur in capitalist reality. 'The exchange of commodities at their values … thus corresponds to *a much lower stage* of development than the exchange at prices of production, for which a *definite degree of capitalist development* is needed.'[68] Capital accomplishes the equalisation of different profit rates in the individual spheres of production more easily 'according to *how advanced capitalist development* is in a given national society'.[69]

What has been said so far makes it clear that the line of argument of Rosa Luxemburg and her followers but likewise that of Hilferding and Otto Bauer had to fail from the outset, because they undertook to demonstrate (or to refute) the capitalist law of crises by means of a schema that only knows the sale of commodities at their values and which is therefore, according to Marx, only the expression of a '*lower stage*' of development, namely that of precapitalist commodity production. For this reason, they ignored the production-price schema that governs *developed* capitalist production, and thus the very elements, such as prices of production and average profit, which are decisive for the proportionality or disproportionality of capital distribution in developed capitalism. The real categories which regulate the whole mechanism are disregarded; attention is only given to categories which are unreal (different profit rates) and which – if they were realised – would inevitably 'abolish … the entire system of capitalist production'![70]

The deficiencies of such an approach are clear. If the contradiction, discussed earlier, between value theory and 'actual phenomena of production', i.e. between the value schema and capitalist reality, is to be resolved, then the analysis of the capitalist reproduction process cannot remain at the level of the value schema with its different profit rates. Then it actually has to be regarded as a 'theoretically primary factor'. Using value theory and therefore the value schema merely as a *starting point* for an analysis, with the help of a *series of intermediary stages*, we can find the bridge that leads us to real phenomena, i.e. to prices of production and the average profit rate. In short, the value schema must be transformed step by step, through multi-level, successive approximations into a *production-price schema*. 'It is evident that the emergence, realisation, creation of the general rate of profit *necessitates*

production which is appropriate to that equalisation. Thus *profit* appears in this case as the principal factor not just of the products' distribution but also of their actual *production*' (Marx 1981, p. 1022).

68 Marx 1981, p. 277 [Grossman's emphasis].

69 Marx 1981, pp. 297, 281 [Grossman's emphasis].

70 Marx 1981, p. 252.

the transformation of values into prices of production that are different from these values.'[71]

In the second volume of *Capital* Marx *does begin* his analysis of the crisis problematic with a value schema. But his line of argument at this level of abstraction, removed from and initially in contradiction with reality, is not and cannot be conclusive. It has a merely *preliminary* character and will be completed by the theory of Volume III of *Capital*, the theory of the transformation of values into prices of production. In Marx's analysis, the *value schema* constitutes only the embryonic form, the *first stage* in the procedure of successive approximation, which can only mature into the price form through a series of metamorphoses!

Marx's value schema restricts the analysis to only the *creation of* value and *surplus value* as a whole, i.e. the form in which they emerge from the *process of production*, so that competition and the *influences of the sphere of circulation on the distribution of this surplus value* are not considered at this stage. Subsequently, however, the elements previously excluded must be considered. Thus the analysis of the creation of surplus value in the process of production must be supplemented by the analysis of its *distribution in the process of circulation* by means of competition.

The following conclusion for the crisis problematic – in so far as it relates to the mutual relations of dependency and proportionality among the individual spheres of production – which also indicates the course of further research, emerges from what has been said above. If the analysis of the law of crisis is to be conclusive about *capitalist reality* then it must not be restricted to the *value schema*, the first stage in the procedure of successive approximation, but must occur at *all* stages and also be demonstrated through a *production-price schema*.

5 The Crisis Problematic and the Lessons of Volume III of Marx's *Capital*

The research agenda formulated so far, however, stands in blatant contradiction with the actual history of the treatment of the crisis problematic in the Marxist camp. '[E]mpty tradition', Marx says, 'is more powerful in political economy than in any other science'.[72] We will see that this is true not only of bourgeois economics but also, just as much, of the political economy of Marx's epigones.

71 Marx 1910a, p. 161 [Grossman's emphasis; cf. Marx 1992, p. 69].

72 Marx 1993, p. 259.

At first, the significance of the reproduction schema developed in Volume II of *Capital* for the crisis problematic was not recognised at all. In a review of the second volume published in *Die Neue Zeit* in 1886,[73] Karl Kautsky identifies the reasons why, in his estimation, this volume was of *less interest* to the working class *than the first*. Only the production of surplus value in the factory was important. The further question of how this surplus is *realised* is of more interest to the capitalists than to the working class. And, on the occasion of the publication of the third volume of *Capital* ten years later, Eduard Bernstein uncritically repeats the same judgement, even in part using the same words, in a summary of the whole of Marx's principal work which was then concluded.[74] The practitioners of the movement have often only read the first volume and for decades have not laid hands on the other volumes. 'As you want to have a grind in prison at *Capital* 2 and 3', Engels wrote to Viktor Adler, as late as 16 March 1895, 'I will give you a few hints to make it easier'.[75] Hilferding speaks accurately of the 'analyses in the second volume of *Capital*' being 'largely ignored' until the publication of [Mikhail] Tugan-Baranowsky's book in 1901,[76] and adds: 'Tugan-Baranowsky deserves credit for calling attention to the significance of these investigations for the problem of crisis in his *Studies on the Theory and History of Industrial Crises in England*. The curious thing is that this needed to be pointed out at all'.[77]

With the publication of Tugan-Baranowsky's book, there was a turn to the opposite extreme. Whereas the significance of the reproduction schema for the problem of crisis had not been recognised at all until then, now – as I have shown elsewhere[78] – it is exalted in the most effusive manner, ascribed 'objective social existence' and regarded as an *exact representation of the capitalist reproduction* process. Conclusions about processes in capitalist reality are now drawn directly from the relations in the reproduction schema! So Rosa Luxemburg, for example, says 'we now have to ask ourselves what significance the schema of reproduction, that has been analysed, has for reality'.[79] Her answer is that the exact ratios of Marx's schema form the 'universal and absolute foundation of social reproduction', not only for

73 Kautsky 1886, p. 164.
74 Bernstein 1894–5.
75 Engels 2001b, p. 468.
76 Hilferding 1981, p. 243.
77 Hilferding 1981, p. 420; Tugan-Baranowsky 1901, part of which had been translated: Tugan-Baranowsky 2000a and 2000b.
78 Grossmann 1932b, pp. 153–4.
79 Luxemburg 1913, p. 76.

a capitalist but also for a socialist and in fact any planned economy![80] In a planned socialist economy production would correspond exactly to the ratios of the schema. Rosa Luxemburg states, further, that 'a *capitalist* economy lacks such planned organisation of the total process. *Consequently*[!], *nothing runs smoothly according to a mathematical formula, as it appears in the schema*. On the contrary, the circuit of reproduction proceeds with continual *deviations* from the relations of the schema'.[81] 'With all these deviations, however, *the schema presents a socially necessary average, around which these movements occur and which they time and again approach* after they have moved away from it'.[82]

The matter is no different according to Otto Bauer. For him too, the value schema presents a state of balanced equilibrium between capital accumulation and population around which the circuit of real reproduction oscillates. In reality there may be continual cyclical *deviations* from the schema's state of equilibrium because the apparatus of production exhibits over-accumulation or under-accumulation in relation to population growth. At the same time, however, there is a tendency inherent in the capitalist mode of production which – if 'only through great crises' – 'automatically [cancels out] over-accumulation and under-accumulation, with the accumulation of capital adjusting again and again to the growth of population'[83] *i.e. the real movement tends towards the theoretically calculated state of equilibrium represented by the schema*.

In striking contradiction to Marx's theory of the regulating function of the average rate of profit and prices of production, developed above, and to the theory that it is not values but their transmuted form, *prices of production*, which constitute the *gravitational centre* for fluctuations in market prices, Rosa Luxemburg and Otto Bauer ascribe this function to values. Unlike Marx, they both regard the relations of the schema not just as a first stage in the procedure of successive approximation *but* as an immediate reflection of reality.

80 Luxemburg 1951, pp. 85, 103–4, 130. [This translation, by Anges Schwarzschild, of Luxemburg 1913, is unsatisfactory in places. Where that is the case, new, more accurate translations from the German original have been provided. Where Schwarzschild's translation has been used and her terminology diverges from the translations in the Penguin editions of Marx's *Capital*, her texts have been modified. The term 'diagram', for example, has been replaced with 'schema'.]

81 Luxemburg 1913, p. 76 [Grossman's emphasis and interpolation].

82 Luxemburg 1913, p. 77 [Grossman's emphasis].

83 Bauer 1986, pp. 106–7. [This translation has been modified, as indicated by the square brackets. In its original form it seriously distorted the meaning of Bauer's text by rendering 'aufhebt' as 'generates'; see Bauer 1913, p. 872.]

This divergence in the understanding of the value schema, by Marx on the one hand and Rosa Luxemburg and Otto Bauer on the other, has further ramifications for the analysis of the crisis problematic. The reproduction schema developed in Volume II of *Capital* with its values and, in the absence of competition, unequalised, different rates of profit does not correspond with reality. If value theory is not to contradict but to explain real phenomena, then – in accordance with Marx's theory in the third volume of *Capital* – values must be transformed into prices of production with the help of competition, i.e. a 'number of intermediary stages'[84] must be developed which lead to the general rate of profit and, finally, to the empirically given forms of profit (interest, ground rent, commercial profit). By ascribing real-world validity to Marx's preliminary, methodological assumption that commodities are sold at their values and thus by regarding the value schema as a reflection of reality, Rosa Luxemburg and Otto Bauer *from the outset exclude the necessity of transforming values first into prices of production and, further, into commercial prices from the circle of their problematic*. They disclaim the *method of successive concretisation* of the relations presented in the schema, the *method of increasing the accuracy of the reproduction schema*. According to Rosa Luxemburg and Otto Bauer, there is no need to approximate the understanding of reality, step-by-step, since the schema already reflects reality!

It is therefore only a logical consequence of this disastrous error that, for Rosa Luxemburg and Otto Bauer, not only the problem of the value-price transformation but also the connected problem of the *general rate of profit* and the problem of the transformation of surplus value into the *specific forms of profit* (commercial profit, interest etc.), that is, *the whole theory of the third volume of Capital, do not exist*! They remain within the 'embryonic form' of the value schema, at a stage of abstraction far removed from reality, without entering into the 'metamorphoses',[85] i.e. the path which leads to the successive approximation of concrete capitalist reality. It is self-evident that, as a consequence of this fatal misconception of Marx's method, the connection between the problem of the value-price transformation and the problem of crisis can be neither seen nor dealt with.

What, then, is this connection and the specific function of the calculation of prices? To show this, we turn to Rosa Luxemburg's formulation of the problem. Her critical analysis of Marx's reproduction schema led her to the result that within such a schema – insofar as there are different organic compositions of capital in its two departments – the complete sale of commodities, i.e.

84 [Marx 1989, p. 401.]

85 [Marx 1976, p. 154.]

equilibrium, is not possible because 'with every year … a growing *excess of means of consumption* must arise'.[86] 'This *unsaleable remainder of surplus value* in department II is even greater in view of the rising productivity of labour, because this 'indicates a much larger excess of unsaleable means of subsistence than arises from the extent of this excess, in terms of value'.[87]

Let us assume that Rosa Luxemburg had succeeded in proving this. What would she have demonstrated? Only the circumstance that an 'unsaleable remainder' arises in department II *of the value schema* – i.e. under the assumption that the commodities are exchanged at their values. But we know that this assumption does *not* accord with reality. In the value schema, which is the foundation of Rosa Luxemburg's analysis, there are *different rates of profit* in the individual spheres of production. In the absence of competition, these do not equalise. This, too, contradicts reality where, as a consequence of competition, there is a tendency for different rates of profit to equalise to the general rate of profit. How cogent are Rosa Luxemburg's conclusions – the demonstration of an unsaleable surplus of consumer goods – in relation to reality, when they are deduced from a schema that has no validity in the real world? *Since competition leads to the transformation of values into prices of production and thus to a redistribution of surplus value among the individual branches of industry in the schema, which necessarily results in a modification of the previous relations of proportionality between the individual spheres of the schema*, it is extremely possible and likely that a surplus of unsaleable consumer goods in the value schema subsequently vanishes in the *production-price schema* and that, conversely, an original equilibrium in the value schema turns into disproportionality in the production-price schema. The deficiency of the line of argument which is restricted to analysis of merely the value schema and which operates with values and different profit rates instead of prices of production and the general rate of profit is evident. Rosa Luxemburg herself says, 'Thus social capital and its counterpart, the whole of social surplus value, are not merely real quantities, having an objective existence, but, what is more, the relation between them, *the average profit, guides and directs the whole process of exchange … by the mechanism of the law of value* which establishes the quantitative relations of exchange between the individual kinds of commodities *independently of their specific value relationship*.' The average rate of profit is, after all, the guiding force so that 'every capital is in fact treated only as part of a common whole, the whole of social capital, and assigned the profit to which it is entitled, according to its size, out of the surplus value

86 Luxemburg 1913, p. 306 [Grossman's emphasis].

87 Luxemburg 1913, p. 308 [Grossman's emphasis].

wrested from society, *regardless* of the quantity which this particular capital has *actually* created'.[88]

According to Rosa Luxemburg's account, the average profit rate governs all commodity exchange. Nevertheless, she investigates the question of whether complete exchange is possible by using a schema which knows no average profit. Can one imagine a greater contradiction? Furthermore, if, as Rosa Luxemburg states, the relations of exchange among individual commodities in reality takes place 'independently of their special value relations', if each capital realises not the quantum of *surplus value* it produced but merely receives the average *profit* in proportion to its size, then Rosa Luxemburg concedes indirectly that her theory of the necessity of the realisation of *surplus value* is wrong. So she indirectly admits that commodities are exchanged *not at their values* but at prices, namely prices of production, which permanently deviate from their values since, according to Marx, 'the average rate of profit … alone determines the prices of production'.[89] After all, in Marx's system equal average profits and prices of production, which deviate from values, are correlative concepts! It is therefore self-evidently a logical contradiction that Rosa Luxemburg *identifies no consequences* for the subsequent course of her own analysis from her own assertion of the empirical fact of average profit and its central governing role; that she does acknowledge the existence of average profit rate but equally insists on the proposition that commodities are exchanged at their values! The section of her book quoted above is also the *only one* where she speaks of average profit and, in a disguised form, of prices of production. But nowhere is this insight put to use in the analysis of the problem of crisis.

Rosa Luxemburg herself apparently sensed that the *value schema* is a construction distant from reality, when she wrote about the relationship between the third volume of *Capital* and the theory of value in the first volume, in her *Anti-Critique*: 'For the doctrine of *average profit*, *one of the most important discoveries* of Marx's economic theory, is central to its argument. This *alone* gives *concrete meaning* to the *theory of value* in the first volume.'[90]

She insists here that not the *value theory* of the first volume but rather only the prices of production and the average profit of the third volume have 'meaning in reality'. In her book on *Accumulation* as well as in her *Anti-Critique*, however, prices of production are not mentioned once, and the false premise is maintained that the exchange of commodities between I (v+s) and II c at their values is not merely a methodological *assumption* but *actually*

88 Luxemburg 1951, p. 79 [Grossman's emphasis].

89 Marx 1910a, p. 78 [cf. Marx 1989, p. 444].

90 Luxemburg 1972, p. 73 [Grossman's emphasis, except for 'average profit'].

occurs in capitalist reality! So she says, for example, that the need for means of consumption in department I of the schema, as expressed by the variable capital and the surplus value of this department, can only be met out of the produce of department II, 'indeed can only be obtained in exchange *for the value equivalent* of the produce of department I'.[91] Even in her last book, published posthumously, she claims that '[a]ll commodities are exchanged *at their values*.'[92] This self-contradictory statement of Rosa Luxemburg, which causes her to fall for the worst errors of vulgar socialism, is no coincidence. It stems from her false conception that the *natural form of surplus value* is given once and for all and determines its function either as means of production in department I or as means of consumption in department II. These predetermined functions make, according to Rosa Luxemburg, any *transfer of surplus value* (in total or in part) from department I to department II impossible. Rosa Luxemburg believes that transfers of surplus value fail for another reason, namely the *equivalence* of exchange relations between the two departments.[93]

This claim inevitably leads Rosa Luxemburg to negate the whole content of the third volume of *Capital* and specifically the theory of prices of production and the emergence of a uniform rate of profit. Her verbal concession that the theory of average profit, 'one of the most important discoveries of Marx's economic theory', is the centrepiece of the third volume cannot conceal the truth that she has abandoned the theory of average profit; rather, this abandonment is underlined when Rosa Luxemburg identifies the only *means* by which a uniform, average profit can emerge as impossible. Let us recall the circumstances of Marx's schema of simple reproduction:

I	4000 c	+ 1000 v	+ 1000 s	= 6000	profit rate = 20 per cent
II	2000 c	+ 1000 v	+ 1000 s	= 4000	profit rate = 33 per cent

We therefore see that if we abide by the value schema, with its exchange of equivalents, in other words the *equivalent* exchange of 1,000 v + 1,000 m from department I for 2,000 c from department II, then Marx's theory of prices of production is ignored and there *must* be *different profit rates* in the two departments. The profit rate in department I is 20 per cent, that in department II is 33 per cent. How can the *same* rate of profit – in this case, 25 per cent –

91 Luxemburg 1951, pp. 128, 340–1; Luxemburg 1913, p. 311 [Grossman's emphasis].

92 Luxemburg 1925, p. 239 [Grossman's emphasis]. Similarly, Eduard Heimann says, 'On the market, quantities of commodities *of equal value* are exchanged' (Heimann 1922, p. 10).

93 Luxemburg 1951, pp. 340–1.

emerge in both departments of Marx's schema? It seems almost banal to point out that this is only possible through the emergence of prices of production, that is the circumstance that the commodities of department I are sold to department II *above* their values whereas the commodities of department II, insofar as they find their way to department I, are sold *below* their values. Only because department I *receives more* for the (v + m) = 2,000 value units which it sells to department II, namely 2,250 value units, can there be the same rate of profit in both departments. In this way, *part of the surplus value of department II is transferred to department I in the process of exchange*. Only thus can department I attain a larger profit (namely, 1,250) than it initially generated (1,000 s), which results in a profit rate of 25 per cent on the 5,000 C outlayed. In department II, instead of the initial surplus value (1,000 s) only a profit of 750 remains, which results in a profit-rate of likewise 25 per cent on the 3,000 C outlayed.

From what has been said, it is furthermore clear that the tendency for profit rates to level out, through the transfer of a part of surplus value from department II to department I, shakes the foundations of Rosa Luxemburg's theory of the 'unsaleable surplus of consumer goods' in department II. Her 'unshakeable position' (Sternberg)[94] proves to be a soap bubble that bursts on contact with reality. If Rosa Luxemburg had really wanted to prove her idea of an unsaleable remainder of consumer goods then she would have had to demonstrate her proof not only on the basis of the value schema but also within the production-price schema. She would have also had to show that such an unsaleable remainder would result *after* the average rate of profit emerged.[95] She never demonstrated, nor even attempted to demonstrate such a proof.

94 [Sternberg 1926.]

95 In *Otto Bauer*'s well-known reproduction schema, *each* department makes 10,000 c and 2,500 v from its surplus value available for the purposes of accumulation in the first year of production. The actual accumulation is a different matter. In department I it amounts to *more* – namely, 134,666 c and 53,667 v – and in department II to *less* – namely, just 85,334 c and 51,333 v. This means that Bauer *reallocated* a share of surplus value earmarked for accumulation in department II to department I, without, however, having been able to give any scientifically plausible reason to justify this *reallocation*. Helene Bauer's attempt to save this procedure by indicating that such a reallocation occurs by means of *credit* must be considered a naive excuse [Bauer 1929]. Reallocations by means of credit – however great their role may be in *reality* – are impermissible in the *theoretical* analysis of the reproduction process. After all, it is one of the many simplifying assumptions of Marx's reproduction schema that it *abstracts from credit*. The very purpose of the schema is to show the *exchange* relations between its two departments and to investigate

The tendency for profit rates in different branches of production to level out is an *observation* confirmed by experience which has been unanimously recognised by theorists from various scientific schools over the course of a century. It was already regarded as a fact by Ricardo and Thomas Malthus. Marx, too, refers to it as an 'empirical, given fact',[96] a 'practical state of affairs'.[97] 'Observation of competition – the phenomena of production – shows that capitals of *equal* size yield an equal amount of profit ON AN AVERAGE.'[98] Nor has this levelling tendency of capitalism, conditioned by competition, been disputed by more recent theorists such as Böhm-Bawerk and others.[99]

The schools only disagree over the nature of the explanation of this fact, and the post-Ricardian school, specifically, collapsed in face of the challenge of this explanation, because it could not reconcile the *fact* of the uniform rate of profit with the labour *theory* of value. This is the point at which Marx's historical greatness became apparent. Through his theory of the divergence of prices of production from values, he was able to explain the fact of the uniform profit rate, which *prima facie* contradicts the law of labour value, on the basis of this law of value. Rosa Luxemburg, in defiance of all experience, denies the possibility of the transfer of a part of surplus value from department II to department I, consequently the possibility of the establishment of prices of

whether *complete sale* is possible. It is not permissible to change the initial assumptions after the fact, once one has encountered difficulties in solving the problem. This is why Fritz Sternberg could claim an all-too-easy triumph over Bauer. Even if the reallocation of a share of surplus value from department II to department I was an inexplicable difficulty for Otto Bauer, over which he stumbled, from the conception advocated in the text it is not only permissible and justified but necessary. The fact that there are different *profit rates* in the departments of Bauer's schema (in department I, p = 29.4 per cent; in department II, p = 38.4 per cent) has been overlooked in the previous discussion. If the *same*, i.e. average, rate of profit of 33.3 per cent is to be constructed, then the amounts transferred from department II to department I must not be, as Otto Bauer holds, 5,833 (4,666 c and 1,167 v) but 6,667. And this transfer is facilitated *by means of exchange*! Certainly this is an unequal exchange where the commodities of the two departments are not exchanged at their values but at their *prices of production*. [Bauer 1986. Grossman did not copy Bauer's figures in the second sentence of this note accurately. They are corrected here.]

96 Marx 1981, p. 487 [Grossman's emphasis].

97 Marx 1981, p. 270.

98 Marx 1992, p. 258.

99 Thus Eugen Böhm-Bawerk says that the assumption 'which is indubitably corroborated empirically, is that earnings on capital are subject to an averaging process' (Böhm-Bawerk 1959, p. 303). Likewise, Siegfried Budge: 'Experience shows that profit rates … tend to equalise, that they are balanced in the imaginary equilibrium state of economic activity, *equalised* in the "static" economy' (Budge 1920, p. 6).

production, and insists that commodities exchange *at* their values within the individual spheres. She is consequently incapable of explaining the average rate of profit on the basis of the labour theory of value. Although she rigidly adheres to the law of value, in fact she abandons the foundation of Marx's theoretical system at this point. It is impossible to account for a uniform rate of profit on the assumption that commodities exchange at equal values between the spheres of production. But instead of dismissing the false assumptions that 'exchange at equal values' takes place between the two departments of the schema and, further, that a transfer of surplus value from department II to department I is impossible, in order to be able to explain the facts, Rosa Luxemburg sacrifices the facts and prefers to uphold the false assumption of exchange of commodities at 'equal values'! With a stroke of the pen the whole of Marx's theory of uniform average profit, according to Rosa Luxemburg herself 'one of the most important discoveries of Marx's economic theory', is wiped from the face of the earth.

6 Instead of Advance beyond Marx – Regression Back to Ricardo

What we have said above about Rosa Luxemburg's treatment of the crisis problematic is quite literally true of all Marxist theorists who have engaged with the problems of crisis and accumulation. However strange this may sound, it is nevertheless a fact that in the course of the entire debate over the possibility of the uninterrupted development of the capitalist process of production, inaugurated 30 years ago by the publication of Tugan-Baranowsky's book, no-one has so much as posed the essential problem: to demonstrate the crisis problematic at all stages of the procedure of successive approximation. Whether it is the neo-harmonists Kautsky, Hilferding and Otto Bauer, or Rosa Luxemburg and her followers, or finally [Nikolai] Bukharin[100] and other theorists of communism, all have treated the problem only at the level of its inception, by means of the value schema, which knows values, surplus-value and different profit rates. Instead they should have substantiated their analyses and conclusions on the basis of a *production-price schema*, which presents the regulating categories of prices of production, competition, and the average rate of profit. Whether one argues for the necessity and inevitability of crises under capitalism, or, as the neo-harmonists do, for the possibility of crisis-free progress, it is clear that any deductions drawn from a value schema must be premature and inconclusive. What could the analysis of a value schema

100 [Bukharin 1972.]

possibly tell us about the necessary proportionality or disproportionality of commodity exchanges under capitalism when the proportional relationships so meticulously calculated in the value schema are later *overturned* by the tendency for profit rates to equalise and by the necessary redistribution of surplus value this causes! None of the theorists named above has identified, even mentioned in a single word, let alone engaged with the importance and consequences for the crisis problematic of the transformation of values into prices of production.[101]

Bourgeois economics since Ricardo and Malthus has acknowledged the 'practical state of affairs'[102] of the uniform rate of profit. But neither the classical nor the post-Ricardian school have been able to reconcile this fact with value theory. They strayed into a theoretical dead-end as they were forced either to sacrifice the theory to the facts or the facts to the theory.[103] This contradiction between theory and facts, the impossibility of deducing the general rate of profit from the abstract labour theory of value eventually led to the demise of the post-Ricardian school, and Marx correctly indicates the cause of the school's dissolution in his epitaph, 'Elaboration of the *general rate of profit*.… *Failure to understand the relation between values and prices of production*.'[104]

101 This is even true of Isaac Illich Rubin who concedes 'Thus the labour theory of value and the theory of production prices are not theories of two different types of economy, but theories of one and the same capitalist economy taken *on two different levels of scientific abstraction*' (Rubin 1973, p. 253). Although, according to Rubin, prices of production are a more *concrete* level of abstraction than values, he investigates neither the problem of the transformation of values into prices of production nor its implications for the crisis problematic. The same is true of numerous other authors, such as Diehl (Diehl 1898); Mikhail Ivanovich Tugan-Baranowsky (Tugan-Baranowsky 1905, particularly p. 174); Ladislaus Bortkiewicz (Bortkiewicz 1952 and 1907); and more recently Hans Zeisl (Zeisl 1930); as well as Emil Walter (Walter 1930). They all centre their interest on the problem of the calculation of values and prices. But they deal with it exclusively in order to find out how far Marx's deduction of prices of production from values is correct and compatible with his labour-value theory. None of these authors have recognised the importance of the value-price transformation for the crisis problematic.

102 Marx 1981, p. 270.

103 According to Marx '[t]his confusion on the part of the theorists' is that 'all economics up till now has either violently made abstraction from distinctions between surplus-value and profit, between rate of surplus-value and rate of profit, so that it could retain the determination of value as its basis, or else it has abandoned, along with this determination of value, any kind of solid foundation for a scientific approach, so as to be able to retain those distinctions which obtrude themselves on the phenomenal level' (Marx 1981, pp. 268–9).

104 Marx 1910b, p. 280 [Grossman's emphasis; cf. Marx 1992, p. 373].

He raises the specific accusation against Ricardo that he 'postulated' a general rate of profit, in accord with reality, without inquiring 'how far its existence is in fact consistent with the determination of value by labour-time', while in fact '*prima facie*, it *contradicts* it, and that its existence would therefore have to be explained through a number of intermediary stages'.[105] This is why Marx stresses the 'scientific inadequacy' of Ricardo's method because it leads him to 'erroneous results'. It consists of Ricardo 'begin[ning] with the determination of the magnitude of the value of the commodity by labour-time and then examin[ing] whether the other economic relations and categories' correspond with or contradict that value. The inadequacy of this method therefore arises 'because it *omits some essential links and directly* seeks to prove the congruity of the economic categories with one another'.[106]

By reconstructing these 'intermediary stages' and reconciling the labour theory of value with the facts through his theory of the formation of a general rate of profit and of the transformation of values into production and commercial prices, Marx advanced economic theory beyond the point at which the post-Ricardian school collapsed.

And precisely this specific result of Marx's theoretical research vanishes from the entire previous discussion of the problem of crisis and accumulation. It exists just as little for Rosa Luxemburg as for Otto Bauer, Hilferding or Bukharin. All of their analyses remain in the sphere of the value schema which is removed from reality, without being concerned that this schema is only the first approximation of reality, which does not represent this reality itself. They fail to see that, without the 'intermediary stages', the schema is not an appropriate means for the investigation of the developed *capitalist* mode of production and of those *concrete forms*, in which capitals confront each other 'in their actual movement'. As Engels correctly says in his Preface to the second volume of *Capital*, the 'investigations of this Volume 2 … are *simply premises for the material of Volume 3*, in which the *final results* of Marx's presentation of the process of social reproduction on the capitalist basis are developed.'[107] The presentation of the process of reproduction on the basis of the value schema in the second volume of *Capital*, therefore, contains only the premises of a line of argument whose *conclusions* only follow in the third volume of *Capital*, in the theory of the transformation of the value schemas into production-price schemas. Only this theory completes Marx's chain of thought and concludes the procedure of successive approximation, after it has passed through all

105 Marx 1989, p. 401.

106 Marx 1989, p. 390 [Grossman emphasises 'omits some essential links and'].

107 Engels 1978, p. 102 [Grossman's emphasis].

its stages and arrived at concrete reality. It is, needless to say, peculiar that the discussion of Marx so far has been guided not by an understanding of the totality of Marx's line of argument in all its stages but only by '*premises*', i.e. the value schema, ripped out of this coherent chain of thought. Instead of developing Marx further, as the theorists named above believed they were doing, they all return to the point at which the post-Ricardian school stalled and finally collapsed around 1850, the 'Failure to understand the relation between *values and prices of production*.'[108]

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