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EDITED BY DR. W. STARK

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THE ACCUMULATION OF CAPITAL

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THE ACCUMULATION OF CAPITAL

by ROSA LUXEMBURG

translated from the German by AGNES SCHWARZSCHILD (doctor iuris)

With an Introduction by JOAN ROBINSON

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TRANSLATOR’S NOTE

This is an original translation not only of the main body of the work but also of a number of quotations from foreign authors. Page references thus usually indicate the original foreign sources.

In so far as possible, however, I have availed myself of existing translations and have referred to the following standard works:

Karl Marx: *Capital*, vol. i (transl. by Moore-Aveling, London, 1920); vol. ii (transl. by E. Untermann, Chicago, 1907); vol. iii (transl. by E. Untermann, Chicago, 1909)

The Poverty of Philosophy (translator’s name not given, London, 1936).

Sismondi’s introduction to the second edition of *Nouveaux Principes* is quoted from M. Mignet’s translation of selected passages by Sismondi, entitled *Political Economy and the Philosophy of Government*, London, 1847. No English translation exists of Marx’s *Theorien über den Mehrwert*.

Unfortunately, not all the West European texts, and none of the Russian—except Engels’ correspondence with Nikolayon—were accessible to me, and I regret having been unable to trace some quotations and check up on others. In such cases, the English version follows the German text and will at least bring out the point the author wanted to make.

To save the reader grappling with unfamiliar concepts, I have converted foreign currencies and measures into their English equivalents, at the following rates:

20 *marks*—25 *francs*—$5—£1 (gold standard); 1 *hectare*—(roughly) 2·5 acres; 1 *kilometre*—$\frac{5}{8}$ mile.

I am glad of this opportunity to express my gratitude to Dr. W. Stark and Mrs. J. Robinson for the helpful criticism and appreciation with which my work has met.

AGNES SCHWARZSCHILD

A NOTE ON ROSA LUXEMBURG

Rosa Luxemburg was born on 5 March 1870, at Zamosc, a little town of Russian Poland, not far from the city of Lublin. She came from a fairly well-to-do family of Jewish merchants, and soon showed the two outstanding traits which were to characterise all her life and work: a high degree of intelligence, and a burning thirst for social justice which led her, while still a schoolgirl, into the revolutionary camp. Partly to escape the Russian police, partly to complete her education, she went to Zurich and studied there the sciences of law and economics. Her doctoral dissertation dealt with the industrial development of Poland and showed up the vital integration of Polish industry with the wider economic system of metropolitan Russia. It was a work not only of considerable promise, but already of solid and substantial achievement.

Her doctorate won, Rosa Luxemburg looked around for a promising field of work and decided to go to Germany, whose working-class movement seemed destined to play a leading part in the future history of international socialism. She settled there in 1896, and two years later contracted a formal marriage with a German subject which secured her against the danger of forcible deportation to Russia. Now, at that moment the German Social-Democratic Party was in the throes of a serious crisis. In 1899, Eduard Bernstein published his well-known work *Die Voraussetzungen des Sozialismus und die Aufgaben der Sozialdemokratie*, which urged the party to drop its revolutionary jargon and to work henceforth for tangible social reforms within the given economic set-up, instead of trying to bring about its final and forcible overthrow. This ‘reformism’ or ‘revisionism’ seemed to Rosa Luxemburg a base as well as a foolish doctrine, and she published in the same year a pamphlet *Sozialreform oder Revolution?* which dealt with Bernstein’s ideas in no uncertain fashion. From this moment onward, she was and remained one of the acknowledged leaders of the left wing within the German working-class movement.

The events of the year 1905 gave Rosa Luxemburg a welcome

opportunity to demonstrate that revolution was to her more than a subject of purely academic interest. As soon as the Russian masses began to move, she hurried to Warsaw and threw herself into the fray. There followed a short span of feverish activity, half a year’s imprisonment, and, finally, a return journey to Berlin. The experiences of the Warsaw rising are reflected in a book entitled *Massenstreik, Partei und Gewerkschaften*, which was published in 1906. It recommends the general strike as the most effective weapon in the struggle of the proletariat against the bourgeoisie.

The International Socialist Congress which met at Stuttgart in 1907 prepared and foreshadowed the sorry history of Rosa Luxemburg’s later life. On that occasion she drafted, together with Lenin, a resolution which demanded that the workers of the world should make any future war an opportunity for the destruction of the capitalist system. Unlike so many others, she stuck to her resolution when, seven years later, the time of testing came. The result was that she had to spend nearly the whole of the first World

War in jail, either under punishment or in protective custody. But imprisonment did not mean inactivity. In 1916, there appeared in Switzerland her book *Die Krise der Sozialdemokratie*, which assailed the leaders of the German labour party for their patriotic attitude and called the masses to revolutionary action. The foundation of the Spartacus League in 1917, the germ cell out of which the Communist Party of Germany was soon to develop, was vitally connected with the dissemination of Rosa Luxemburg's aggressive sentiments.

The collapse of the *Kaiserreich* on 11 November 1918, gave Rosa Luxemburg her freedom and an undreamt-of range of opportunities. The two months that followed must have been more crowded and more colourful than all her previous life taken together. But the end of her career was imminent. The fatal Spartacus week, an abortive rising of the Berlin workers, led on 15 January 1919, to her arrest by a government composed of former party comrades. During her removal to prison she was attacked and severely beaten by soldiers belonging to the extreme right, a treatment which she did not survive. Her body was recovered days later from a canal.

A type not unlike Trotsky, Rosa Luxemburg had her tender

and sentimental side, which comes to the surface in her correspondence, especially in the *Briefe aus dem Gefaengnis* printed in 1922. As a thinker she showed considerable honesty and independence of mind. *The Accumulation of Capital*, first published in 1913, which is undoubtedly her finest achievement, reveals her as that rarest of all rare phenomena—a Marxist critical of Karl Marx.

W. STARK

INTRODUCTION

Academic economists have recently returned from the elaboration of static equilibrium to the classical search for a dynamic model of a developing economy. Rosa Luxemburg, neglected by Marxist and academic economists alike, offers a theory of the dynamic development of capitalism which is of the greatest interest. The book is one of considerable difficulty (apart from the vivid historical chapters), and to those accustomed only to academic analysis the difficulty is rendered well-nigh insurmountable by the Marxist terminology in which it is expressed. The purpose of this preface is to provide a glossary of terms, and to search for the main thread of the argument (leaving the historical illustrations to speak for themselves) and set it out in simpler language.

The result is no doubt too simple. The reader must sample for himself the rich confusion in which the central core of analysis is imbedded, and must judge for himself whether the core has been mishandled in the process of digging it out.[1]

Our author takes her departure from the numerical examples for simple reproduction (production with a constant stock of capital) and expanded reproduction (production with capital accumulating) set out in volume ii of Marx's *Capital*. As she points out,[2] Marx completed the model for simple reproduction, but the models for accumulation were left at his death in a chaos of notes, and they are not really fit to bear all the weight she puts on them (Heaven help us if posterity is to pore over all the backs of old envelopes on which economists have jotted down numerical examples in working out a piece of analysis). To follow her line of thought, however, it is necessary to examine her version of Marx's models closely, to see on what assumptions they are based (explicitly or unconsciously) and to search the assumptions for clues to the succeeding analysis.

To begin at the beginning—gross national income (for a closed economy) for, say, a year, is written $c + v + s$; that is, constant

capital, variable capital and surplus. Variable capital, v, is the annual wages bill. Surplus, s, is annual rent, interest, and net profit, so that $v + s$ represents net national income. (In this introduction surplus is used interchangeably with rent, interest and net profit.) Constant capital, c, represents at the same time the contribution which materials and capital equipment make to annual output, and the cost of maintaining the stock of physical capital in existence at the beginning of the year. When all commodities are selling at normal prices, these two quantities are equal (normal prices are tacitly assumed always to rule,[3] an assumption which is useful for long-period problems, though treacherous when we have to deal with slumps and crises). Gross receipts equal to $c + v + s$ pass through the hands of the capitalists during the year, of which they use an amount, c, to replace physical capital used up during the year, so that c represents costs of raw materials and wear and tear and amortisation of plant. An amount, v, is paid to workers and is consumed by them (saving by workers is regarded as negligible[4]). The surplus, s, remains to the capitalists for their own consumption and for net saving. The professional classes (civil servants, priests, prostitutes, etc.) are treated as hangers-on of the capitalists, and their incomes do not appear, as they are not regarded as producing *value*.[5] Expenditure upon them tends to lessen the saving of capitalists, and their own expenditure and saving are treated as expenditure and saving out of surplus.

In the model set out in chapter vi there is no technical progress (this is a drastic simplification made deliberately[6]) and the ratio of capital to labour is constant (as the stock of capital increases employment increases in proportion). Thus real output per worker employed is constant (hours of work per year do not vary) and real wages per man are constant. It follows that real surplus per man is also constant. So long as these assumptions are retained Marxian *value* presents no problem. *Value* is the product of labour-time. *Value* created per man-year is constant because hours of work are constant. Real product per man year being constant, on the above assumptions, the *value* of a unit of product is constant. For convenience we may assume money wages per man constant. Then, on these assumptions,

both the money price of a unit of output and the *value* of a unit of money are constant. This of course merely plasters over all the problems of measurement connected with the use of index numbers, but provided that the technique of production is unchanging, and normal prices are ruling, those problems are not serious, and we can conduct the analysis in terms of money values.[7] (Rosa Luxemburg regards it as a matter of indifference whether we calculate in money or in *value*.[8])

The assumption of constant real wages presents a difficulty which we may notice in passing. The operation of the capitalist system is presumed to depress the level of wages down to the limit set by the minimum subsistence of the worker and his family. But how large a family? It would be an extraordinary fluke if the average size of family supported by the given wage of a worker were such as to provide for a rate of growth of population exactly adjusted to the rate of accumulation of capital, and she certainly does not hold that this is the case.[9] There is a reserve army of labour standing by, ready to take employment when the capitalists offer it. While they are unemployed the workers have no source of income, but are kept alive by sharing in the consumption of the wages of friends and relations who are in work.[10] When an increase in the stock of capital takes place, more workers begin to earn wages, those formerly employed are relieved of the burden of supporting some unemployed relations, and their own consumption rises. Thus either they were living below the subsistence minimum before, or they are above it now. We may cut this knot by simply postulating that real wages per man are constant,[11] without asking why. The important point for the analysis which we are examining is that when employment increases the total consumption of the workers as a whole increases by the amount of the wages received by the additional workers.[12]

We may now set out the model for simple reproduction—that is, annual national income for an economy in which the stock of capital is kept intact but not increased. All output is

divided into two departments: I, producing capital equipment and raw materials, (producers' goods), and II, producing consumption goods. Then we have

$$\text{I:}\quad c_1 + v_1 + s_1 = c_1 + c_2$$
$$\text{II:}\quad c_2 + v_2 + s_2 = v_1 + v_2 + s_1 + s_2$$

Thus

$$c_2 = v_1 + s_1$$

This means that the net output of the producers' goods department is equal to the replacement of capital in the consumers' goods department. The whole surplus, as well as the whole of wages, is currently consumed.

Before proceeding to the model for accumulation there is a difficulty which must be discussed. In the above model the stock of capital exists, so to speak, off stage. Rosa Luxemburg is perfectly well aware of the relationship between annual wear and tear of capital, which is part of *c*, and the stock of fixed capital,[13] but as soon as she (following Marx) discusses accumulation she equates the addition to the stock of capital made by saving out of surplus in one year to the wear and tear of capital in the next year. To make sense of this we must assume that all capital is consumed and made good once a year. She seems to slip into this assumption inadvertently at first, though later it is made explicit.[14] She also consciously postulates that *v* represents the amount of capital which is paid out in wages in advance of receipts from sales of the commodities produced. (This, as she says, is the natural assumption to make for agricultural production, where workers this year are paid from the proceeds of last year's harvest.)[15] Thus *v* represents at the same time the annual wages bill and the amount of capital locked up in the wages fund, while *c* represents both the annual amortisation of capital and the total stock of capital (other than the wages fund). This is a simplification which is tiresome rather than helpful (it arises from Marx's ill-judged habit of writing $s/(c + v)$ for the rate of profit on capital), but it is no more than a simplification and does not invalidate the rest of the analysis.

Another awkward assumption, which causes serious trouble

later, is implicit in the argument. Savings out of the surplus accruing in each department (producers' and consumers' goods) are always invested in capital in the same department. There is no reason to imagine that one capitalist is linked to others in his own department more than to those in the other department, so the conception seems to be that each capitalist invests his savings in his own business. There is no lending by one capitalist to another and no capitalist ever shifts his sphere of operations from one department to another. This is a severe assumption to make even about the era before limited liability was introduced, and becomes absurd afterwards. Moreover it is incompatible with the postulate that the rate of profit on capital tends to equality throughout the economy,[16] for the mechanism which equalises profits is the flow of new investment, and the transfer of capital as amortisation funds are re-invested, into more profitable lines of production and away from less profitable lines.[17]

The assumption that there is no lending by one capitalist to another puts limitation upon the model. Not only must the total rate of investment be equal to the total of planned saving, but investment in each department must be equal to saving in that department, and not only must the rate of increase of capital lead to an increase of total output compatible with total demand, but the increase in output of each department, dictated by the increase in capital in that department, must be divided between consumers' and producers' goods in proportions compatible with the demand for each, dictated by the consumption and the investment plans in each department.

There is no difficulty, however, in choosing numbers which satisfy the requirements of the model. The numerical examples derived from Marx's jottings are cumbersome and confusing, but a clear and simple model can be constructed on the basis of the assumptions set out in chapter vii. In each department, constant capital is four times variable capital.[18] (Constant capital is the stock of raw materials which is turned over once a year; variable capital is the wages bill, which is equal to the capital represented by the wages fund.) Surplus is equal to variable capital (net income is divided equally between wages and surplus) and half of surplus is saved.[19] Savings are allotted between constant and variable capital in such a way as to preserve the 4 to 1 ratio. Thus four-fifths of savings represents a demand for producers' goods, and is added to constant capital each year, and one-fifth represents a demand for consumers' goods, and is added to the wages fund (variable capital). These ratios dictate the relationship between Department I (producers' goods) and Department II (consumers' goods).[20] It can easily be seen that the basic assumptions require that the output of Department I must stand in the ratio of 11 to 4 to the output of Department II.[21] We can now construct a much simpler model than those provided in the text.

	c	*v*	*s*	*Gross Output*
Department	4	1	11	66

I	4	1			
Department II	16	4	4		24
				Total	90

In Department I, 5·5 units are saved (half of *s*) of which 4·4 are invested in constant capital and 1·1 in variable capital. In Department II 2 units are saved, 1·6 being added to constant and 0·4 to variable capital. The 66 units of producers' goods provide 44 + 4·4 constant capital for Department I and 16 + 1·6

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constant capital for Department II and the 24 units of consumers' goods provide 11 + 4 wages of labour already employed, 5·5 + 2 for consumption out of surplus, and 1·1 + 0·4 addition to variable capital, which provide for an addition to employment.

After the investment has been made, and the labour force increased in proportion to the wages bill, we have

	c	*v*	*s*	*Gross Output*
Department I	48·4	12·1	12·1	72·6
Department II	17·6	4·4	4·4	26·4
			Total	99

The two departments are now equipped to carry out another round of investment at the prescribed rate, and the process of accumulation continues. The ratios happen to have been chosen so that the total labour force, and total gross output, increase by 10 per cent per annum.[22]

But all this, as Rosa Luxemburg remarks, is just arithmetic.[23] The only point of substance which she deduces from Marx's numerical examples is that it is always Department I which takes the initiative. She maintains that the capitalists in Department I decide how much producers' goods to produce, and that Department II has to arrange its affairs so as to absorb an amount of producers' goods which will fit in with their plans.[24] On the face of it, this is obviously absurd. The arithmetic is perfectly neutral between the two departments, and, as she herself shows, will serve equally well for the imagined case of a socialist society where investment is planned with a view to consumption.[25]

But behind all this rigmarole lies the real problem which she is trying to formulate. Where does the demand come from which keeps accumulation going?

She is not concerned with the problem, nowadays so familiar, of the balance between saving and investment. Marx himself was aware of that problem, as is seen in his analysis of disequilibrium under conditions of simple reproduction (zero net investment).[26] When new fixed capital comes into existence, part

of gross receipts are set aside in amortisation funds without any actual outlay being made on renewals. Then total demand falls short of equilibrium output, and the system runs into a slump. Contrariwise, when a burst of renewals falls due, in excess of the current rate of amortisation, a boom sets in. For equilibrium it is necessary for the age composition of the stock of capital to be such that current renewals just absorb current amortisation funds. Similarly, when accumulation is taking place, current investment must absorb current net saving.[27]

It is in connection with the problem of effective demand, in this sense, that Marx brings gold-mining into the analysis. When real output expands at constant money prices, the increasing total of money value of output requires an increase in the stock of money in circulation (unless the velocity of circulation rises appropriately). The capitalists therefore have to devote part of their savings to increasing their holdings of cash (for there is no borrowing). This causes a deficiency of effective demand. But the increase in the quantity of money in circulation comes from newly mined gold, and the expenditure of the gold mining industry upon the other departments just makes up the deficiency in demand.[28]

Rosa Luxemburg garbles this argument considerably, and brushes it away as beside the point. And it *is* beside the point that she is concerned with. She does not admit the savings and investment problem, for she takes it for granted that each individual act of saving out of surplus is accompanied by a corresponding amount of real investment, and that every piece of investment is financed by saving out of surplus of the same capitalist who makes it.[29] What she appears to be concerned with is rather the inducement to invest. What motive have the capitalists for enlarging their stock of real capital?[30] How do they know that there will be demand for the increased output of goods which the new capital will produce, so that they can 'capitalise' their surplus in a profitable form? (On the purely

analytical plane her affinity seems to be with Hobson rather than Keynes.)

Needless to say, our author does not formulate the problem of the inducement to invest in modern terminology, and the ambiguities and contradictions in her exposition have left ample scope for her critics to represent her theory as irredeemable nonsense.[31] But the most natural way to read it is also the clearest. Investment can take place in an ever-accumulating stock of capital only if the capitalists are assured of an ever-expanding market for the goods which the capital will produce. On this reading, the statement of the problem leads straightforwardly to the solution propounded in the third Section of this book.

Marx has his own answer to the problem of inducement to invest, which she refers to in the first chapter.[32] The pressure of competition forces each individual capitalist to increase his capital in order to take advantage of economies of large-scale production, for if he does not his rivals will, and he will be undersold. Rosa

Luxemburg does not discuss whether this mechanism provides an adequate drive to keep accumulation going, but looks for some prospective demand outside the circle of production. Here the numerical examples, as she shows, fail to help. And this is in the nature of the case, for (in modern jargon) the examples deal with *ex post* quantities, while she is looking for *ex ante* prospects of increased demand for commodities. If accumulation does take place, demand will absorb output, as the model shows, but what is it that makes accumulation take place?

In Section II our author sets out to find what answers have been given to her problem. The analysis she has in mind is now broader than the strict confines of the arithmetical model. Technical progress is going on, and the output of an hour's labour rises as time goes by. (The concept of *value* now becomes treacherous, for the *value* of commodities is continuously falling.) Real wages tend to be constant in terms of commodities, thus the *value* of labour power is falling, and the share of surplus in net income is rising (s/v, the rate of exploitation, is rising). The amount of saving in real terms is therefore rising (she suggests

later that the proportion of surplus saved rises with surplus, in which case real savings increase all the more[33]). The problem is thus more formidable than appears in the model, for the equilibrium rate of accumulation of capital, in real terms, is greater than in the model, where the rate of exploitation is constant. At the same time the proportion of constant to variable capital is rising. She regards this not as something which is likely to happen for technical reasons, but as being necessarily bound up with the very nature of technical progress. As productivity increases, the amount of producers' goods handled per man-hour of labour increases; therefore, she says, the proportion of c to v must increase.[34] This is an error. It arises from thinking of constant capital in terms of goods, and contrasting it with variable capital in terms of *value*, that is, hours of labour. She forgets Marx's warning that, as