Part Four

The Production of Relative Surplus-Value
Chapter Twelve: The Concept of Relative Surplus-Value

1 Surplus labour and the value of labour-power

So far we have seen that both the rate of surplus-value and the length of the working day are dependent on to what degree the work of the worker is prolonged beyond the time necessary to reproduce her labour power. Given a working day of $A---B---C$, $A---B$ represents necessary labour, and $B---C$ surplus labour. If the total length of the working day, i.e. $A---C$, is fixed, would it be possible to increase the time spent in producing surplus-value by decreasing $A---B$, i.e. decreasing the time spent in reproducing labour-power? On the face of it, it would appear not: reducing the time spent on reproducing labour-power could, on the strength of what we have seen so far, only be achieved by paying the worker a wage below the value of her labour-power. Despite the fact that this indeed happens in real life, owing to the fact that this would amount to prolonging surplus labour by prolonging its natural limits, we are here going to rule it out, and assume here, as we have been assuming all along, that all commodities, including labour-power, are bought and sold at their full values. Given this, and given the length of the working day, a rise in the time spent producing value, i.e. a fall in the time spent reproducing labour-power, can only come about through a fall in the value of labour-power itself. This in turn can only come about through a rise in the productivity of labour, a cheapening of the commodities necessary for labour-power’s reproduction, and this presupposes a revolution at the level of production: ‘when surplus-value has to be produced by the conversion of necessary labour into surplus labour, it by no means suffices for capital to take over the labour process in its given or historically transmitted shape, and then simply to prolong its duration. The technical and social conditions of the process and consequently the mode of production itself must be revolutionised before the productivity of labour can be increased.’

Marx now adopts the following terminology. That surplus-value produced by a simple lengthening of the working-day he calls absolute surplus-value; that arising from the curtailment of necessary labour relative surplus-value.

Clearly, the value of labour-power can only be lowered if productivity is increased in those branches of industry whose products determine the value of labour-power, viz. products of direct subsistence, or products which form the means of production of products of direct subsistence. The reduction in the value of labour-power is the overall sum of all the reductions in necessary labour-time in the various branches of industry that enter as components in the value of labour-power, i.e. it is the consequence of a number of independent acts, necessarily carried out without joint agreement as to their final effect. When an individual capitalist cheapens a product, through an increase in productivity, she evidently contributes to the overall cheapening of labour-power; but this result cannot be her intention. The drive to increase productivity occurs for other reasons, even if it objectively results in a cheapening of labour-power.

2 How it works: individual motives with social consequences

But what ‘other reasons’? An example.

One hour’s labour is embodied in 6p [6d]; i.e. a new value of 72p [6/-] will be produced in a working day of 12 hours. In conditions of currently prevailing productivity, in those 12 hours 12 articles are produced. The value of means of production used in the production of each article is 6p [6d].

1 Where I insert my own subheads they appear, as here, in sans serif type.
2 Karl Marx, Capital vol. 1 (Harmondsworth, 1990) [hereafter C.], p. 432.
3 As Marx says, in the type of statement of methodology which is far more evident in the Grundrisse than it is in Capital, ‘The general and necessary tendencies of capital must be distinguished from the forms of appearance.’ C., p. 433.
4 Given that this example is rather involved, I have substituted ‘new’ (decimal) money here; Marx’s figures in old money follow in the [square brackets].
Each finished article therefore costs (i.e. has the value of) 12p [1/-]: 6p [6d] of new value, and 6p [6d] of means of production.

But imagine that our capitalist has had the good fortune to have been able to contrive to double her productivity, and can now produce 24 articles in the same time, 12 hours, that it previously took her to produce 12. If the value of means of production used in each remains the same, the price (value) of each article will now fall to 9p [9d]: 3p [3d] new value, and 6p [6d] means of production (remember that although productivity has doubled, this will have no effect on the quantity of new value created by labour-power over a given time, which remains constant).

If we assume that the means of increasing productivity is confined to our capitalist, her articles have a value which is below their social value, which remains as before: 12p [1/-], or 2 hours' social labour:

The real value of a commodity [...] is not its individual, but its social value; that is to say, its value is not measured by the labour-time that the article costs the producer in each individual case, but by the labour-time socially necessary for its production.5

Our lucky capitalist has the option of selling her articles, produced under the new method, at their social value, and, if she did this, she would sell each at 3p [3d] above its real value, realising an ‘extra’ surplus-value of 3p [3d] per article.

But there is a problem. All this has come about because of a rise in productivity, i.e. twice as many articles as before are now being produced. Thus in order to realise the extra surplus-value, twice as many articles must now be sold. All else being equal, these extra commodities can only command a share of the market through a reduction in the article’s price.

The capitalist sells therefore below social value but above real value, say, at 10p [10d] per article, realising an extra surplus-value of 1p [1d] out of each. For our capitalist, that this extra surplus-value accrues to her is independent of whether or not her product contributes to a fall in the overall value of labour. This is the individual motive for capitalists to increase the productivity of labour.

But, nonetheless, the increased surplus has indeed arisen from the curtailment of necessary labour-time. How? If, in our example, the necessary labour-time in a 12-hour working day is 10 hours, and the value of a day’s labour-power is 60p [5/-], the surplus labour-time amounts to 2 hours, and the daily surplus-value 12p [1/-]. But our capitalist, under the new conditions of raised productivity, produces 24 articles, which sell at 10p [10d] each, a daily product of £2.40 [20/-] in total.

The value of the means of production is £1.44 [12/-] (6p [6d] x 24). Hence 14 2/5 of the articles produced merely replace constant capital; the remaining 9 3/5 represent the value of the labour of the working day. If the price of labour-power is 60p [5/-], 6 articles (6 x 10p [10d]) represent necessary labour time, and 3 3/5 surplus labour-time, giving a ratio of necessary labour to surplus labour of 5:3. Under the old system, 12 articles were produced, a total value of £1.44 [12/-]. Constant capital, 6p [6d] per article, stood at 72p [6/-], or 6 articles. Of the remaining 6 articles, 5 represent necessary labour-time, and 1 surplus labour-time, giving a ratio of necessary labour to surplus labour of 5:1.

Under the new conditions of production, a product to the value of £2.40 [20/-] is produced. Of this, £1.44 [12/-] represent the means of production; 96p [8/-] express the value created in the working day. In our example, the value created by 12 hours of social labour is only 72p [6/-]. The labour under the new conditions acts as empowered6 labour, by virtue of the exceptionally productive conditions under which it operates.

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5 C., p. 434 (my emphasis).
6 Both the Fowkes and Aveling-Moore translations use the word ‘intensified’ here (C., p. 435). As Hans Ehrbar (loc. cit.) quite correctly suggests, this is an inaccurate translation of the German potenzierte. In fact, the labour Marx is referring to here is precisely not ‘intensified’: it is perfectly normal labour, but carried out under abnormal conditions. The concept of
Since our capitalist only needs to pay 60p [5/-] for a day’s labour-power, and the worker produces a total new value of 96p [8/-], she now only needs to work 7 hours to reproduce the value of her labour. Previously, the worker needed to work a full 10 hours to reproduce her labour-power (with a total new value produced of 72p [6/-]). Thus under the new conditions surplus-labour has been increased by 2 $\frac{1}{2}$ hours (at the expense of necessary labour-time), and the surplus from 12p [1/-] to 36p [3/-.]

3 Relative surplus-value and price

In an interesting thought experiment, Hans Ehrbar continues the example, and the calculation, from where Marx left off, with interesting results. Following the above assumptions – i.e. 1 working hour produces a value of 6p, there is a 12 hour day, and, therefore, 1 worker in 1 day produces a value of 72p.

The hourly wage is 5p, and the hourly surplus-value 1p. The daily wage is 60p, and the daily surplus-value (per worker) is 12p. Let us assume a 300-day working year; this gives us an annual wage of £180, and an annual surplus-value of £36. During this year, one worker produces a total value of £216.

All this takes place in one society, say a big city, where there are 60,000 productive workers living. According to the above, these workers produce a total value of £12,960,000 (60,000 x 216). The total wage bill for these workers is £10,800,000 (60,000 x 180). The total surplus-value produced by these workers in a year is £2,160,000 (60,000 x 36).

Our workers produce shirts. Each shirt requires 1 hour’s labour to make, and incorporates 6p raw material and capital depreciation. Each shirt thus has a value of 12p, which breaks down into 6p new value and 6p raw materials and instruments of labour. The 6p of new value breaks down into 5p necessary labour and 1p surplus labour.

There are 2 shirt factories in town, and each employs 25 workers. Each thus produces 90,000 shirts a year (300 x 12 x 25). The total number of shirts (180,000) is sufficient for each worker to buy herself and her family 3 shirts a year.

According to the above, if the constant capital reproduced in each shirt is 6p, each of the two shirt manufacturers gets through an annual constant capital of £5,400 (0.06 x 90,000), and wages of £4,500 (0.05 x 90,000), for which she receives a surplus-value of £900 (0.01 x 90,000). The total value of the 90,000 shirts produced is £10,800 (0.12 x 90,000).

But one of the two capitalist shirt-manufacturers has the good fortune to be able to improve her methods of production to the point that she only needs $\frac{1}{2}$ hour to produce 1 shirt, not 1 hour as before, i.e. her productivity has doubled. The other capitalist, driven to despair at this development, abandons the shirt market and begins to produce something else – widgets. The first capitalist continues with shirts, employing the same number of workers as before, and thus producing twice as many shirts as before.

We are now going to examine three different resulting scenarios.

‘intensified labour’ is something different, as we shall see shortly. However, Ehrbar’s suggestion of the word ‘potentiated’ as an alternative translation is not an adequate solution in that it proposes a word not normally in current English usage. For this reason I suggest the word ‘empowered’.

7 The text (C., 435), which gives necessary labour and surplus labour under the new conditions of production as 7 $\frac{1}{5}$ and 2 $\frac{4}{5}$ hours respectively, is clearly wrong here. The same mistake appears in the Aveling-Moore translation too.

8 Again it has been necessary to make certain changes to the figures used. Ehrbar reproduced Marx’s previous example in dollars and cents, converting the whole construction assuming a $:\£$ ratio of 2:1. I have maintained the values I have been using throughout this chapter, with the effect that my figures are consistently one half of those used by Ehrbar.
First we will assume that the socially necessary production methods – and hence the social value – of the shirts remains unchanged. The capitalist now needs twice the constant capital as before, £10,800, and realises sales of £21,600, since she now makes, and sells, twice as many shirts. The total new value created in production by her 25 workers is now £10,800, twice as much, or £5,400 more, than before. “The exceptionally productive labour acts as empowered labour: it produces in equal periods of time greater value than the average social labour of the same kind.” Since the wage bill for our capitalist has not changed, the surplus-value which accrues to her has jumped from £900 to £6,300 [£21,600 total value less £10,800 constant capital less £4,500 wages]. Since we are going to assume that the surplus-value of all the other capitalists is the same, the total value produced in the city will rise by the value of £5,400, from £12,960,000 to £12,965,400 (i.e. the total previously produced by the 60,000 collectively, plus the extra surplus-value realised in our shirt factory, £5,400). The total wage bill for the city is as it was previously, £10,800,000, and the total surplus-value is £12,960,000 - £10,800,000 + £5,400, i.e. £2,165,400\(^9\) [the total value previously produced by the 60,000 workers, minus the total wage bill\(^11\), plus the ‘extra’ surplus-value realised under the new conditions in our factory \(^12\)].

Let us imagine that to avert the possibility of the former shirt-manufacturer, now widget-maker, re-entering the shirt business, our capitalist decides to sell her shirts below their social value, but above their real value, at 10p a shirt: i.e. 2p below their social value but 1p above their real value.\(^13\) Her total sales are now £18,000, of which £7,200 (£18,000 less £10,800 constant capital) is new value. The surplus-value now stands at £2,700 (£7,200 new value less £4,500 wages), £1,800 more than the old mass of surplus-value of £900. But here the overall value of labour-power has fallen: each worker in the city needs now only 30p, not 36p, to buy her annual 3 shirts, i.e. she saves 6p a year. The total wage sum goes down by 6p x 60,000, by £3,600. The total surplus-value produced now is therefore £12,960,000 [the total old value produced] + £1,800 [the ‘extra’ surplus-value] - (£10,800,000 - £3,600) [the new – reduced – total wage bill], or £2,165,400, the same as in the first scenario.

The social value of shirts, through a generalisation of the new production technique, now falls to the value of those produced by our innovative capitalist. She now has to sell her shirts at 9p, which breaks down to 6p means of production, and 3p new value. The total wage bill for the city falls by another 3p per year per person on the second scenario, by a total now of, to £10,794,600 (£10,800,000 - £5,400). The total mass of surplus-value produced in the city is therefore £12,960,000 [total value produced; there is now no ‘extra’ surplus-value] - £10,794,600 [the new, for the second time reduced, total wage bill], or £2,165,400, which is the same as in the second and third scenarios.

What have we just demonstrated? First, that, when an individual capitalist applies more productive techniques, the ‘extra’ surplus-value realised is realised independently of whether the product is sold at its real value, its social value, or somewhere in between: the price of the finished product, through its impact on the price of

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\(^9\) C., p. 435, translation modified according to note 5 above.

\(^10\) In the other factory, which now makes widgets, the old conditions apply, and the results of this factory’s production is included within the results of the other 599,975 workers still producing the surplus-value of before.

\(^11\) Which remains unchanged; thus the calculation up to this point far gives us the total surplus-value produced before the change in the technique of shirt production.

\(^12\) In this calculation we have not accounted for the constant capital used in the production outside of the shirt factory; i.e. outside of shirt production we have assumed that the surplus-value = the total value of the finished product less wages. This is a simplification which is unimportant for the purposes of this example. Calculating a figure for constant capital in the other branches of production in the city would give us a lower figure for the total mass of surplus-value but would not change the overall result of the exercise.

\(^13\) Since their real value is as it is in Marx’s example above, i.e. 6p constant capital plus 3p variable capital.
labour-power, determines the *distribution* of the ‘surplus surplus’, not its magnitude; and that, second, the extra surplus-value realised exceptionally is equal to the relative surplus-value arising once new techniques of production have generalised and value has been socially equalised. This therefore is a demonstration of the meaning of Marx’s otherwise unsubstantiated remark that ‘the capitalist who applies the improved method of production [...] does as an individual what capital itself taken as a whole does when engaged in producing relative surplus-value.’

4 Relative surplus-value and productivity

The value of commodities (including labour-power) stands in inverse ratio to the productivity of labour. 12 hours’ labour will always produce the same new value, independently of the number of articles produced. But relative surplus-value and productivity are proportional: if a rise in productivity produces a fall in the value of the means of subsistence (and hence in the value of labour-power) relative surplus-value will rise proportionally. ‘Capital therefore has an immanent drive, and a constant tendency, towards increasing the productivity of labour, in order to cheapen commodities, and, by cheapening commodities, to cheapen the worker himself.’

Is the capitalist interested in the value of the finished product? Not at all: the only thing that interests the capitalist is the surplus-value contained in it, and the realised value of this latter. Since relative surplus-value increases proportionally to the productivity of labour, and the value of commodities falls proportionally to the productivity of labour, the same process both cheapens commodities and augments the surplus-value they contain. Thus the capitalist, whose sole interest is the production of exchange-value, constantly drives to bring down the exchange-value of her commodities.

The chapters which follow will examine the particular historical methods by which relative surplus-value has been produced.

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14 C., p. 436.

15 C., p. 437.