

## **Part 3: The Production of Absolute Surplus-Value**

## Chapter 7: The Labour-Process and the Process of Producing Surplus-Value

### Section 1: The Labour-Process or the Production of Use-Values

The capitalist buys labour-power in order to use it; and labour-power in use is labour itself. The purchaser of labour-power consumes it by setting the seller of it to work. By working, the latter becomes actually, what before he only was potentially, labour-power in action, a labourer. In order that his labour may re-appear in a commodity, he must, before all things, expend it on something useful, on something capable of satisfying a want of some sort. Hence, what the capitalist sets the labourer to produce, is a particular use-value, a specified article. The fact that the production of use-values, or goods, is carried on under the control of a capitalist and on his behalf, does not alter the general character of that production. We shall, therefore, in the first place, have to consider the labour-process independently of the particular form it assumes under given social conditions.

Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature's productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature. He develops his slumbering powers and compels them to act in obedience to his sway. We are not now dealing with those primitive instinctive forms of labour that remind us of the mere animal. An immeasurable interval of time separates the state of things in which a man brings his labour-power to market for sale as a commodity, from that state in which human labour was still in its first instinctive stage. We pre-suppose labour in a form that stamps it as exclusively human. A spider conducts operations that resemble those of a weaver, and a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality. At the end of every labour-process, we get a result that already existed in the imagination of the labourer at its commencement. He not only effects a change of form in the material on which he works, but he also realises a purpose of his own that gives the law to his *modus operandi*, and to which he must subordinate his will. And this subordination is no mere momentary act. Besides the exertion of the bodily organs, the process demands that, during the whole operation, the workman's will be steadily in consonance with his purpose. This means close attention. The less he is attracted by the nature of the work, and the mode in which it is carried on, and the less, therefore, he enjoys it as something which gives play to his bodily and mental powers, the more close his attention is forced to be.

The elementary factors of the labour-process are 1, the personal activity of man, *i.e.*, work itself, 2, the subject of that work, and 3, its instruments.

The soil (and this, economically speaking, includes water) in the virgin state in which it supplies <sup>1</sup> man with necessaries or the means of subsistence ready to hand, exists independently of him, and is the universal subject of human labour. All those things which labour merely separates from immediate connexion with their environment, are subjects of labour spontaneously provided by Nature. Such are fish which we catch and take from their element, water, timber which we fell in the virgin forest, and ores which we extract from their veins. If, on the other hand, the subject of labour has, so to say, been filtered through previous labour, we call it raw material; such is ore

already extracted and ready for washing. All raw material is the subject of labour, but not every subject of labour is raw material: it can only become so, after it has undergone some alteration by means of labour.

An instrument of labour is a thing, or a complex of things, which the labourer interposes between himself and the subject of his labour, and which serves as the conductor of his activity. He makes use of the mechanical, physical, and chemical properties of some substances in order to make other substances subservient to his aims.<sup>2</sup> Leaving out of consideration such ready-made means of subsistence as fruits, in gathering which a man's own limbs serve as the instruments of his labour, the first thing of which the labourer possesses himself is not the subject of labour but its instrument. Thus Nature becomes one of the organs of his activity, one that he annexes to his own bodily organs, adding stature to himself in spite of the Bible. As the earth is his original larder, so too it is his original tool house. It supplies him, for instance, with stones for throwing, grinding, pressing, cutting, &c. The earth itself is an instrument of labour, but when used as such in agriculture implies a whole series of other instruments and a comparatively high development of labour.<sup>3</sup> No sooner does labour undergo the least development, than it requires specially prepared instruments. Thus in the oldest caves we find stone implements and weapons. In the earliest period of human history domesticated animals, *i.e.*, animals which have been bred for the purpose, and have undergone modifications by means of labour, play the chief part as instruments of labour along with specially prepared stones, wood, bones, and shells.<sup>4</sup> The use and fabrication of instruments of labour, although existing in the germ among certain species of animals, is specifically characteristic of the human labour-process, and Franklin therefore defines man as a tool-making animal. Relics of bygone instruments of labour possess the same importance for the investigation of extinct economic forms of society, as do fossil bones for the determination of extinct species of animals. It is not the articles made, but how they are made, and by what instruments, that enables us to distinguish different economic epochs.<sup>5</sup> Instruments of labour not only supply a standard of the degree of development to which human labour has attained, but they are also indicators of the social conditions under which that labour is carried on. Among the instruments of labour, those of a mechanical nature, which, taken as a whole, we may call the bone and muscles of production, offer much more decided characteristics of a given epoch of production, than those which, like pipes, tubs, baskets, jars, &c., serve only to hold the materials for labour, which latter class, we may in a general way, call the vascular system of production. The latter first begins to play an important part in the chemical industries.

In a wider sense we may include among the instruments of labour, in addition to those things that are used for directly transferring labour to its subject, and which therefore, in one way or another, serve as conductors of activity, all such objects as are necessary for carrying on the labour-process. These do not enter directly into the process, but without them it is either impossible for it to take place at all, or possible only to a partial extent. Once more we find the earth to be a universal instrument of this sort, for it furnishes a *locus standi* to the labourer and a field of employment for his activity. Among instruments that are the result of previous labour and also belong to this class, we find workshops, canals, roads, and so forth.

In the labour-process, therefore, man's activity, with the help of the instruments of labour, effects an alteration, designed from the commencement, in the material worked upon. The process disappears in the product, the latter is a use-value, Nature's material adapted by a change of form to the wants of man. Labour has incorporated itself with its subject: the former is materialised, the latter transformed. That which in the labourer appeared as movement, now appears in the product as a fixed quality without motion. The blacksmith forges and the product is a forging.

If we examine the whole process from the point of view of its result, the product, it is plain that both the instruments and the subject of labour, are means of production,<sup>6</sup> and that the labour itself is productive labour.<sup>7</sup>

Though a use-value, in the form of a product, issues from the labour-process, yet other use-values, products of previous labour, enter into it as means of production. The same use-value is both the product of a previous process, and a means of production in a later process. Products are therefore not only results, but also essential conditions of labour.

With the exception of the extractive industries, in which the material for labour is provided immediately by Nature, such as mining, hunting, fishing, and agriculture (so far as the latter is confined to breaking up virgin soil), all branches of industry manipulate raw material, objects already filtered through labour, already products of labour. Such is seed in agriculture. Animals and plants, which we are accustomed to consider as products of Nature, are in their present form, not only products of, say last year's labour, but the result of a gradual transformation, continued through many generations, under man's superintendence, and by means of his labour. But in the great majority of cases, instruments of labour show even to the most superficial observer, traces of the labour of past ages.

Raw material may either form the principal substance of a product, or it may enter into its formation only as an accessory. An accessory may be consumed by the instruments of labour, as coal under a boiler, oil by a wheel, hay by draft-horses, or it may be mixed with the raw material in order to produce some modification thereof, as chlorine into unbleached linen, coal with iron, dye-stuff with wool, or again, it may help to carry on the work itself, as in the case of the materials used for heating and lighting workshops. The distinction between principal substance and accessory vanishes in the true chemical industries, because there none of the raw material re-appears, in its original composition, in the substance of the product.<sup>8</sup>

Every object possesses various properties, and is thus capable of being applied to different uses. One and the same product may therefore serve as raw material in very different processes. Corn, for example, is a raw material for millers, starch-manufacturers, distillers, and cattlebreeders. It also enters as raw material into its own production in the shape of seed; coal, too, is at the same time the product of, and a means of production in, coal-mining.

Again, a particular product may be used in one and the same process, both as an instrument of labour and as raw material. Take, for instance, the fattening of cattle, where the animal is the raw material, and at the same time an instrument for the production of manure.

A product, though ready for immediate consumption, may yet serve as raw material for a further product, as grapes when they become the raw material for wine. On the other hand, labour may give us its product in such a form, that we can use it only as raw material, as is the case with cotton, thread, and yarn. Such a raw material, though itself a product, may have to go through a whole series of different processes: in each of these in turn, it serves, with constantly varying form, as raw material, until the last process of the series leaves it a perfect product, ready for individual consumption, or for use as an instrument of labour.

Hence we see, that whether a use-value is to be regarded as raw material, as instrument of labour, or as product, this is determined entirely by its function in the labour-process, by the position it there occupies: as this varies, so does its character.

Whenever therefore a product enters as a means of production into a new labour-process, it thereby loses its character of product, and becomes a mere factor in the process. A spinner treats spindles only as implements for spinning, and flax only as the material that he spins. Of course it is impossible to spin without material and spindles; and therefore the existence of these things as

products, at the commencement of the spinning operation, must be presumed: but in the process itself, the fact that they are products of previous labour, is a matter of utter indifference; just as in the digestive process, it is of no importance whatever, that bread is the produce of the previous labour of the farmer, the miller, and the baker. On the contrary, it is generally by their imperfections as products, that the means of production in any process assert themselves in their character of products. A blunt knife or weak thread forcibly remind us of Mr. A., the cutler, or Mr. B., the spinner. In the finished product the labour by means of which it has acquired its useful qualities is not palpable, has apparently vanished.

A machine which does not serve the purposes of labour, is useless. In addition, it falls a prey to the destructive influence of natural forces. Iron rusts and wood rots. Yarn with which we neither weave nor knit, is cotton wasted. Living labour must seize upon these things and rouse them from their death-sleep, change them from mere possible use-values into real and effective ones. Bathed in the fire of labour, appropriated as part and parcel of labour's organism, and, as it were, made alive for the performance of their functions in the process, they are in truth consumed, but consumed with a purpose, as elementary constituents of new use-values, of new products, ever ready as means of subsistence for individual consumption, or as means of production for some new labour-process.

If then, on the one hand, finished products are not only results, but also necessary conditions, of the labour-process, on the other hand, their assumption into that process, their contact with living labour, is the sole means by which they can be made to retain their character of use-values, and be utilised.

Labour uses up its material factors, its subject and its instruments, consumes them, and is therefore a process of consumption. Such productive consumption is distinguished from individual consumption by this, that the latter uses up products, as means of subsistence for the living individual; the former, as means whereby alone, labour, the labour-power of the living individual, is enabled to act. The product, therefore, of individual consumption, is the consumer himself; the result of productive consumption, is a product distinct from the consumer.

In so far then, as its instruments and subjects are themselves products, labour consumes products in order to create products, or in other words, consumes one set of products by turning them into means of production for another set. But, just as in the beginning, the only participators in the labour-process were man and the earth, which latter exists independently of man, so even now we still employ in the process many means of production, provided directly by Nature, that do not represent any combination of natural substances with human labour.

The labour-process, resolved as above into its simple elementary factors, is human action with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or rather, is common to every such phase. It was, therefore, not necessary to represent our labourer in connexion with other labourers; man and his labour on one side, Nature and its materials on the other, sufficed. As the taste of the porridge does not tell you who grew the oats, no more does this simple process tell you of itself what are the social conditions under which it is taking place, whether under the slave-owner's brutal lash, or the anxious eye of the capitalist, whether Cincinnatus carries it on in tilling his modest farm or a savage in killing wild animals with stones.<sup>9</sup>

Let us now return to our would-be capitalist. We left him just after he had purchased, in the open market, all the necessary factors of the labour process; its objective factors, the means of production, as well as its subjective factor, labour-power. With the keen eye of an expert, he has

selected the means of production and the kind of labour-power best adapted to his particular trade, be it spinning, bootmaking, or any other kind. He then proceeds to consume the commodity, the labour-power that he has just bought, by causing the labourer, the impersonation of that labour-power, to consume the means of production by his labour. The general character of the labour-process is evidently not changed by the fact, that the labourer works for the capitalist instead of for himself; moreover, the particular methods and operations employed in bootmaking or spinning are not immediately changed by the intervention of the capitalist. He must begin by taking the labour-power as he finds it in the market, and consequently be satisfied with labour of such a kind as would be found in the period immediately preceding the rise of capitalists. Changes in the methods of production by the subordination of labour to capital, can take place only at a later period, and therefore will have to be treated of in a later chapter.

The labour-process, turned into the process by which the capitalist consumes labour-power, exhibits two characteristic phenomena. First, the labourer works under the control of the capitalist to whom his labour belongs; the capitalist taking good care that the work is done in a proper manner, and that the means of production are used with intelligence, so that there is no unnecessary waste of raw material, and no wear and tear of the implements beyond what is necessarily caused by the work.

Secondly, the product is the property of the capitalist and not that of the labourer, its immediate producer. Suppose that a capitalist pays for a day's labour-power at its value; then the right to use that power for a day belongs to him, just as much as the right to use any other commodity, such as a horse that he has hired for the day. To the purchaser of a commodity belongs its use, and the seller of labour-power, by giving his labour, does no more, in reality, than part with the use-value that he has sold. From the instant he steps into the workshop, the use-value of his labour-power, and therefore also its use, which is labour, belongs to the capitalist. By the purchase of labour-power, the capitalist incorporates labour, as a living ferment, with the lifeless constituents of the product. From his point of view, the labour-process is nothing more than the consumption of the commodity purchased, *i. e.*, of labour-power; but this consumption cannot be effected except by supplying the labour-power with the means of production. The labour-process is a process between things that the capitalist has purchased, things that have become his property. The product of this process belongs, therefore, to him, just as much as does the wine which is the product of a process of fermentation completed in his cellar.<sup>10</sup>

## Section 2: The Production of Surplus-Value

The product appropriated by the capitalist is a use-value, as yarn, for example, or boots. But, although boots are, in one sense, the basis of all social progress, and our capitalist is a decided "progressist," yet he does not manufacture boots for their own sake. Use-value is, by no means, the thing "*qu'on aime pour lui-même*" in the production of commodities. Use-values are only produced by capitalists, because, and in so far as, they are the material substratum, the depositories of exchange-value. Our capitalist has two objects in view: in the first place, he wants to produce a use-value that has a value in exchange, that is to say, an article destined to be sold, a commodity; and secondly, he desires to produce a commodity whose value shall be greater than the sum of the values of the commodities used in its production, that is, of the means of production and the labour-power, that he purchased with his good money in the open market. His aim is to produce not only a use-value, but a commodity also; not only use-value, but value; not only value, but at the same time surplus-value.

It must be borne in mind, that we are now dealing with the production of commodities, and that, up to this point, we have only considered one aspect of the process. Just as commodities are, at

the same time, use-values and values, so the process of producing them must be a labour-process, and at the same time, a process of creating value.<sup>11</sup>

Let us now examine production as a creation of value.

We know that the value of each commodity is determined by the quantity of labour expended on and materialised in it, by the working-time necessary, under given social conditions, for its production. This rule also holds good in the case of the product that accrued to our capitalist, as the result of the labour-process carried on for him. Assuming this product to be 10 lbs. of yarn, our first step is to calculate the quantity of labour realised in it.

For spinning the yarn, raw material is required; suppose in this case 10 lbs. of cotton. We have no need at present to investigate the value of this cotton, for our capitalist has, we will assume, bought it at its full value, say of ten shillings. In this price the labour required for the production of the cotton is already expressed in terms of the average labour of society. We will further assume that the wear and tear of the spindle, which, for our present purpose, may represent all other instruments of labour employed, amounts to the value of 2s. If, then, twenty-four hours' labour, or two working days, are required to produce the quantity of gold represented by twelve shillings, we have here, to begin with, two days' labour already incorporated in the yarn.

We must not let ourselves be misled by the circumstance that the cotton has taken a new shape while the substance of the spindle has to a certain extent been used up. By the general law of value, if the value of 40 lbs. of yarn = the value of 40 lbs. of cotton + the value of a whole spindle, *i. e.*, if the same working-time is required to produce the commodities on either side of this equation, then 10 lbs. of yarn are an equivalent for 10 lbs. of cotton, together with one-fourth of a spindle. In the case we are considering the same working-time is materialised in the 10 lbs. of yarn on the one hand, and in the 10 lbs. of cotton and the fraction of a spindle on the other. Therefore, whether value appears in cotton, in a spindle, or in yarn, makes no difference in the amount of that value. The spindle and cotton, instead of resting quietly side by side, join together in the process, their forms are altered, and they are turned into yarn; but their value is no more affected by this fact than it would be if they had been simply exchanged for their equivalent in yarn.

The labour required for the production of the cotton, the raw material of the yarn, is part of the labour necessary to produce the yarn, and is therefore contained in the yarn. The same applies to the labour embodied in the spindle, without whose wear and tear the cotton could not be spun.

Hence, in determining the value of the yarn, or the labour-time required for its production, all the special processes carried on at various times and in different places, which were necessary, first to produce the cotton and the wasted portion of the spindle, and then with the cotton and spindle to spin the yarn, may together be looked on as different and successive phases of one and the same process. The whole of the labour in the yarn is past labour; and it is a matter of no importance that the operations necessary for the production of its constituent elements were carried on at times which, referred to the present, are more remote than the final operation of spinning. If a definite quantity of labour, say thirty days, is requisite to build a house, the total amount of labour incorporated in it is not altered by the fact that the work of the last day is done twenty-nine days later than that of the first. Therefore the labour contained in the raw material and the instruments of labour can be treated just as if it were labour expended in an earlier stage of the spinning process, before the labour of actual spinning commenced.

The values of the means of production, *i. e.*, the cotton and the spindle, which values are expressed in the price of twelve shillings, are therefore constituent parts of the value of the yarn, or, in other words, of the value of the product.

Two conditions must nevertheless be fulfilled. First, the cotton and spindle must concur in the production of a use-value; they must in the present case become yarn. Value is independent of the particular use-value by which it is borne, but it must be embodied in a use-value of some kind. Secondly, the time occupied in the labour of production must not exceed the time really necessary under the given social conditions of the case. Therefore, if no more than 1 lb. of cotton be requisite to spin 1 lb. of yarn, care must be taken that no more than this weight of cotton is consumed in the production of 1 lb. of yarn; and similarly with regard to the spindle. Though the capitalist have a hobby, and use a gold instead of a steel spindle, yet the only labour that counts for anything in the value of the yarn is that which would be required to produce a steel spindle, because no more is necessary under the given social conditions.

We now know what portion of the value of the yarn is owing to the cotton and the spindle. It amounts to twelve shillings or the value of two days' work. The next point for our consideration is, what portion of the value of the yarn is added to the cotton by the labour of the spinner.

We have now to consider this labour under a very different aspect from that which it had during the labour-process; there, we viewed it solely as that particular kind of human activity which changes cotton into yarn; there, the more the labour was suited to the work, the better the yarn, other circumstances remaining the same. The labour of the spinner was then viewed as specifically different from other kinds of productive labour, different on the one hand in its special aim, viz., spinning, different, on the other hand, in the special character of its operations, in the special nature of its means of production and in the special use-value of its product. For the operation of spinning, cotton and spindles are a necessity, but for making rifled cannon they would be of no use whatever. Here, on the contrary, where we consider the labour of the spinner only so far as it is value-creating, *i.e.*, a source of value, his labour differs in no respect from the labour of the man who bores cannon, or (what here more nearly concerns us), from the labour of the cotton-planter and spindle-maker incorporated in the means of production. It is solely by reason of this identity, that cotton planting, spindle making and spinning, are capable of forming the component parts differing only quantitatively from each other, of one whole, namely, the value of the yarn. Here, we have nothing more to do with the quality, the nature and the specific character of the labour, but merely with its quantity. And this simply requires to be calculated. We proceed upon the assumption that spinning is simple, unskilled labour, the average labour of a given state of society. Hereafter we shall see that the contrary assumption would make no difference.

While the labourer is at work, his labour constantly undergoes a transformation: from being motion, it becomes an object without motion; from being the labourer working, it becomes the thing produced. At the end of one hour's spinning, that act is represented by a definite quantity of yarn; in other words, a definite quantity of labour, namely that of one hour, has become embodied in the cotton. We say labour, *i.e.*, the expenditure of his vital force by the spinner, and not spinning labour, because the special work of spinning counts here, only so far as it is the expenditure of labour-power in general, and not in so far as it is the specific work of the spinner.

In the process we are now considering it is of extreme importance, that no more time be consumed in the work of transforming the cotton into yarn than is necessary under the given social conditions. If under normal, *i.e.*, average social conditions of production,  $a$  pounds of cotton ought to be made into  $b$  pounds of yarn by one hour's labour, then a day's labour does not count as 12 hours' labour unless 12  $a$  pounds of cotton have been made into 12  $b$  pounds of yarn; for in the creation of value, the time that is socially necessary alone counts.

Not only the labour, but also the raw material and the product now appear in quite a new light, very different from that in which we viewed them in the labour-process pure and simple. The raw



material serves now merely as an absorbent of a definite quantity of labour. By this absorption it is in fact changed into yarn, because it is spun, because labour-power in the form of spinning is added to it; but the product, the yarn, is now nothing more than a measure of the labour absorbed by the cotton. If in one hour  $1\frac{2}{3}$  lbs. of cotton can be spun into  $1\frac{2}{3}$  lbs. of yarn, then 10 lbs. of yarn indicate the absorption of 6 hours' labour. Definite quantities of product, these quantities being determined by experience, now represent nothing but definite quantities of labour, definite masses of crystallised labour-time. They are nothing more than the materialisation of so many hours or so many days of social labour.

We are here no more concerned about the facts, that the labour is the specific work of spinning, that its subject is cotton and its product yarn, than we are about the fact that the subject itself is already a product and therefore raw material. If the spinner, instead of spinning, were working in a coal mine, the subject of his labour, the coal, would be supplied by Nature; nevertheless, a definite quantity of extracted coal, a hundredweight for example, would represent a definite quantity of absorbed labour.

We assumed, on the occasion of its sale, that the value of a day's labour-power is three shillings, and that six hours' labour is incorporated in that sum; and consequently that this amount of labour is requisite to produce the necessities of life daily required on an average by the labourer. If now our spinner by working for one hour, can convert  $1\frac{2}{3}$  lbs. of cotton into  $1\frac{2}{3}$  lbs. of yarn,<sup>12</sup> it follows that in six hours he will convert 10 lbs. of cotton into 10 lbs. of yarn. Hence, during the spinning process, the cotton absorbs six hours' labour. The same quantity of labour is also embodied in a piece of gold of the value of three shillings. Consequently by the mere labour of spinning, a value of three shillings is added to the cotton.

Let us now consider the total value of the product, the 10 lbs. of yarn. Two and a half days' labour has been embodied in it, of which two days were contained in the cotton and in the substance of the spindle worn away, and half a day was absorbed during the process of spinning. This two and a half days' labour is also represented by a piece of gold of the value of fifteen shillings. Hence, fifteen shillings is an adequate price for the 10 lbs. of yarn, or the price of one pound is eighteenpence.

Our capitalist stares in astonishment. The value of the product is exactly equal to the value of the capital advanced. The value so advanced has not expanded, no surplus-value has been created, and consequently money has not been converted into capital. The price of the yarn is fifteen shillings, and fifteen shillings were spent in the open market upon the constituent elements of the product, or, what amounts to the same thing, upon the factors of the labour-process; ten shillings were paid for the cotton, two shillings for the substance of the spindle worn away, and three shillings for the labour-power. The swollen value of the yarn is of no avail, for it is merely the sum of the values formerly existing in the cotton, the spindle, and the labour-power: out of such a simple addition of existing values, no surplus-value can possibly arise.<sup>13</sup> These separate values are now all concentrated in one thing; but so they were also in the sum of fifteen shillings, before it was split up into three parts, by the purchase of the commodities.

There is in reality nothing very strange in this result. The value of one pound of yarn being eighteenpence, if our capitalist buys 10 lbs. of yarn in the market, he must pay fifteen shillings for them. It is clear that, whether a man buys his house ready built, or gets it built for him, in neither case will the mode of acquisition increase the amount of money laid out on the house.

Our capitalist, who is at home in his vulgar economy, exclaims: "Oh! but I advanced my money for the express purpose of making more money." The way to Hell is paved with good intentions, and he might just as easily have intended to make money, without producing at all.<sup>14</sup> He threatens all sorts of things. He won't be caught napping again. In future he will buy the commodities in the

market, instead of manufacturing them himself. But if all his brother capitalists were to do the same, where would he find his commodities in the market? And his money he cannot eat. He tries persuasion. "Consider my abstinence; I might have played ducks and drakes with the 15 shillings; but instead of that I consumed it productively, and made yarn with it." Very well, and by way of reward he is now in possession of good yarn instead of a bad conscience; and as for playing the part of a miser, it would never do for him to relapse into such bad ways as that; we have seen before to what results such asceticism leads. Besides, where nothing is, the king has lost his rights; whatever may be the merit of his abstinence, there is nothing wherewith specially to remunerate it, because the value of the product is merely the sum of the values of the commodities that were thrown into the process of production. Let him therefore console himself with the reflection that virtue is its own reward. But no, he becomes importunate. He says: "The yarn is of no use to me: I produced it for sale." In that case let him sell it, or, still better, let him for the future produce only things for satisfying his personal wants, a remedy that his physician MacCulloch has already prescribed as infallible against an epidemic of over-production. He now gets obstinate. "Can the labourer," he asks, "merely with his arms and legs, produce commodities out of nothing? Did I not supply him with the materials, by means of which, and in which alone, his labour could be embodied? And as the greater part of society consists of such ne'er-do-wells, have I not rendered society incalculable service by my instruments of production, my cotton and my spindle, and not only society, but the labourer also, whom in addition I have provided with the necessities of life? And am I to be allowed nothing in return for all this service?" Well, but has not the labourer rendered him the equivalent service of changing his cotton and spindle into yarn? Moreover, there is here no question of service.<sup>15</sup> A service is nothing more than the useful effect of a use-value, be it of a commodity, or be it of labour.<sup>16</sup> But here we are dealing with exchange-value. The capitalist paid to the labourer a value of 3 shillings, and the labourer gave him back an exact equivalent in the value of 3 shillings, added by him to the cotton: he gave him value for value. Our friend, up to this time so purse-proud, suddenly assumes the modest demeanour of his own workman, and exclaims: "Have I myself not worked? Have I not performed the labour of superintendence and of overlooking the spinner? And does not this labour, too, create value?" His overlooker and his manager try to hide their smiles. Meanwhile, after a hearty laugh, he re-assumes his usual mien. Though he chanted to us the whole creed of the economists, in reality, he says, he would not give a brass farthing for it. He leaves this and all such like subterfuges and juggling tricks to the professors of Political Economy, who are paid for it. He himself is a practical man; and though he does not always consider what he says outside his business, yet in his business he knows what he is about.

Let us examine the matter more closely. The value of a day's labour-power amounts to 3 shillings, because on our assumption half a day's labour is embodied in that quantity of labour-power, *i.e.*, because the means of subsistence that are daily required for the production of labour-power, cost half a day's labour. But the past labour that is embodied in the labour-power, and the living labour that it can call into action; the daily cost of maintaining it, and its daily expenditure in work, are two totally different things. The former determines the exchange-value of the labour-power, the latter is its use-value. The fact that half a day's labour is necessary to keep the labourer alive during 24 hours, does not in any way prevent him from working a whole day. Therefore, the value of labour-power, and the value which that labour-power creates in the labour-process, are two entirely different magnitudes; and this difference of the two values was what the capitalist had in view, when he was purchasing the labour-power. The useful qualities that labour-power possesses, and by virtue of which it makes yarn or boots, were to him nothing more than a *conditio sine qua non*; for in order to create value, labour must be expended in a useful manner. What really influenced him was the specific use-value which this commodity possesses of being a

*source not only of value, but of more value than it has itself.* This is the special service that the capitalist expects from labour-power, and in this transaction he acts in accordance with the “eternal laws” of the exchange of commodities. The seller of labour-power, like the seller of any other commodity, realises its exchange-value, and parts with its use-value. He cannot take the one without giving the other. The use-value of labour-power, or in other words, labour, belongs just as little to its seller, as the use-value of oil after it has been sold belongs to the dealer who has sold it. The owner of the money has paid the value of a day’s labour-power; his, therefore, is the use of it for a day; a day’s labour belongs to him. The circumstance, that on the one hand the daily sustenance of labour-power costs only half a day’s labour, while on the other hand the very same labour-power can work during a whole day, that consequently the value which its use during one day creates, is double what he pays for that use, this circumstance is, without doubt, a piece of good luck for the buyer, but by no means an injury to the seller.

Our capitalist foresaw this state of things, and that was the cause of his laughter. The labourer therefore finds, in the workshop, the means of production necessary for working, not only during six, but during twelve hours. Just as during the six hours’ process our 10 lbs. of cotton absorbed six hours’ labour, and became 10 lbs. of yarn, so now, 20 lbs. of cotton will absorb 12 hours’ labour and be changed into 20 lbs. of yarn. Let us now examine the product of this prolonged process. There is now materialised in this 20 lbs. of yarn the labour of five days, of which four days are due to the cotton and the lost steel of the spindle, the remaining day having been absorbed by the cotton during the spinning process. Expressed in gold, the labour of five days is thirty shillings. This is therefore the price of the 20 lbs. of yarn, giving, as before, eighteenpence as the price of a pound. But the sum of the values of the commodities that entered into the process amounts to 27 shillings. The value of the yarn is 30 shillings. Therefore the value of the product is 1/9 greater than the value advanced for its production; 27 shillings have been transformed into 30 shillings; a surplus-value of 3 shillings has been created. The trick has at last succeeded; money has been converted into capital.

Every condition of the problem is satisfied, while the laws that regulate the exchange of commodities, have been in no way violated. Equivalent has been exchanged for equivalent. For the capitalist as buyer paid for each commodity, for the cotton, the spindle and the labour-power, its full value. He then did what is done by every purchaser of commodities; he consumed their use-value. The consumption of the labour-power, which was also the process of producing commodities, resulted in 20 lbs. of yarn, having a value of 30 shillings. The capitalist, formerly a buyer, now returns to market as a seller, of commodities. He sells his yarn at eighteenpence a pound, which is its exact value. Yet for all that he withdraws 3 shillings more from circulation than he originally threw into it. This metamorphosis, this conversion of money into capital, takes place both within the sphere of circulation and also outside it; within the circulation, because conditioned by the purchase of the labour-power in the market; outside the circulation, because what is done within it is only a stepping-stone to the production of surplus-value, a process which is entirely confined to the sphere of production. Thus “tout est pour le mieux dans le meilleur des mondes possibles.” [“Everything is for the best in the best of all possible worlds.” – Voltaire, *Candide*]

By turning his money into commodities that serve as the material elements of a new product, and as factors in the labour-process, by incorporating living labour with their dead substance, the capitalist at the same time converts value, *i.e.*, past, materialised, and dead labour into capital, into value big with value, a live monster that is fruitful and multiplies.

If we now compare the two processes of producing value and of creating surplus-value, we see that the latter is nothing but the continuation of the former beyond a definite point. If on the one

hand the process be not carried beyond the point, where the value paid by the capitalist for the labour-power is replaced by an exact equivalent, it is simply a process of producing value; if, on the other hand, it be continued beyond that point, it becomes a process of creating surplus-value.

If we proceed further, and compare the process of producing value with the labour-process, pure and simple, we find that the latter consists of the useful labour, the work, that produces use-values. Here we contemplate the labour as producing a particular article; we view it under its qualitative aspect alone, with regard to its end and aim. But viewed as a value-creating process, the same labour-process presents itself under its quantitative aspect alone. Here it is a question merely of the time occupied by the labourer in doing the work; of the period during which the labour-power is usefully expended. Here, the commodities that take part in the process, do not count any longer as necessary adjuncts of labour-power in the production of a definite, useful object. They count merely as depositories of so much absorbed or materialised labour; that labour, whether previously embodied in the means of production, or incorporated in them for the first time during the process by the action of labour-power, counts in either case only according to its duration; it amounts to so many hours or days as the case may be.

Moreover, only so much of the time spent in the production of any article is counted, as, under the given social conditions, is necessary. The consequences of this are various. In the first place, it becomes necessary that the labour should be carried on under normal conditions. If a self-acting mule is the implement in general use for spinning, it would be absurd to supply the spinner with a distaff and spinning wheel. The cotton too must not be such rubbish as to cause extra waste in being worked, but must be of suitable quality. Otherwise the spinner would be found to spend more time in producing a pound of yarn than is socially necessary, in which case the excess of time would create neither value nor money. But whether the material factors of the process are of normal quality or not, depends not upon the labourer, but entirely upon the capitalist. Then again, the labour-power itself must be of average efficacy. In the trade in which it is being employed, it must possess the average skill, handiness and quickness prevalent in that trade, and our capitalist took good care to buy labour-power of such normal goodness. This power must be applied with the average amount of exertion and with the usual degree of intensity; and the capitalist is as careful to see that this is done, as that his workmen are not idle for a single moment. He has bought the use of the labour-power for a definite period, and he insists upon his rights. He has no intention of being robbed. Lastly, and for this purpose our friend has a penal code of his own, all wasteful consumption of raw material or instruments of labour is strictly forbidden, because what is so wasted, represents labour superfluously expended, labour that does not count in the product or enter into its value.<sup>17</sup>

We now see, that the difference between labour, considered on the one hand as producing utilities, and on the other hand, as creating value, a difference which we discovered by our analysis of a commodity, resolves itself into a distinction between two aspects of the process of production.

The process of production, considered on the one hand as the unity of the labour-process and the process of creating value, is production of commodities; considered on the other hand as the unity of the labour-process and the process of producing surplus-value, it is the capitalist process of production, or capitalist production of commodities.

We stated, on a previous page, that in the creation of surplus-value it does not in the least matter, whether the labour appropriated by the capitalist be simple unskilled labour of average quality or more complicated skilled labour. All labour of a higher or more complicated character than average labour is expenditure of labour-power of a more costly kind, labour-power whose production has cost more time and labour, and which therefore has a higher value, than unskilled

or simple labour-power. This power being higher-value, its consumption is labour of a higher class, labour that creates in equal times proportionally higher values than unskilled labour does. Whatever difference in skill there may be between the labour of a spinner and that of a jeweller, the portion of his labour by which the jeweller merely replaces the value of his own labour-power, does not in any way differ in quality from the additional portion by which he creates surplus-value. In the making of jewellery, just as in spinning, the surplus-value results only from a quantitative excess of labour, from a lengthening-out of one and the same labour-process, in the one case, of the process of making jewels, in the other of the process of making yarn.<sup>18</sup>

But on the other hand, in every process of creating value, the reduction of skilled labour to average social labour, *e.g.*, one day of skilled to six days of unskilled labour, is unavoidable.

<sup>19</sup>We therefore save ourselves a superfluous operation, and simplify our analysis, by the assumption, that the labour of the workman employed by the capitalist is unskilled average labour.

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<sup>1</sup> “The earth’s spontaneous productions being in small quantity, and quite independent of man, appear, as it were, to be furnished by Nature, in the same way as a small sum is given to a young man, in order to put him in a way of industry, and of making his fortune.” (James Steuart: “Principles of Polit. Econ.” edit. Dublin, 1770, v. I, p.116.)

<sup>2</sup> “Reason is just as cunning as she is powerful. Her cunning consists principally in her mediating activity, which, by causing objects to act and re-act on each other in accordance with their own nature, in this way, without any direct interference in the process, carries out reason’s intentions.” (Hegel: “Enzyklopädie, Erster Theil, Die Logik,” Berlin, 1840, p. 382.)

<sup>3</sup> In his otherwise miserable work (“Théorie de l’Econ. Polit.” Paris, 1815), Ganilh enumerates in a striking manner in opposition to the “Physiocrats” the long series of previous processes necessary before agriculture properly so called can commence.

<sup>4</sup> Turgot in his “Réflexions sur la Formation et la Distribution des Richesses” (1766) brings well into prominence the importance of domesticated animals to early civilisation.

<sup>5</sup> The least important commodities of all for the technological comparison of different epochs of production are articles of luxury, in the strict meaning of the term. However little our written histories up to this time notice the development of material production, which is the basis of all social life, and therefore of all real history, yet prehistoric times have been classified in accordance with the results, not of so-called historical, but of materialistic investigations. These periods have been divided, to correspond with the materials from which their implements and weapons were made, *viz.*, into the stone, the bronze, and the iron ages.

<sup>6</sup> It appears paradoxical to assert, that uncaught fish, for instance, are a means of production in the fishing industry. But hitherto no one has discovered the art of catching fish in waters that contain none.

<sup>7</sup> This method of determining, from the standpoint of the labour-process alone, what is productive labour, is by no means directly applicable to the case of the capitalist process of production.

<sup>8</sup> Storch calls true raw materials “matières,” and accessory material “matériaux.” Cherbuliez describes accessories as “matières instrumentales.”

<sup>9</sup> By a wonderful feat of logical acumen, Colonel Torrens has discovered, in this stone of the savage the origin of capital. “In the first stone which he [the savage] flings at the wild animal he pursues, in the first stick that he seizes to strike down the fruit which hangs above his reach, we see the appropriation of one article for the purpose of aiding in the acquisition of another, and thus discover the origin of capital.” (R. Torrens: “An Essay on the Production of Wealth,” &c., pp. 70-71.)

<sup>10</sup> “Products are appropriated before they are converted into capital; this conversion does not secure them from such appropriation.” (Cheibuliez: “Richesse ou Pauvreté,” edit. Paris, 1841, p. 54.) “The Proletarian, by selling his labour for a definite quantity of the necessities of life, renounces all claim to a share in the product. The mode of appropriation of the products remains the same as before; it is in no way altered by the bargain we have mentioned. The product belongs exclusively to the capitalist, who supplied the raw material and the necessities of life; and this is a rigorous consequence of the law of appropriation, a law whose fundamental principle was the very opposite, namely, that every labourer has an exclusive right to the ownership of what he produces.” (l.c., p. 58.) “When the labourers receive wages for their labour ... the capitalist is then the owner not of the capital only” (he means the means of production) “but of the labour also. If what is paid as wages is included, as it commonly is, in the term capital, it is absurd to talk of labour separately from capital. The word capital as thus employed includes labour and capital both.” (James Mill: “Elements of Pol. Econ.,” &c., Ed. 1821, pp. 70, 71.)

<sup>11</sup> As has been stated in a previous note, the English language has two different expressions for these two different aspects of labour: in the Simple Labour-process, the process of producing Use-Values, it is *Work*; in the process of creation of Value, it is *Labour*, taking the term in its strictly economic sense. — *F. E.*

<sup>12</sup> These figures are quite arbitrary.

<sup>13</sup> This is the fundamental proposition on which is based the doctrine of the Physiocrats as to the unproductiveness of all labour that is not agriculture: it is irrefutable for the orthodox economist. “Cette façon d’imputer à une seule chose la valeur de plusieurs autres” (par exemple au lin la consommation du tisserand), “d’appliquer, pour ainsi dire, couche sur couche, plusieurs valeurs sur une seule, fait que celle-ci grossit d’autant.... Le terme d’addition peint très bien la manière dont se forme le prix des ouvrages de main d’œuvre; ce prix n’est qu’un total de plusieurs valeurs consommées et additionnées ensemble; or, additionner n’est pas multiplier.” [“This method of adding to one particular object the value of a number of others,” (for example, adding the living costs of the weaver to the flax), “of as it were heaping up various values in layers on top of one single value, has the result that this value grows to the same extent ... The expression ‘addition’ gives a very clear picture of the way in which the price of a manufactured product is formed; this price is only the sum of a number of values which have been consumed, and it is arrived at by adding them together; however, addition is not the same as multiplication.”] (“Mercier de la Rivière,” l.c., p. 599.)

<sup>14</sup> Thus from 1844-47 he withdrew part of his capital from productive employment, in order to throw it away in railway speculations; and so also, during the American Civil War, he closed his factory, and turned his work-people into the streets, in order to gamble on the Liverpool cotton exchange.

<sup>15</sup> “Extol thyself, put on finery and adorn thyself ... but whoever takes more or better than he gives, that is usury, and is not service, but wrong done to his neighbour, as when one steals and robs. All is not service and benefit to a neighbour that is called service and benefit. For an adulteress and adulterer do one another great service and pleasure. A horseman does an incendiary a great service, by helping him to rob on the highway, and pillage land and houses. The papists do ours a great service, in that they don’t drown, burn, murder all of them, or let them all rot in prison; but let some live, and only drive them out, or take from them what they have. The devil himself does his servants inestimable service.... To sum up, the world is full of great, excellent, and daily service and benefit.” (Martin Luther: “An die Pfarrhern wider den Wucher zu predigen,” Wittenberg, 1540.)

<sup>16</sup> In “Zur Kritik der Pol. Oek.,” p. 14, I make the following remark on this point — “It is not difficult to understand what ‘service’ the category ‘service’ must render to a class of economists like J. B. Say and F. Bastiat.”

<sup>17</sup> This is one of the circumstances that makes production by slave labour such a costly process. The labourer here is, to use a striking expression of the ancients, distinguishable only as *instrumentum vocale*, from an animal as *instrumentum semi-vocale*, and from an implement as *instrumentum mutum*. But he himself takes care to let both beast and implement feel that he is none of them, but is a man. He convinces himself with immense satisfaction, that he is a different being, by treating the one unmercifully and damaging the other *con amore*. Hence the principle, universally applied in this method of production, only to employ the rudest and heaviest implements and such as are difficult to damage owing to their sheer clumsiness. In the slave-states bordering on the Gulf of Mexico, down to the date of the civil war, ploughs constructed on old Chinese models, which turned up the soil like a hog or a mole, instead of making furrows, were alone to be found. Conf. J. E. Cairnes. "The Slave Power," London, 1862, p. 46 sqq. In his "Sea Board Slave States," Olmsted tells us: "I am here shown tools that no man in his senses, with us, would allow a labourer, for whom he was paying wages, to be encumbered with; and the excessive weight and clumsiness of which, I would judge, would make work at least ten per cent greater than with those ordinarily used with us. And I am assured that, in the careless and clumsy way they must be used by the slaves, anything lighter or less rude could not be furnished them with good economy, and that such tools as we constantly give our labourers and find our profit in giving them, would not last out a day in a Virginia cornfield – much lighter and more free from stones though it be than ours. So, too, when I ask why mules are so universally substituted for horses on the farm, the first reason given, and confessedly the most conclusive one, is that horses cannot bear the treatment that they always must get from negroes; horses are always soon foundered or crippled by them, while mules will bear cudgelling, or lose a meal or two now and then, and not be materially injured, and they do not take cold or get sick, if neglected or overworked. But I do not need to go further than to the window of the room in which I am writing, to see at almost any time, treatment of cattle that would ensure the immediate discharge of the driver by almost any farmer owning them in the North."

<sup>18</sup> The distinction between skilled and unskilled labour rests in part on pure illusion, or, to say the least, on distinctions that have long since ceased to be real, and that survive only by virtue of a traditional convention; in part on the helpless condition of some groups of the working-class, a condition that prevents them from exacting equally with the rest the value of their labour-power. Accidental circumstances here play so great a part, that these two forms of labour sometimes change places. Where, for instance, the physique of the working-class has deteriorated, and is, relatively speaking, exhausted, which is the case in all countries with a well developed capitalist production, the lower forms of labour, which demand great expenditure of muscle, are in general considered as skilled, compared with much more delicate forms of labour; the latter sink down to the level of unskilled labour. Take as an example the labour of a bricklayer, which in England occupies a much higher level than that of a damask-weaver. Again, although the labour of a fustian cutter demands great bodily exertion, and is at the same time unhealthy, yet it counts only as unskilled labour. And then, we must not forget, that the so-called skilled labour does not occupy a large space in the field of national labour. Laing estimates that in England (and Wales) the livelihood of 11,300,000 people depends on unskilled labour. If from the total population of 18,000,000 living at the time when he wrote, we deduct 1,000,000 for the "genteel population," and 1,500,000 for paupers, vagrants, criminals, prostitutes, &c., and 4,650,000 who compose the middle-class, there remain the above mentioned 11,000,000. But in his middle-class he includes people that live on the interest of small investments, officials, men of letters, artists, schoolmasters and the like, and in order to swell the number he also includes in these 4,650,000 the better paid portion of the factory operatives! The bricklayers, too, figure amongst them. (S. Laing: "National Distress," &c., London, 1844). "The great class who have nothing to give for food but ordinary labour, are the great bulk of the people." (James Mill, in art.: "Colony," Supplement to the Encyclop. Brit., 1831.)

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<sup>19</sup> “Where reference is made to labour as a measure of value, it necessarily implies labour of one particular kind ... the proportion which the other kinds bear to it being easily ascertained.” (“*Outlines of Pol. Econ.*,” Lond., 1832, pp. 22 and 23.)



## Chapter 8: Constant Capital and Variable Capital

The various factors of the labour-process play different parts in forming the value of the product.

The labourer adds fresh value to the subject of his labour by expending upon it a given amount of additional labour, no matter what the specific character and utility of that labour may be. On the other hand, the values of the means of production used up in the process are preserved, and present themselves afresh as constituent parts of the value of the product; the values of the cotton and the spindle, for instance, re-appear again in the value of the yarn. The value of the means of production is therefore preserved, by being transferred to the product. This transfer takes place during the conversion of those means into a product, or in other words, during the labour-process. It is brought about by labour; but how?

The labourer does not perform two operations at once, one in order to add value to the cotton, the other in order to preserve the value of the means of production, or, what amounts to the same thing, to transfer to the yarn, to the product, the value of the cotton on which he works, and part of the value of the spindle with which he works. But, by the very act of adding new value, he preserves their former values. Since, however, the addition of new value to the subject of his labour, and the preservation of its former value, are two entirely distinct results, produced simultaneously by the labourer, during one operation, it is plain that this two-fold nature of the result can be explained only by the two-fold nature of his labour; at one and the same time, it must in one character create value, and in another character preserve or transfer value.

Now, in what manner does every labourer add new labour and consequently new value? Evidently, only by labouring productively in a particular way; the spinner by spinning, the weaver by weaving, the smith by forging. But, while thus incorporating labour generally, that is value, it is by the particular form alone of the labour, by the spinning, the weaving and the forging respectively, that the means of production, the cotton and spindle, the yarn and loom, and the iron and anvil become constituent elements of the product, of a new use-value.<sup>1</sup> Each use-value disappears, but only to re-appear under a new form in a new use-value. Now, we saw, when we were considering the process of creating value, that, if a use-value be effectively consumed in the production of a new use-value, the quantity of labour expended in the production of the consumed article, forms a portion of the quantity of labour necessary to produce the new use-value; this portion is therefore labour transferred from the means of production to the new product. Hence, the labourer preserves the values of the consumed means of production, or transfers them as portions of its value to the product, not by virtue of his additional labour, abstractedly considered, but by virtue of the particular useful character of that labour, by virtue of its special productive form. In so far then as labour is such specific productive activity, in so far as it is spinning, weaving, or forging, it raises, by mere contact, the means of production from the dead, makes them living factors of the labour-process, and combines with them to form the new products.

If the special productive labour of the workman were not spinning, he could not convert the cotton into yarn, and therefore could not transfer the values of the cotton and spindle to the yarn. Suppose the same workman were to change his occupation to that of a joiner, he would still by a day's labour add value to the material he works upon. Consequently, we see, first, that the addition of new value takes place not by virtue of his labour being spinning in particular, or joiner in particular, but because it is labour in the abstract, a portion of the total labour of society; and we see next, that the value added is of a given definite amount, not because his

labour has a special utility, but because it is exerted for a definite time. On the one hand, then, it is by virtue of its general character, as being expenditure of human labour-power in the abstract, that spinning adds new value to the values of the cotton and the spindle; and on the other hand, it is by virtue of its special character, as being a concrete, useful process, that the same labour of spinning both transfers the values of the means of production to the product, and preserves them in the product. Hence at one and the same time there is produced a two-fold result.

By the simple addition of a certain quantity of labour, new value is added, and by the quality of this added labour, the original values of the means of production are preserved in the product. This two-fold effect, resulting from the two-fold character of labour, may be traced in various phenomena.

Let us assume, that some invention enables the spinner to spin as much cotton in 6 hours as he was able to spin before in 36 hours. His labour is now six times as effective as it was, for the purposes of useful production. The product of 6 hours' work has increased six-fold, from 6 lbs. to 36 lbs. But now the 36 lbs. of cotton absorb only the same amount of labour as formerly did the 6 lbs. One-sixth as much new labour is absorbed by each pound of cotton, and consequently, the value added by the labour to each pound is only one-sixth of what it formerly was. On the other hand, in the product, in the 36 lbs. of yarn, the value transferred from the cotton is six times as great as before. By the 6 hours' spinning, the value of the raw material preserved and transferred to the product is six times as great as before, although the new value added by the labour of the spinner to each pound of the very same raw material is one-sixth what it was formerly. This shows that the two properties of labour, by virtue of which it is enabled in one case to preserve value, and in the other to create value, are essentially different. On the one hand, the longer the time necessary to spin a given weight of cotton into yarn, the greater is the new value added to the material; on the other hand, the greater the weight of the cotton spun in a given time, the greater is the value preserved, by being transferred from it to the product.

Let us now assume, that the productiveness of the spinner's labour, instead of varying, remains constant, that he therefore requires the same time as he formerly did, to convert one pound of cotton into yarn, but that the exchange-value of the cotton varies, either by rising to six times its former value or falling to one-sixth of that value. In both these cases, the spinner puts the same quantity of labour into a pound of cotton, and therefore adds as much value, as he did before the change in the value: he also produces a given weight of yarn in the same time as he did before. Nevertheless, the value that he transfers from the cotton to the yarn is either one-sixth of what it was before the variation, or, as the case may be, six times as much as before. The same result occurs when the value of the instruments of labour rises or falls, while their useful efficacy in the process remains unaltered.

Again, if the technical conditions of the spinning process remain unchanged, and no change of value takes place in the means of production, the spinner continues to consume in equal working-times equal quantities of raw material, and equal quantities of machinery of unvarying value. The value that he preserves in the product is directly proportional to the new value that he adds to the product. In two weeks he incorporates twice as much labour, and therefore twice as much value, as in one week, and during the same time he consumes twice as much material, and wears out twice as much machinery, of double the value in each case: he therefore preserves, in the product of two weeks, twice as much value as in the product of one week. So long as the conditions of production remain the same, the more value the labourer adds by fresh labour, the more value he transfers and preserves; but he does so merely because this addition of new value takes place under conditions that have not varied and are independent of his own labour. Of course, it may be said in one sense, that the labourer preserves old value always in proportion to the quantity of

new value that he adds. Whether the value of cotton rise from one shilling to two shillings, or fall to sixpence, the workman invariably preserves in the product of one hour only one half as much value as he preserves in two hours. In like manner, if the productiveness of his own labour varies by rising or falling, he will in one hour spin either more or less cotton, as the case may be, than he did before, and will consequently preserve in the product of one hour, more or less value of cotton; but, all the same, he will preserve by two hours' labour twice as much value as he will by one.

Value exists only in articles of utility, in objects: we leave out of consideration its purely symbolical representation by tokens. (Man himself, viewed as the impersonation of labour-power, is a natural object, a thing, although a living conscious thing, and labour is the manifestation of this power residing in him.) If therefore an article loses its utility, it also loses its value. The reason why means of production do not lose their value, at the same time that they lose their use-value, is this: they lose in the labour-process the original form of their use-value, only to assume in the product the form of a new use-value. But, however important it may be to value, that it should have some object of utility to embody itself in, yet it is a matter of complete indifference what particular object serves this purpose; this we saw when treating of the metamorphosis of commodities. Hence it follows that in the labour-process the means of production transfer their value to the product only so far as along with their use-value they lose also their exchange-value. They give up to the product that value alone which they themselves lose as means of production. But in this respect the material factors of the labour-process do not all behave alike.

The coal burnt under the boiler vanishes without leaving a trace; so, too, the tallow with which the axles of wheels are greased. Dye stuffs and other auxiliary substances also vanish but re-appear as properties of the product. Raw material forms the substance of the product, but only after it has changed its form. Hence raw material and auxiliary substances lose the characteristic form with which they are clothed on entering the labour-process. It is otherwise with the instruments of labour. Tools, machines, workshops, and vessels, are of use in the labour-process, only so long as they retain their original shape, and are ready each morning to renew the process with their shape unchanged. And just as during their lifetime, that is to say, during the continued labour-process in which they serve, they retain their shape independent of the product, so, too, they do after their death. The corpses of machines, tools, workshops, &c., are always separate and distinct from the product they helped to turn out. If we now consider the case of any instrument of labour during the whole period of its service, from the day of its entry into the workshop, till the day of its banishment into the lumber room, we find that during this period its use-value has been completely consumed, and therefore its exchange-value completely transferred to the product. For instance, if a spinning machine lasts for 10 years, it is plain that during that working period its total value is gradually transferred to the product of the 10 years. The lifetime of an instrument of labour, therefore, is spent in the repetition of a greater or less number of similar operations. Its life may be compared with that of a human being. Every day brings a man 24 hours nearer to his grave: but how many days he has still to travel on that road, no man can tell accurately by merely looking at him. This difficulty, however, does not prevent life insurance offices from drawing, by means of the theory of averages, very accurate, and at the same time very profitable conclusions. So it is with the instruments of labour. It is known by experience how long on the average a machine of a particular kind will last. Suppose its use-value in the labour-process to last only six days. Then, on the average, it loses each day one-sixth of its use-value, and therefore parts with one-sixth of its value to the daily product. The wear and tear of all instruments, their daily loss of use-value, and the corresponding quantity of value they part with to the product, are accordingly calculated upon this basis.

It is thus strikingly clear, that means of production never transfer more value to the product than they themselves lose during the labour-process by the destruction of their own use-value. If such an instrument has no value to lose, if, in other words, it is not the product of human labour, it transfers no value to the product. It helps to create use-value without contributing to the formation of exchange-value. In this class are included all means of production supplied by Nature without human assistance, such as land, wind, water, metals in situ, and timber in virgin forests.

Yet another interesting phenomenon here presents itself. Suppose a machine to be worth £1,000, and to wear out in 1,000 days. Then one thousandth part of the value of the machine is daily transferred to the day's product. At the same time, though with diminishing vitality, the machine as a whole continues to take part in the labour-process. Thus it appears, that one factor of the labour-process, a means of production, continually enters as a whole into that process, while it enters into the process of the formation of value by fractions only. The difference between the two processes is here reflected in their material factors, by the same instrument of production taking part as a whole in the labour-process, while at the same time as an element in the formation of value, it enters only by fractions.<sup>2</sup>

On the other hand, a means of production may take part as a whole in the formation of value, while into the labour-process it enters only bit by bit. Suppose that in spinning cotton, the waste for every 115 lbs. used amounts to 15 lbs., which is converted, not into yarn, but into "devil's dust." Now, although this 15 lbs. of cotton never becomes a constituent element of the yarn, yet assuming this amount of waste to be normal and inevitable under average conditions of spinning, its value is just as surely transferred to the value of the yarn, as is the value of the 100 lbs. that form the substance of the yarn. The use-value of 15 lbs. of cotton must vanish into dust, before 100 lbs. of yarn can be made. The destruction of this cotton is therefore a necessary condition in the production of the yarn. And because it is a necessary condition, and for no other reason, the value of that cotton is transferred to the product. The same holds good for every kind of refuse resulting from a labour-process, so far at least as such refuse cannot be further employed as a means in the production of new and independent use-values. Such an employment of refuse may be seen in the large machine works at Manchester, where mountains of iron turnings are carted away to the foundry in the evening, in order the next morning to re-appear in the workshops as solid masses of iron.

We have seen that the means of production transfer value to the new product, so far only as during the labour-process they lose value in the shape of their old use-value. The maximum loss of value that they can suffer in the process, is plainly limited by the amount of the original value with which they came into the process, or in other words, by the labour-time necessary for their production. Therefore, the means of production can never add more value to the product than they themselves possess independently of the process in which they assist. However useful a given kind of raw material, or a machine, or other means of production may be, though it may cost £150, or, say, 500 days' labour, yet it cannot, under any circumstances, add to the value of the product more than £150. Its value is determined not by the labour-process into which it enters as a means of production, but by that out of which it has issued as a product. In the labour-process it only serves as a mere use-value, a thing with useful properties, and could not, therefore, transfer any value to the product, unless it possessed such value previously.<sup>3</sup>

While productive labour is changing the means of production into constituent elements of a new product, their value undergoes a metempsychosis. It deserts the consumed body, to occupy the newly created one. But this transmigration takes place, as it were, behind the back of the labourer. He is unable to add new labour, to create new value, without at the same time preserving old values, and this, because the labour he adds must be of a specific useful kind; and he cannot do

work of a useful kind, without employing products as the means of production of a new product, and thereby transferring their value to the new product. The property therefore which labour-power in action, living labour, possesses of preserving value, at the same time that it adds it, is a gift of Nature which costs the labourer nothing, but which is very advantageous to the capitalist inasmuch as it preserves the existing value of his capital.<sup>4</sup> So long as trade is good, the capitalist is too much absorbed in money-grubbing to take notice of this gratuitous gift of labour. A violent interruption of the labour-process by a crisis, makes him sensitively aware of it.<sup>5</sup>

As regards the means of production, what is really consumed is their use-value, and the consumption of this use-value by labour results in the product. There is no consumption of their value,<sup>6</sup> and it would therefore be inaccurate to say that it is reproduced. It is rather preserved; not by reason of any operation it undergoes itself in the process; but because the article in which it originally exists, vanishes, it is true, but vanishes into some other article. Hence, in the value of the product, there is a reappearance of the value of the means of production, but there is, strictly speaking, no reproduction of that value. That which is produced is a new use-value in which the old exchange-value reappears.<sup>7</sup>

It is otherwise with the subjective factor of the labour-process, with labour-power in action. While the labourer, by virtue of his labour being of a specialised kind that has a special object, preserves and transfers to the product the value of the means of production, he at the same time, by the mere act of working, creates each instant an additional or new value. Suppose the process of production to be stopped just when the workman has produced an equivalent for the value of his own labour-power, when, for example, by six hours' labour, he has added a value of three shillings. This value is the surplus, of the total value of the product, over the portion of its value that is due to the means of production. It is the only original bit of value formed during this process, the only portion of the value of the product created by this process. Of course, we do not forget that this new value only replaces the money advanced by the capitalist in the purchase of the labour-power, and spent by the labourer on the necessities of life. With regard to the money spent, the new value is merely a reproduction; but, nevertheless, it is an actual, and not, as in the case of the value of the means of production, only an apparent, reproduction. The substitution of one value for another, is here effected by the creation of new value.

We know, however, from what has gone before, that the labour-process may continue beyond the time necessary to reproduce and incorporate in the product a mere equivalent for the value of the labour-power. Instead of the six hours that are sufficient for the latter purpose, the process may continue for twelve hours. The action of labour-power, therefore, not only reproduces its own value, but produces value over and above it. This surplus-value is the difference between the value of the product and the value of the elements consumed in the formation of that product, in other words, of the means of production and the labour-power.

By our explanation of the different parts played by the various factors of the labour-process in the formation of the product's value, we have, in fact, disclosed the characters of the different functions allotted to the different elements of capital in the process of expanding its own value. The surplus of the total value of the product, over the sum of the values of its constituent factors, is the surplus of the expanded capital over the capital originally advanced. The means of production on the one hand, labour-power on the other, are merely the different modes of existence which the value of the original capital assumed when from being money it was transformed into the various factors of the labour-process. That part of capital then, which is represented by the means of production, by the raw material, auxiliary material and the instruments of labour does not, in the process of production, undergo any quantitative alteration of value. I therefore call it the constant part of capital, or, more shortly, *constant capital*.

On the other hand, that part of capital, represented by labour-power, does, in the process of production, undergo an alteration of value. It both reproduces the equivalent of its own value, and also produces an excess, a surplus-value, which may itself vary, may be more or less according to circumstances. This part of capital is continually being transformed from a constant into a variable magnitude. I therefore call it the variable part of capital, or, shortly, *variable capital*. The same elements of capital which, from the point of view of the labour-process, present themselves respectively as the objective and subjective factors, as means of production and labour-power, present themselves, from the point of view of the process of creating surplus-value, as constant and variable capital.

The definition of constant capital given above by no means excludes the possibility of a change of value in its elements. Suppose the price of cotton to be one day sixpence a pound, and the next day, in consequence of a failure of the cotton crop, a shilling a pound. Each pound of the cotton bought at sixpence, and worked up after the rise in value, transfers to the product a value of one shilling; and the cotton already spun before the rise, and perhaps circulating in the market as yarn, likewise transfers to the product twice its original value. It is plain, however, that these changes of value are independent of the increment or surplus-value added to the value of the cotton by the spinning itself. If the old cotton had never been spun, it could, after the rise, be resold at a shilling a pound instead of at sixpence. Further, the fewer the processes the cotton has gone through, the more certain is this result. We therefore find that speculators make it a rule when such sudden changes in value occur, to speculate in that material on which the least possible quantity of labour has been spent: to speculate, therefore, in yarn rather than in cloth, in cotton itself, rather than in yarn. The change of value in the case we have been considering, originates, not in the process in which the cotton plays the part of a means of production, and in which it therefore functions as constant capital, but in the process in which the cotton itself is produced. The value of a commodity, it is true, is determined by the quantity of labour contained in it, but this quantity is itself limited by social conditions. If the time socially necessary for the production of any commodity alters – and a given weight of cotton represents, after a bad harvest, more labour than after a good one – all previously existing commodities of the same class are affected, because they are, as it were, only individuals of the species,<sup>8</sup> and their value at any given time is measured by the labour socially necessary, *i.e.*, by the labour necessary for their production under the then existing social conditions.

As the value of the raw material may change, so, too, may that of the instruments of labour, of the machinery, &c., employed in the process; and consequently that portion of the value of the product transferred to it from them, may also change. If in consequence of a new invention, machinery of a particular kind can be produced by a diminished expenditure of labour, the old machinery becomes depreciated more or less, and consequently transfers so much less value to the product. But here again, the change in value originates outside the process in which the machine is acting as a means of production. Once engaged in this process, the machine cannot transfer more value than it possesses apart from the process.

Just as a change in the value of the means of production, even after they have commenced to take a part in the labour-process, does not alter their character as constant capital, so, too, a change in the proportion of constant to variable capital does not affect the respective functions of these two kinds of capital. The technical conditions of the labour-process may be revolutionised to such an extent, that where formerly ten men using ten implements of small value worked up a relatively small quantity of raw material, one man may now, with the aid of one expensive machine, work up one hundred times as much raw material. In the latter case we have an enormous increase in the constant capital, that is represented by the total value of the means of production used, and at

the same time a great reduction in the variable capital, invested in labour-power. Such a revolution, however, alters only the quantitative relation between the constant and the variable capital, or the proportions in which the total capital is split up into its constant and variable constituents; it has not in the least degree affected the essential difference between the two.

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<sup>1</sup> “Labour gives a new creation for one extinguished.” (“An Essay on the Polit. Econ. of Nations,” London, 1821, p. 13.)

<sup>2</sup> The subject of repairs of the implements of labour does not concern us here. A machine that is undergoing repair, no longer plays the part of an instrument, but that of a subject of labour. Work is no longer done with it, but upon it. It is quite permissible for our purpose to assume, that the labour expended on the repairs of instruments is included in the labour necessary for their original production. But in the text we deal with that wear and tear, which no doctor can cure, and which little by little brings about death, with “that kind of wear which cannot be repaired from time to time, and which, in the case of a knife, would ultimately reduce it to a state in which the cutler would say of it, it is not worth a new blade.” We have shewn in the text, that a machine takes part in every labour-process as an integral machine, but that into the simultaneous process of creating value it enters only bit by bit. How great then is the confusion of ideas exhibited in the following extract! “Mr. Ricardo says a portion of the labour of the engineer in making [stocking] machines” is contained for example in the value of a pair of stockings. “Yet the total labour, that produced each single pair of stockings ... includes the whole labour of the engineer, not a portion; for one machine makes many pairs, and none of those pairs could have been done without any part of the machine.” “Obs. on Certain Verbal Disputes in Pol. Econ., Particularly Relating to Value,” p. 54. The author, an uncommonly self-satisfied wisacre, is right in his confusion and therefore in his contention, to this extent only, that neither Ricardo nor any other economist, before or since him, has accurately distinguished the two aspects of labour, and still less, therefore, the part played by it under each of these aspects in the formation of value.

<sup>3</sup> From this we may judge of the absurdity of J. B. Say, who pretends to account for surplus-value (Interest, Profit, Rent), by the “services productifs” which the means of production, soil, instruments, and raw material, render in the labour-process by means of their use-values. Mr. Wm. Roscher who seldom loses an occasion of registering, in black and white, ingenious apologetic fancies, records the following specimen: - “J. B. Say (Traité, t. 1, ch. 4) very truly remarks: the value produced by an oil mill, after deduction of all costs, is something new, something quite different from the labour by which the oil mill itself was erected.” (l.c., p. 82, note.) Very true, Mr. Professor! the oil produced by the oil mill is indeed something very different from the labour expended in constructing the mill! By value, Mr. Roscher understands such stuff as “oil,” because oil has value, notwithstanding that “Nature” produces petroleum, though relatively “in small quantities,” a fact to which he seems to refer in his further observation: “It (Nature) produces scarcely any exchange-value.” Mr. Roscher’s “Nature” and the exchange-value it produces are rather like the foolish virgin who admitted indeed that she had had a child, but “it was such a little one.” This “savant sérieux” in continuation remarks: “Ricardo’s school is in the habit of including capital as accumulated labour under the head of labour. This is unskilful work, because, indeed, the owner of capital, after all, does something more than the merely creating and preserving of the same: namely, the abstention from the enjoyment of it, for which he demands, e.g., interest.” (l.c.) How very “skilful” is this “anatomico-physiological method” of Political Economy, which, “indeed,” converts a mere desire “after all” into a source of value.

<sup>4</sup> “Of all the instruments of the farmers’ trade, the labour of man ... is that on which he is most to rely for the repayment of his capital. The other two ... the working stock of the cattle and the ... carts, ploughs, spades, and so forth, without a given portion of the first, are nothing at all.” (Edmund Burke: “Thoughts and Details on Scarcity, originally presented to the Right Hon. W. Pitt, in the month of November 1795,” Edit. London, 1800, p. 10.)

<sup>5</sup> In *The Times* of 26th November, 1862, a manufacturer, whose mill employed 800 hands, and consumed, on the average, 150 bales of East Indian, or 130 bales of American cotton, complains, in doleful manner, of the standing expenses of his factory when not working. He estimates them at £6,000 a year. Among them are a number of items that do not concern us here, such as rent, rates, and taxes, insurance, salaries of the manager, book-keeper, engineer, and others. Then he reckons £150 for coal used to heat the mill occasionally, and run the engine now and then. Besides this, he includes the wages of the people employed at odd times to keep the machinery in working order. Lastly, he puts down £1,200 for depreciation of machinery, because “the weather and the natural principle of decay do not suspend their operations because the steam-engine ceases to revolve.” He says, emphatically, he does not estimate his depreciation at more than the small sum of £1,200, because his machinery is already nearly worn out.

<sup>6</sup> “Productive consumption ... where the consumption of a commodity is a part of the process of production. ... In these instances there is no consumption of value.” (S. P. Newman, l.c., p. 296.)

<sup>7</sup> In an American compendium that has gone through, perhaps, 20 editions, this passage occurs: “It matters not in what form capital re-appears;” then after a lengthy enumeration of all the possible ingredients of production whose value re-appears in the product, the passage concludes thus: “The various kinds of food, clothing, and shelter, necessary for the existence and comfort of the human being, are also changed. They are consumed from time to time, and their value re-appears in that new vigour imparted to his body and mind, forming fresh capital, to be employed again in the work of production.” (F. Wayland, l.c., pp. 31, 32.) Without noticing any other oddities, it suffices to observe, that what re-appears in the fresh vigour, is not the bread’s price, but its bloodforming substances. What, on the other hand, re-appears in the value of that vigour, is not the means of subsistence, but their value. The same necessities of life, at half the price, would form just as much muscle and bone, just as much vigour, but not vigour of the same value. This confusion of “value” and “vigour” coupled with our author’s pharisaical indefiniteness, mark an attempt, futile for all that, to thrash out an explanation of surplus-value from a mere re-appearance of pre-existing values.

<sup>8</sup> “Toutes les productions d’un même genre ne forment proprement qu’une masse, dont le prix se détermine en général et sans égard aux circonstances particulières.” (Le Trosne, l.c., p. 893.) [“Properly speaking, all products of the same kind form a single mass, and their price is determined in general and without regard to particular circumstances.”]



# Chapter 9: The Rate of Surplus-Value

## Section 1: The Degree of Exploitation of Labour-Power

The surplus-value generated in the process of production by C, the capital advanced, or in other words, the self-expansion of the value of the capital C, presents itself for our consideration, in the first place, as a surplus, as the amount by which the value of the product exceeds the value of its constituent elements.

The capital C is made up of two components, one, the sum of money  $c$  laid out upon the means of production, and the other, the sum of money  $v$  expended upon the labour-power;  $c$  represents the portion that has become constant capital, and  $v$  the portion that has become variable capital. At first then,  $C = c + v$ : for example, if £500 is the capital advanced, its components may be such that the £500 = £410 const. + £90 var. When the process of production is finished, we get a commodity whose value =  $(c + v) + s$ , where  $s$  is the surplus-value; or taking our former figures, the value of this commodity may be (£410 const. + £90 var.) + £90 surpl. The original capital has now changed from C to C', from £500 to £590. The difference is  $s$  or a surplus-value of £90. Since the value of the constituent elements of the product is equal to the value of the advanced capital, it is mere tautology to say, that the excess of the value of the product over the value of its constituent elements, is equal to the expansion of the capital advanced or to the surplus-value produced.

Nevertheless, we must examine this tautology a little more closely. The two things compared are, the value of the product and the value of its constituents consumed in the process of production. Now we have seen how that portion of the constant capital which consists of the instruments of labour, transfers to the production only a fraction of its value, while the remainder of that value continues to reside in those instruments. Since this remainder plays no part in the formation of value, we may at present leave it on one side. To introduce it into the calculation would make no difference. For instance, taking our former example,  $c = £410$ : suppose this sum to consist of £312 value of raw material, £44 value of auxiliary material, and £54 value of the machinery worn away in the process; and suppose that the total value of the machinery employed is £1,054. Out of this latter sum, then, we reckon as advanced for the purpose of turning out the product, the sum of £54 alone, which the machinery loses by wear and tear in the process; for this is all it parts with to the product. Now if we also reckon the remaining £1,000, which still continues in the machinery, as transferred to the product, we ought also to reckon it as part of the value advanced, and thus make it appear on both sides of our calculation.<sup>1</sup> We should, in this way, get £1,500 on one side and £1,590 on the other. The difference of these two sums, or the surplus-value, would still be £90. Throughout this Book therefore, by constant capital advanced for the production of value, we always mean, unless the context is repugnant thereto, the value of the means of production actually consumed in the process, and that value alone.

This being so, let us return to the formula  $C = c + v$ , which we saw was transformed into  $C' = (c + v) + s$ , C becoming C'. We know that the value of the constant capital is transferred to, and merely re-appears in the product. The new value actually created in the process, the value produced, or value-product, is therefore not the same as the value of the product; it is not, as it would at first sight appear  $(c + v) + s$  or £410 const. + £90 var. + £90 surpl.; but  $v + s$  or £90 var. + £90 surpl., not £590 but £180. If  $c = 0$ , or in other words, if there were branches of industry in which the capitalist could dispense with all means of production made by previous labour, whether they be raw material, auxiliary material, or instruments of labour, employing only

labour-power and materials supplied by Nature, in that case, there would be no constant capital to transfer to the product. This component of the value of the product, *i.e.*, the £410 in our example, would be eliminated, but the sum of £180, the amount of new value created, or the value produced, which contains £90 of surplus-value, would remain just as great as if  $c$  represented the highest value imaginable. We should have  $C = (0 + v) = v$  or  $C'$  the expanded capital  $= v + s$  and therefore  $C' - C = s$  as before. On the other hand, if  $s = 0$ , or in other words, if the labour-power, whose value is advanced in the form of variable capital, were to produce only its equivalent, we should have  $C = c + v$  or  $C'$  the value of the product  $= (c + v) + 0$  or  $C = C'$ . The capital advanced would, in this case, not have expanded its value.

From what has gone before, we know that surplus-value is purely the result of a variation in the value of  $v$ , of that portion of the capital which is transformed into labour-power; consequently,  $v + s = v + v'$ , or  $v$  plus an increment of  $v$ . But the fact that it is  $v$  alone that varies, and the conditions of that variation, are obscured by the circumstance that in consequence of the increase in the variable component of the capital, there is also an increase in the sum total of the advanced capital. It was originally £500 and becomes £590. Therefore in order that our investigation may lead to accurate results, we must make abstraction from that portion of the value of the product, in which constant capital alone appears, and consequently must equate the constant capital to zero or make  $c = 0$ . This is merely an application of a mathematical rule, employed whenever we operate with constant and variable magnitudes, related to each other by the symbols of addition and subtraction only.

A further difficulty is caused by the original form of the variable capital. In our example,  $C' = £410 \text{ const.} + £90 \text{ var.} + £90 \text{ surpl.}$ ; but £90 is a given and therefore a constant quantity; hence it appears absurd to treat it as variable. But in fact, the term £90 var. is here merely a symbol to show that this value undergoes a process. The portion of the capital invested in the purchase of labour-power is a definite quantity of materialised labour, a constant value like the value of the labour-power purchased. But in the process of production the place of the £90 is taken by the labour-power in action, dead labour is replaced by living labour, something stagnant by something flowing, a constant by a variable. The result is the reproduction of  $v$  plus an increment of  $v$ . From the point of view then of capitalist production, the whole process appears as the spontaneous variation of the originally constant value, which is transformed into labour-power. Both the process and its result, appear to be owing to this value. If, therefore, such expressions as “£90 variable capital,” or “so much self-expanding value,” appear contradictory, this is only because they bring to the surface a contradiction immanent in capitalist production.

At first sight it appears a strange proceeding, to equate the constant capital to zero. Yet it is what we do every day. If, for example, we wish to calculate the amount of England's profits from the cotton industry, we first of all deduct the sums paid for cotton to the United States, India, Egypt and other countries; in other words, the value of the capital that merely re-appears in the value of the product, is put  $= 0$ .

Of course the ratio of surplus-value not only to that portion of the capital from which it immediately springs, and whose change of value it represents, but also to the sum total of the capital advanced is economically of very great importance. We shall, therefore, in the third book, treat of this ratio exhaustively. In order to enable one portion of a capital to expand its value by being converted into labour-power, it is necessary that another portion be converted into means of production. In order that variable capital may perform its function, constant capital must be advanced in proper proportion, a proportion given by the special technical conditions of each labour-process. The circumstance, however, that retorts and other vessels, are necessary to a chemical process, does not compel the chemist to notice them in the result of his analysis. If we

look at the means of production, in their relation to the creation of value, and to the variation in the quantity of value, apart from anything else, they appear simply as the material in which labour-power, the value-creator, incorporates itself. Neither the nature, nor the value of this material is of any importance. The only requisite is that there be a sufficient supply to absorb the labour expended in the process of production. That supply once given, the material may rise or fall in value, or even be, as land and the sea, without any value in itself; but this will have no influence on the creation of value or on the variation in the quantity of value.<sup>2</sup>

In the first place then we equate the constant capital to zero. The capital advanced is consequently reduced from  $c + v$  to  $v$ , and instead of the value of the product  $(c + v) + s$  we have now the value produced  $(v + s)$ . Given the new value produced = £180, which sum consequently represents the whole labour expended during the process, then subtracting from it £90 the value of the variable capital, we have remaining £90, the amount of the surplus-value. This sum of £90 or  $s$  expresses the absolute quantity of surplus-value produced. The relative quantity produced, or the increase per cent of the variable capital, is determined, it is plain, by the ratio of the surplus-value to the variable capital, or is expressed by  $s/v$ . In our example this ratio is 90/90, which gives an increase of 100%. This relative increase in the value of the variable capital, or the relative magnitude of the surplus-value, I call, "The rate of surplus-value."<sup>3</sup>

We have seen that the labourer, during one portion of the labour-process, produces only the value of his labour-power, that is, the value of his means of subsistence. Now since his work forms part of a system, based on the social division of labour, he does not directly produce the actual necessities which he himself consumes; he produces instead a particular commodity, yarn for example, whose value is equal to the value of those necessities or of the money with which they can be bought. The portion of his day's labour devoted to this purpose, will be greater or less, in proportion to the value of the necessities that he daily requires on an average, or, what amounts to the same thing, in proportion to the labour-time required on an average to produce them. If the value of those necessities represent on an average the expenditure of six hours' labour, the workman must on an average work for six hours to produce that value. If instead of working for the capitalist, he worked independently on his own account, he would, other things being equal, still be obliged to labour for the same number of hours, in order to produce the value of his labour-power, and thereby to gain the means of subsistence necessary for his conservation or continued reproduction. But as we have seen, during that portion of his day's labour in which he produces the value of his labour-power, say three shillings, he produces only an equivalent for the value of his labour-power already advanced<sup>4</sup> by the capitalist; the new value created only replaces the variable capital advanced. It is owing to this fact, that the production of the new value of three shillings takes the semblance of a mere reproduction. That portion of the working day, then, during which this reproduction takes place, I call "*necessary*" labour time, and the labour expended during that time I call "*necessary*" labour.<sup>5</sup> Necessary, as regards the labourer, because independent of the particular social form of his labour; necessary, as regards capital, and the world of capitalists, because on the continued existence of the labourer depends their existence also.

During the second period of the labour-process, that in which his labour is no longer necessary labour, the workman, it is true, labours, expends labour-power; but his labour, being no longer necessary labour, he creates no value for himself. He creates surplus-value which, for the capitalist, has all the charms of a creation out of nothing. This portion of the working day, I name surplus labour-time, and to the labour expended during that time, I give the name of surplus labour. It is every bit as important, for a correct understanding of surplus-value, to conceive it as a mere congelation of surplus labour-time, as nothing but materialised surplus labour, as it is, for a

proper comprehension of value, to conceive it as a mere congelation of so many hours of labour, as nothing but materialised labour. The essential difference between the various economic forms of society, between, for instance, a society based on slave-labour, and one based on wage-labour, lies only in the mode in which this surplus labour is in each case extracted from the actual producer, the labourer.<sup>6</sup>

Since, on the one hand, the values of the variable capital and of the labour-power purchased by that capital are equal, and the value of this labour-power determines the necessary portion of the working day; and since, on the other hand, the surplus-value is determined by the surplus portion of the working day, it follows that surplus-value bears the same ratio to variable capital, that surplus labour does to necessary labour, or in other words, the rate of surplus-value,  $s/v = (\text{surplus labour})/(\text{necessary labour})$ . Both ratios,  $s/v$  and  $(\text{surplus labour})/(\text{necessary labour})$ , express the same thing in different ways; in the one case by reference to materialised, incorporated labour, in the other by reference to living, fluent labour.

The rate of surplus-value is therefore an exact expression for the degree of exploitation of labour-power by capital, or of the labourer by the capitalist.<sup>7</sup>

We assumed in our example, that the value of the product = £410 const. + £90 var. + £90 surpl., and that the capital advanced = £500. Since the surplus-value = £90, and the advanced capital = £500, we should, according to the usual way of reckoning, get as the rate of surplus-value (generally confounded with rate of profits) 18%, a rate so low as possibly to cause a pleasant surprise to Mr. Carey and other harmonisers. But in truth, the rate of surplus-value is not equal to  $s/C$  or  $s/(c+v)$ , but to  $s/v$ : thus it is not 90/500 but 90/90 or 100%, which is more than five times the apparent degree of exploitation. Although, in the case we have supposed, we are ignorant of the actual length of the working day, and of the duration in days or weeks of the labour-process, as also of the number of labourers employed, yet the rate of surplus-value  $s/v$  accurately discloses to us, by means of its equivalent expression, surplus labour/necessary labour the relation between the two parts of the working day. This relation is here one of equality, the rate being 100%. Hence, it is plain, the labourer, in our example, works one half of the day for himself, the other half for the capitalist.

The method of calculating the rate of surplus-value is therefore, shortly, as follows. We take the total value of the product and put the constant capital which merely re-appears in it, equal to zero. What remains, is the only value that has, in the process of producing the commodity, been actually created. If the amount of surplus-value be given, we have only to deduct it from this remainder, to find the variable capital. And *vice versâ*, if the latter be given, and we require to find the surplus-value. If both be given, we have only to perform the concluding operation, viz., to calculate  $s/v$ , the ratio of the surplus-value to the variable capital.

Though the method is so simple, yet it may not be amiss, by means of a few examples, to exercise the reader in the application of the novel principles underlying it.

First we will take the case of a spinning mill containing 10,000 mule spindles, spinning No. 32 yarn from American cotton, and producing 1 lb. of yarn weekly per spindle. We assume the waste to be 6%: under these circumstances 10,600 lbs. of cotton are consumed weekly, of which 600 lbs. go to waste. The price of the cotton in April, 1871, was 7¾d. per lb.; the raw material therefore costs in round numbers £342. The 10,000 spindles, including preparation-machinery, and motive power, cost, we will assume, £1 per spindle, amounting to a total of £10,000. The wear and tear we put at 10%, or £1,000 yearly = £20 weekly. The rent of the building we suppose to be £300 a year, or £6 a week. Coal consumed (for 100 horse-power indicated, at 4 lbs. of coal per horse-power per hour during 60 hours, and inclusive of that consumed in heating the mill), 11 tons a week at 8s. 6d. a ton, amounts to about £4½ a week: gas, £1 a week, oil, &c., £4½ a week.

Total cost of the above auxiliary materials, £10 weekly. Therefore the constant portion of the value of the week's product is £378. Wages amount to £52 a week. The price of the yarn is  $12\frac{1}{4}$ d. per. lb. which gives for the value of 10,000 lbs. the sum of £510. The surplus-value is therefore in this case  $£510 - £430 = £80$ . We put the constant part of the value of the product = 0, as it plays no part in the creation of value. There remains £132 as the weekly value created, which = £52 var. + £80 surpl. The rate of surplus-value is therefore  $80/52 = 153\frac{11}{13}\%$ . In a working day of 10 hours with average labour the result is: necessary labour =  $3\frac{31}{33}$  hours, and surplus labour =  $6\frac{2}{33}$ .<sup>8</sup>

One more example. Jacob gives the following calculation for the year 1815. Owing to the previous adjustment of several items it is very imperfect; nevertheless for our purpose it is sufficient. In it he assumes the price of wheat to be 8s. a quarter, and the average yield per acre to be 22 bushels.

VALUE PRODUCED PER ACRE			
Seed	£1 9s. 0d.	Tithes, Rates, and taxes,	£1 1s. 0d.
Manure	£2 10s. 0d.	Rent	£1 8s. 0d.
Wages	£3 10s. 0d.	Farmer's Profit and Interest	£1 2s. 0d.
TOTAL	£7 9s. 0d.	TOTAL	£3 11s 0d.

Assuming that the price of the product is the same as its value, we here find the surplus-value distributed under the various heads of profit, interest, rent, &c. We have nothing to do with these in detail; we simply add them together, and the sum is a surplus-value of £3 11s. 0d. The sum of £3 19s. 0d., paid for seed and manure, is constant capital, and we put it equal to zero. There is left the sum of £3 10s. 0d., which is the variable capital advanced: and we see that a new value of £3 10s. 0d + £3 11s. 0d. has been produced in its place. Therefore  $s/v = £3\ 11s.\ 0d. / £3\ 10s.\ 0d.$ , giving a rate of surplus-value of more than 100%. The labourer employs more than one half of his working day in producing the surplus-value, which different persons, under different pretexts, share amongst themselves.<sup>9</sup>

## Section 2: The Representation of the Components of the Value of the Product by Corresponding Proportional Parts of the Product Itself

Let us now return to the example by which we were shown how the capitalist converts money into capital.

The product of a working day of 12 hours is 20 lbs. of yarn, having a value of 30s. No less than  $\frac{8}{10}$ ths of this value, or 24s., is due to mere re-appearance in it, of the value of the means of production (20 lbs. of cotton, value 20s., and spindle worn away, 4s.): it is therefore constant capital. The remaining  $\frac{2}{10}$ ths or 6s. is the new value created during the spinning process: of this one half replaces the value of the day's labour-power, or the variable capital, the remaining half constitutes a surplus-value of 3s. The total value then of the 20 lbs. of yarn is made up as follows:  
30s. value of yarn = 24s. const. + 3s. var. + 3s. surpl.

Since the whole of this value is contained in the 20 lbs. of yarn produced, it follows that the various component parts of this value, can be represented as being contained respectively in corresponding parts of the product.

If the value of 30s. is contained in 20 lbs. of yarn, then 8/10ths of this value, or the 24s. that form its constant part, is contained in 8/10ths of the product or in 16 lbs. of yarn. Of the latter 13 1/3 lbs. represent the value of the raw material, the 20s. worth of cotton spun, and 2 2/3 lbs. represent the 4s. worth of spindle, &c., worn away in the process.

Hence the whole of the cotton used up in spinning the 20 lbs. of yarn, is represented by 13 1/3 lbs. of yarn. This latter weight of yarn contains, it is true, by weight, no more than 13 1/3 lbs. of cotton, worth 13 1/3 shillings; but the 6 2/3 shillings additional value contained in it, are the equivalent for the cotton consumed in spinning the remaining 6 2/3 lbs. of yarn. The effect is the same as if these 6 2/3 lbs. of yarn contained no cotton at all, and the whole 20 lbs. of cotton were concentrated in the 13 1/3 lbs. of yarn. The latter weight, on the other hand, does not contain an atom either of the value of the auxiliary materials and implements, or of the value newly created in the process.

In the same way, the 2 2/3 lbs. of yarn, in which the 4s., the remainder of the constant capital, is embodied, represents nothing but the value of the auxiliary materials and instruments of labour consumed in producing the 20 lbs. of yarn.

We have, therefore, arrived at this result: although eight-tenths of the product, or 16 lbs. of yarn, is, in its character of an article of utility, just as much the fabric of the spinner's labour, as the remainder of the same product, yet when viewed in this connexion, it does not contain, and has not absorbed any labour expended during the process of spinning. It is just as if the cotton had converted itself into yarn, without help; as if the shape it had assumed was mere trickery and deceit: for so soon as our capitalist sells it for 24s., and with the money replaces his means of production, it becomes evident that this 16 lbs. of yarn is nothing more than so much cotton and spindle-waste in disguise.

On the other hand, the remaining 2/10ths of the product, or 4 lbs of yarn, represent nothing but the new value of 6s., created during the 12 hours' spinning process. All the value transferred to those 4 lbs, from the raw material and instruments of labour consumed, was, so to say, intercepted in order to be incorporated in the 16 lbs. first spun. In this case, it is as if the spinner had spun 4 lbs. of yarn out of air, or, as if he had spun them with the aid of cotton and spindles, that, being the spontaneous gift of Nature, transferred no value to the product.

Of this 4 lbs. of yarn, in which the whole of the value newly created during the process, is condensed, one half represents the equivalent for the value of the labour consumed, or the 3s. variable capital, the other half represents the 3s. surplus-value.

Since 12 working-hours of the spinner are embodied in 6s., it follows that in yarn of the value of 30s., there must be embodied 60 working-hours. And this quantity of labour-time does in fact exist in the 20 lbs of yarn; for in 8/10ths or 16 lbs there are materialised the 48 hours of labour expended, before the commencement of the spinning process, on the means of production; and in the remaining 2/10ths or 4 lbs there are materialised the 12 hours' work done during the process itself.

On a former page we saw that the value of the yarn is equal to the sum of the new value created during the production of that yarn plus the value previously existing in the means of production.

It has now been shown how the various component parts of the value of the product, parts that differ functionally from each other, may be represented by corresponding proportional parts of the product itself.

To split up in this manner the product into different parts, of which one represents only the labour previously spent on the means of production, or the constant capital, another, only the necessary labour spent during the process of production, or the variable capital, and another and last part,

only the surplus labour expended during the same process, or the surplus-value; to do this, is, as will be seen later on from its application to complicated and hitherto unsolved problems, no less important than it is simple.

In the preceding investigation we have treated the total product as the final result, ready for use, of a working day of 12 hours. We can however follow this total product through all the stages of its production; and in this way we shall arrive at the same result as before, if we represent the partial products, given off at the different stages, as functionally different parts of the final or total product.

The spinner produces in 12 hours 20 lbs. of yarn, or in 1 hour  $1\frac{2}{3}$  lbs; consequently he produces in 8 hours  $13\frac{2}{3}$  lbs., or a partial product equal in value to all the cotton that is spun in a whole day. In like manner the partial product of the next period of 1 hour and 36 minutes, is  $2\frac{2}{3}$  lbs. of yarn: this represents the value of the instruments of labour that are consumed in 12 hours. In the following hour and 12 minutes, the spinner produces 2 lbs. of yarn worth 3 shillings, a value equal to the whole value he creates in his 6 hours' necessary labour. Finally, in the last hour and 12 minutes he produces another 2 lbs. of yarn, whose value is equal to the surplus-value, created by his surplus labour during half a day. This method of calculation serves the English manufacturer for every-day use; it shows, he will say, that in the first 8 hours, or  $\frac{2}{3}$  of the working day, he gets back the value of his cotton; and so on for the remaining hours. It is also a perfectly correct method: being in fact the first method given above with this difference, that instead of being applied to space, in which the different parts of the completed product lie side by side, it deals with time, in which those parts are successively produced. But it can also be accompanied by very barbarian notions, more especially in the heads of those who are as much interested, practically, in the process of making value beget value, as they are in misunderstanding that process theoretically. Such people may get the notion into their heads, that our spinner, for example, produces or replaces in the first 8 hours of his working day the *value* of the cotton; in the following hour and 36 minutes the *value* of the instruments of labour worn away; in the next hour and 12 minutes the *value* of the wages; and that he devotes to the production of surplus-value for the manufacturer, only that well known "last hour." In this way the poor spinner is made to perform the two-fold miracle not only of producing cotton, spindles, steam-engine, coal, oil, &c., at the same time that he spins with them, but also of turning one working day into five; for, in the example we are considering, the production of the raw material and instruments of labour demands four working days of twelve hours each, and their conversion into yarn requires another such day. That the love of lucre induces an easy belief in such miracles, and that sycophant doctrinaires are never wanting to prove them, is vouched for by the following incident of historical celebrity.

### Section 3: Senior's "Last Hour"

One fine morning, in the year 1836, Nassau W. Senior, who may be called the bel-esprit of English economists, well known, alike for his economic "science," and for his beautiful style, was summoned from Oxford to Manchester, to learn in the latter place, the Political Economy that he taught in the former. The manufacturers elected him as their champion, not only against the newly passed Factory Act, but against the still more menacing Ten-hours' agitation. With their usual practical acuteness, they had found out that the learned Professor "wanted a good deal of finishing;" it was this discovery that caused them to write for him. On his side the Professor has embodied the lecture he received from the Manchester manufacturers, in a pamphlet, entitled: "Letters on the Factory Act, as it affects the cotton manufacture." London, 1837. Here we find, amongst others, the following edifying passage:

“Under the present law, no mill in which persons under 18 years of age are employed, ... can be worked more than  $11\frac{1}{2}$  hours a day, that is, 12 hours for 5 days in the week, and nine on Saturday.

“Now the following analysis (!) will show that in a mill so worked, the whole net profit is derived *from the last hour*. I will suppose a manufacturer to invest £100,000: – £80,000 in his mill and machinery, and £20,000 in raw material and wages. The annual return of that mill, supposing the capital to be turned once a year, and gross profits to be 15 per cent., ought to be goods worth £115,000.... Of this £115,000, each of the twenty-three half-hours of work produces  $\frac{5}{23}$  or one twenty-third. Of these 23-23rds (constituting the whole £115,000) twenty, that is to say £100,000 out of the £115,000, simply replace the capital; – one twenty-third (or £5,000 out of the £115,000) makes up for the deterioration of the mill and machinery. The remaining 2-23rds, that is, the last two of the twenty-three half-hours of every day, produce the net profit of 10 per cent. If, therefore (prices remaining the same), the factory could be kept at work thirteen hours instead of eleven and a half, with an addition of about £2,600 to the circulating capital, the net profit would be more than doubled. On the other hand, if the hours of working were reduced by one hour per day (prices remaining the same), the *net* profit would be destroyed – if they were reduced by one hour and a half, even the *gross* profit would be destroyed.”<sup>10</sup>

And the Professor calls this an “analysis!” If, giving credence to the out-cries of the manufacturers, he believed that the workmen spend the best part of the day in the production, i.e., the reproduction or replacement of the value of the buildings, machinery, cotton, coal, &c., then his analysis was superfluous. His answer would simply have been: – Gentlemen! if you work your mills for 10 hours instead of  $11\frac{1}{2}$ , then, other things being equal, the daily consumption of cotton, machinery, &c., will decrease in proportion. You gain just as much as you lose. Your work-people will in future spend one hour and a half less time in reproducing or replacing the capital that has been advanced. – If, on the other hand, he did not believe them without further inquiry, but, as being an expert in such matters, deemed an analysis necessary, then he ought, in a question that is concerned exclusively with the relations of net profit to the length of the working day, before all things to have asked the manufacturers, to be careful not to lump together machinery, workshops, raw material, and labour, but to be good enough to place the constant capital, invested in buildings, machinery, raw material, &c., on one side of the account, and the capital advanced in wages on the other side. If the Professor then found, that in accordance with the calculation of the manufacturers, the workman reproduced or replaced his wages in 2 half-hours, in that case, he should have continued his analysis thus:

According to your figures, the workman in the last hour but one produces his wages, and in the last hour your surplus-value or net profit. Now, since in equal periods he produces equal values, the produce of the last hour but one, must have the same value as that of the last hour. Further, it is only while he labours that he produces any value at all, and the amount of his labour is measured by his labour-time. This you say, amounts to  $11\frac{1}{2}$  hours a day. He employs one portion of these  $11\frac{1}{2}$  hours, in producing or replacing his wages, and the remaining portion in producing your net profit. Beyond this he does absolutely nothing. But since, on your assumption, his wages, and the surplus-value he yields, are of equal value, it is clear that he produces his wages in  $5\frac{3}{4}$  hours, and your net profit in the other  $5\frac{3}{4}$  hours. Again, since the value of the yarn produced in 2 hours, is equal to the sum of the values of his wages and of your net profit, the measure of the value of this yarn must be  $11\frac{1}{2}$  working-hours, of which  $5\frac{3}{4}$  hours measure the value of the yarn



produced in the last hour but one, and  $5\frac{3}{4}$ , the value of the yarn produced in the last hour. We now come to a ticklish point; therefore, attention! The last working-hour but one is, like the first, an ordinary working-hour, neither more nor less. How then can the spinner produce in one hour, in the shape of yarn, a value that embodies  $5\frac{3}{4}$  hours' labour? The truth is that he performs no such miracle. The use-value produced by him in one hour, is a definite quantity of yarn. The value of this yarn is measured by  $5\frac{3}{4}$  working-hours, of which  $4\frac{3}{4}$  were, without any assistance from him, previously embodied in the means of production, in the cotton, the machinery, and so on; the remaining one hour alone is added by him. Therefore since his wages are produced in  $5\frac{3}{4}$  hours, and the yarn produced in one hour also contains  $5\frac{3}{4}$  hours' work, there is no witchcraft in the result, that the value created by his  $5\frac{3}{4}$  hours' spinning, is equal to the value of the product spun in one hour. You are altogether on the wrong track, if you think that he loses a single moment of his working day, in reproducing or replacing the values of the cotton, the machinery, and so on. On the contrary, it is because his labour converts the cotton and spindles into yarn, because he spins, that the values of the cotton and spindles go over to the yarn of their own accord. This result is owing to the quality of his labour, not to its quantity. It is true, he will in one hour transfer to the yarn more value, in the shape of cotton, than he will in half an hour; but that is only because in one hour he spins up more cotton than in half an hour. You see then, your assertion, that the workman produces, in the last hour but one, the value of his wages, and in the last hour your net profit, amounts to no more than this, that in the yarn produced by him in 2 working-hours, whether they are the 2 first or the 2 last hours of the working day, in that yarn, there are incorporated  $11\frac{1}{2}$  working-hours, or just a whole day's work, *i.e.*, two hours of his own work and  $9\frac{1}{2}$  hours of other people's. And my assertion that, in the first  $5\frac{3}{4}$  hours, he produces his wages, and in the last  $5\frac{3}{4}$  hours your net profit, amounts only to this, that you pay him for the former, but not for the latter. In speaking of payment of labour, instead of payment of labour-power, I only talk your own slang. Now, gentlemen, if you compare the working-time you pay for, with that which you do not pay for, you will find that they are to one another, as half a day is to half a day; this gives a rate of 100%, and a very pretty percentage it is. Further, there is not the least doubt, that if you make your "hands" toil for 13 hours, instead of  $11\frac{1}{2}$ , and, as may be expected from you, treat the work done in that extra one hour and a half, as pure surplus labour, then the latter will be increased from  $5\frac{3}{4}$  hours' labour to  $7\frac{1}{4}$  hours' labour, and the rate of surplus-value from 100% to  $126\frac{2}{23}\%$ . So that you are altogether too sanguine, in expecting that by such an addition of  $1\frac{1}{2}$  hours to the working day, the rate will rise from 100% to 200% and more, in other words that it will be "more than doubled." On the other hand – man's heart is a wonderful thing, especially when carried in the purse – you take too pessimist a view, when you fear, that with a reduction of the hours of labour from  $11\frac{1}{2}$  to 10, the whole of your net profit will go to the dogs. Not at all. All other conditions remaining the same, the surplus labour will fall from  $5\frac{3}{4}$  hours to  $4\frac{3}{4}$  hours, a period that still gives a very profitable rate of surplus-value, namely  $82\frac{14}{23}\%$ . But this dreadful "last hour," about which you have invented more stories than have the millenarians about the day of judgment, is "all bosh." If it goes, it will cost neither you, your net profit, nor the boys and girls whom you employ, their "purity of mind."<sup>11</sup> Whenever your "last hour" strikes in earnest, think of the Oxford Professor. And now, gentlemen, "farewell, and may we meet again in yonder better world, but not before."

Senior invented the battle cry of the "last hour" in 1836.<sup>12</sup> In the London *Economist* of the 15th April, 1848, the same cry was again raised by James Wilson, an economic mandarin of high standing: this time in opposition to the 10 hours' bill.

## Section 4: Surplus-Produce

The portion of the product that represents the surplus-value, (one tenth of the 20 lbs., or 2 lbs. of yarn, in the example given in Sec. 2) we call “surplus-produce.” Just as the rate of surplus-value is determined by its relation, not to the sum total of the capital, but to its variable part; in like manner, the relative quantity of surplus-produce is determined by the ratio that this produce bears, not to the remaining part of the total product, but to that part of it in which is incorporated the necessary labour. Since the production of surplus-value is the chief end and aim of capitalist production, it is clear, that the greatness of a man’s or a nation’s wealth should be measured, not by the absolute quantity produced, but by the relative magnitude of the surplus-produce.<sup>13</sup>

The sum of the necessary labour and the surplus labour, *i.e.*, of the periods of time during which the workman replaces the value of his labour-power, and produces the surplus-value, this sum constitutes the actual time during which he works, *i.e.*, the working day.

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<sup>1</sup> “If we reckon the value of the fixed capital employed as a part of the advances, we must reckon the remaining value of such capital at the end of the year as a part of the annual returns.” (Malthus, “Princ. of Pol. Econ.” 2nd. ed., Lond., 1836, p. 269.)

<sup>2</sup> What Lucretius says is self-evident; “nil posse creari de nihilo,” out of nothing, nothing can be created. Creation of value is transformation of labour-power into labour. Labour-power itself is energy transferred to a human organism by means of nourishing matter.

<sup>3</sup> In the same way that the English use the terms “rate of profit,” “rate of interest.” We shall see, in Book III, that the rate of profit is no mystery, so soon as we know the laws of surplus-value. If we reverse the process, we cannot comprehend either the one or the other.

<sup>4</sup> *Note added in the 3rd German edition.* — The author resorts here to the economic language in current use. It will be remembered that on p. 182 (present edition, p. 174) it was shown that in reality the labourer “advances” to the capitalist and not the capitalist to the labourer. — *F. E.*

<sup>5</sup> In this work, we have, up to now, employed the term “necessary labour-time,” to designate the time necessary under given social conditions for the production of any commodity. Henceforward we use it to designate also the time necessary for the production of the particular commodity labour-power. The use of one and the same technical term in different senses is inconvenient, but in no science can it be altogether avoided. Compare, for instance, the higher with the lower branches of mathematics.

<sup>6</sup> Herr Wilhelm Thucydides Roscher has found a mare’s nest. He has made the important discovery that if, on the one hand, the formation of surplus-value, or surplus-produce, and the consequent accumulation of capital, is now-a-days due to the thrift of the capitalist, on the other hand, in the lowest stages of civilisation it is the strong who compel the weak to economise. (*l.c.*, p. 78.) To economise what? Labour? Or superfluous wealth that does not exist? What is it that makes such men as Roscher account for the origin of surplus-value, by a mere rechauffé of the more or less plausible excuses by the capitalist, for his appropriation of surplus-value? It is, besides their real ignorance, their apologetic dread of a scientific analysis of value and surplus-value, and of obtaining a result, possibly not altogether palatable to the powers that be.

<sup>7</sup> Although the rate of surplus-value is an exact expression for the degree of exploitation of labour-power, it is, in no sense, an expression for the absolute amount of exploitation. For example, if the necessary labour = 5 hours and the surplus labour = 5 hours, the degree of exploitation is 100%. The amount of exploitation is here measured by 5 hours. If, on the other hand, the necessary labour = 6 hours and the surplus labour = 6 hours, the degree of exploitation remains, as before, 100%, while the actual amount of exploitation has increased 20%, namely from five hours to six.

<sup>8</sup> The above data, which may be relied upon, were given me by a Manchester spinner. In England the horse-power of an engine was formerly calculated from the diameter of its cylinder, now the actual horse-power shown by the indicator is taken.

<sup>9</sup> The calculations given in the text are intended merely as illustrations. We have in fact, assumed that prices = values. We shall, however, see, in Book III., that even in the case of average prices the assumption cannot be made in this very simple manner.

<sup>10</sup> Senior, l.c., pp. 12, 13. We let pass such extraordinary notions as are of no importance for our purpose; for instance, the assertion, that manufacturers reckon as part of their profit, gross or net, the amount required to make good wear and tear of machinery, or in other words, to replace a part of the capital. So, too, we pass over any question as to the accuracy of his figures. Leonard Horner has shown in "A Letter to Mr. Senior," &c., London, 1837, that they are worth no more than so-called "Analysis." Leonard Horner was one of the Factory Inquiry Commissioners in 1833, and Inspector, or rather Censor of Factories till 1859. He rendered undying service to the English working-class. He carried on a life-long contest, not only with the embittered manufacturers, but also with the Cabinet, to whom the number of votes given by the masters in the Lower House, was a matter of far greater importance than the number of hours worked by the "hands" in the mills.

Apart from efforts in principle, Senior's statement is confused. What he really intended to say was this: The manufacturer employs the workman for 11½ hours or for 23 half-hours daily. As the working day, so, too, the working year, may be conceived to consist of 11½ hours or 23 half-hours, but each multiplied by the number of working days in the year. On this supposition, the 23 half-hours yield an annual product of £115,000; one half-hour yields  $\frac{1}{23} \times £115,000$ ; 20 half-hours yield  $\frac{20}{23} \times £115,000 = £100,000$ , i.e., they replace no more than the capital advanced. There remain 3 half-hours, which yield  $\frac{1}{23} \times £115,000 = £5,000$  or the gross profit. Of these 3 half-hours, one yields  $\frac{1}{23} \times £115,000 = £5,000$ ; i.e., it makes up for the wear and tear of the machinery; the remaining 2 half-hours, i.e., the last hour, yield  $\frac{2}{23} \times £115,000 = £10,000$  or the net profit. In the text Senior converts the last  $\frac{2}{23}$  of the product into portions of the working day itself.

<sup>11</sup> If, on the one hand, Senior proved that the net profit of the manufacturer, the existence of the English cotton industry, and England's command of the markets of the world, depend on "the last working-hour," on the other hand, Dr. Andrew Ure showed, that if children and young persons under 18 years of age, instead of being kept the full 12 hours in the warm and pure moral atmosphere of the factory, are turned out an hour sooner into the heartless and frivolous outer world, they will be deprived, by idleness and vice, of all hope of salvation for their souls. Since 1848, the factory inspectors have never tired of twitting the masters with this "last," this "fatal hour." Thus Mr. Hovell in his report of the 21st May, 1855: "Had the following ingenious calculation (he quotes Senior) been correct, every cotton factory in the United Kingdom would have been working at a loss since the year 1850." (Reports of the Insp. of Fact., for the half-year, ending 30th April, 1855, pp. 19, 20.) In the year 1848, after the passing of the 10 hours' bill, the masters of some flax spinning mills, scattered, few and far between, over the country on the borders of Dorset and Somerset, foisted a petition against the bill on to the shoulders of a few of their work-people. One of the clauses of this petition is as follows: "Your petitioners, as parents, conceive that an additional hour of leisure will tend more to demoralise the children than otherwise, believing that idleness is the parent of vice." On this the factory report of 31st Oct., 1848, says: The atmosphere of the flax mills, in which the children of these virtuous and tender parents work, is so loaded with dust and fibre from the raw material, that it is exceptionally unpleasant to stand even 10 minutes in the spinning rooms: for you are unable to do so without the most painful sensation, owing to the eyes, the ears, the nostrils, and mouth, being immediately filled by the clouds of flax dust from which there is no escape. The labour itself, owing to the feverish haste of the machinery, demands unceasing application of skill and movement, under the control of a watchfulness that never tires, and it seems somewhat hard, to let parents apply the term

“idling” to their own children, who, after allowing for meal-times, are fettered for 10 whole hours to such an occupation, in such an atmosphere.... These children work longer than the labourers in the neighbouring villages.... Such cruel talk about “idleness and vice” ought to be branded as the purest cant, and the most shameless hypocrisy.... That portion of the public, who, about 12 years ago, were struck by the assurance with which, under the sanction of high authority, it was publicly and most earnestly proclaimed, that the whole net profit of the manufacturer flows from the labour of the last hour, and that, therefore, the reduction of the working day by one hour, would destroy his net profit, that portion of the public, we say, will hardly believe its own eyes, when it now finds, that the original discovery of the virtues of “the last hour” has since been so far improved, as to include morals as well as profit; so that, if the duration of the labour of children, is reduced to a full 10 hours, their morals, together with the net profits of their employers, will vanish, both being dependent on this last, this fatal hour. (See Repts., Insp. of Fact., for 31st Oct., 1848, p. 101.) The same report then gives some examples of the morality and virtue of these same pure-minded manufacturers, of the tricks, the artifices, the cajoling, the threats, and the falsifications, they made use of, in order, first, to compel a few defenceless workmen to sign petitions of such a kind, and then to impose them upon Parliament as the petitions of a whole branch of industry, or a whole country. It is highly characteristic of the present status of so-called economic science, that neither Senior himself, who, at a later period, to his honour be it said, energetically supported the factory legislation, nor his opponents, from first to last, have ever been able to explain the false conclusions of the “original discovery.” They appeal to actual experience, but the why and wherefore remains a mystery.

<sup>12</sup> Nevertheless, the learned professor was not without some benefit from his journey to Manchester. In the “Letters on the Factory Act,” he makes the whole net gains including “profit” and “interests” and even “something more,” depend upon a single unpaid hour’s work of the labourer. One year previously, in his “Outlines of Political Economy,” written for the instruction of Oxford students and cultivated Philistines, he had also “discovered, in opposition to Ricardo’s determination of value by labour, that profit is derived from the labour of the capitalist, and interest from his asceticism, in other words, from his abstinence.” The dodge was an old one, but the word “abstinence” was new. Herr Roscher translates it rightly by “Enthaltung.” Some of his countrymen, the Browns, Jones, and Robinsons, of Germany, not so well versed in Latin as he, have, monk-like, rendered it by “Entsagung” (renunciation).

<sup>13</sup> “To an individual with a capital of £20,000, whose profits were £2,000 per annum, it would be a matter quite indifferent whether his capital would employ a 100 or 1,000 men, whether the commodity produced sold for £10,000 or £20,000, provided, in all cases, his profit were not diminished below £2,000. Is not the real interest of the nation similar? Provided its net real income, its rent and profits, be the same, it is of no importance whether the nation consists of 10 or of 12 millions of inhabitants.” (Ric. l.c., p. 416.) Long before Ricardo, Arthur Young, a fanatical upholder of surplus-produce, for the rest, a rambling, uncritical writer, whose reputation is in the inverse ratio of his merit, says, “Of what use, in a modern kingdom, would be a whole province thus divided [in the old Roman manner, by small independent peasants], however well cultivated, except for the mere purpose of breeding men, which taken singly is a most useless purpose?” (Arthur Young: “Political Arithmetic, &c.” London, 1774, p. 47.)

Very curious is “the strong inclination... to represent net wealth as beneficial to the labouring class... though it is evidently not on account of being net.” (Th. Hopkins, “On Rent of Land, &c.” London, 1828, p. 126.)

# Chapter 10: The Working day

## Section 1: The Limits of the Working day

We started with the supposition that labour-power is bought and sold at its value. Its value, like that of all other commodities, is determined by the working-time necessary to its production. If the production of the average daily means of subsistence of the labourer takes up 6 hours, he must work, on the average, 6 hours every day, to produce his daily labour-power, or to reproduce the value received as the result of its sale. The necessary part of his working day amounts to 6 hours, and is, therefore, *caeteris paribus* [other things being equal], a given quantity. But with this, the extent of the working day itself is not yet given.

Let us assume that the line A—B represents the length of the necessary working-time, say 6 hours. If the labour be prolonged 1, 3, or 6 hours beyond A—B, we have 3 other lines:

Working day I.	Working day II.	Working day III.
A—B—C.	A—B—C.	A—B—C.

representing 3 different working days of 7, 9, and 12 hours. The extension B—C of the line A—B represents the length of the surplus labour. As the working day is A—B + B—C or A—C, it varies with the variable quantity B—C. Since A—B is constant, the ratio of B—C to A—B can always be calculated. In working day I, it is 1/6, in working day II, 3/6, in working day III 6/6 of A—B. Since further the ratio (surplus working-time)/(necessary working-time), determines the rate of the surplus-value, the latter is given by the ratio of B—C to A—B. It amounts in the 3 different working days respectively to 16 2/3, 50 and 100 per cent. On the other hand, the rate of surplus-value alone would not give us the extent of the working day. If this rate, *e.g.*, were 100 per cent., the working day might be of 8, 10, 12, or more hours. It would indicate that the 2 constituent parts of the working day, necessary-labour and surplus labour time, were equal in extent, but not how long each of these two constituent parts was.

The working day is thus not a constant, but a variable quantity. One of its parts, certainly, is determined by the working-time required for the reproduction of the labour-power of the labourer himself. But its total amount varies with the duration of the surplus labour. The working day is, therefore, determinable, but is, *per se*, indeterminate.<sup>1</sup>

Although the working day is not a fixed, but a fluent quantity, it can, on the other hand, only vary within certain limits. The minimum limit is, however, not determinable; of course, if we make the extension line B—C or the surplus labour = 0, we have a minimum limit, *i.e.*, the part of the day which the labourer must necessarily work for his own maintenance. On the basis of capitalist production, however, this necessary labour can form a part only of the working day; the working day itself can never be reduced to this minimum. On the other hand, the working day has a maximum limit. It cannot be prolonged beyond a certain point. This maximum limit is conditioned by two things. First, by the physical bounds of labour-power. Within the 24 hours of the natural day a man can expend only a definite quantity of his vital force. A horse, in like manner, can only work from day to day, 8 hours. During part of the day this force must rest, sleep; during another part the man has to satisfy other physical needs, to feed, wash, and clothe himself. Besides these purely physical limitations, the extension of the working day encounters moral ones. The labourer needs time for satisfying his intellectual and social wants, the extent and number of which are conditioned by the general state of social advancement. The variation of the working day fluctuates, therefore, within physical and social bounds. But both these limiting

conditions are of a very elastic nature, and allow the greatest latitude. So we find working days of 8, 10, 12, 14, 16, 18 hours, i.e., of the most different lengths.

The capitalist has bought the labour-power at its day-rate. To him its use-value belongs during one working day. He has thus acquired the right to make the labourer work for him during one day. But, what is a working day? <sup>2</sup>

At all events, less than a natural day. By how much? The capitalist has his own views of this *ultima Thule* [the outermost limit], the necessary limit of the working day. As capitalist, he is only capital personified. His soul is the soul of capital. But capital has one single life impulse, the tendency to create value and surplus-value, to make its constant factor, the means of production, absorb the greatest possible amount of surplus labour. <sup>3</sup>

Capital is dead labour, that, vampire-like, only lives by sucking living labour, and lives the more, the more labour it sucks. The time during which the labourer works, is the time during which the capitalist consumes the labour-power he has purchased of him. <sup>4</sup>

If the labourer consumes his disposable time for himself, he robs the capitalist. <sup>5</sup>

The capitalist then takes his stand on the law of the exchange of commodities. He, like all other buyers, seeks to get the greatest possible benefit out of the use-value of his commodity. Suddenly the voice of the labourer, which had been stifled in the storm and stress of the process of production, rises:

The commodity that I have sold to you differs from the crowd of other commodities, in that its use creates value, and a value greater than its own. That is why you bought it. That which on your side appears a spontaneous expansion of capital, is on mine extra expenditure of labour-power. You and I know on the market only one law, that of the exchange of commodities. And the consumption of the commodity belongs not to the seller who parts with it, but to the buyer, who acquires it. To you, therefore, belongs the use of my daily labour-power. But by means of the price that you pay for it each day, I must be able to reproduce it daily, and to sell it again. Apart from natural exhaustion through age, &c., I must be able on the morrow to work with the same normal amount of force, health and freshness as to-day. You preach to me constantly the gospel of "saving" and "abstinence." Good! I will, like a sensible saving owner, husband my sole wealth, labour-power, and abstain from all foolish waste of it. I will each day spend, set in motion, put into action only as much of it as is compatible with its normal duration, and healthy development. By an unlimited extension of the working day, you may in one day use up a quantity of labour-power greater than I can restore in three. What you gain in labour I lose in substance. The use of my labour-power and the spoliation of it are quite different things. If the average time that (doing a reasonable amount of work) an average labourer can live, is 30 years, the value of my labour-power, which you pay me from day to day is  $1/(365 \times 30)$  or  $1/10950$  of its total value. But if you consume it in 10 years, you pay me daily  $1/10950$  instead of  $1/3650$  of its total value, i.e., only  $1/3$  of its daily value, and you rob me, therefore, every day of  $2/3$  of the value of my commodity. You pay me for one day's labour-power, whilst you use that of 3 days. That is against our contract and the law of exchanges. I demand, therefore, a working day of normal length, and I demand it without any appeal to your heart, for in money matters sentiment is out of place. You may be a model citizen, perhaps a member of the Society for the Prevention of Cruelty to Animals, and in the odour of sanctity to boot; but the thing that you represent face to face with me has no heart in its breast. That which seems to throb there is my own heart-beating. I demand the normal working day because I, like every other seller, demand the value of my commodity. <sup>6</sup>

We see then, that, apart from extremely elastic bounds, the nature of the exchange of commodities itself imposes no limit to the working day, no limit to surplus labour. The capitalist

maintains his rights as a purchaser when he tries to make the working day as long as possible, and to make, whenever possible, two working days out of one. On the other hand, the peculiar nature of the commodity sold implies a limit to its consumption by the purchaser, and the labourer maintains his right as seller when he wishes to reduce the working day to one of definite normal duration. There is here, therefore, an antinomy, right against right, both equally bearing the seal of the law of exchanges. Between equal rights force decides. Hence is it that in the history of capitalist production, the determination of what is a working day, presents itself as the result of a struggle, a struggle between collective capital, *i.e.*, the class of capitalists, and collective labour, *i.e.*, the working-class.

## Section 2: The Greed for Surplus-Labour. Manufacturer and Boyard

Capital has not invented surplus labour. Wherever a part of society possesses the monopoly of the means of production, the labourer, free or not free, must add to the working-time necessary for his own maintenance an extra working-time in order to produce the means of subsistence for the owners of the means of production<sup>7</sup>, whether this proprietor be the Athenian *χάλος γαχαθος* [well-to-do man], Etruscan theocrat, *civis Romanus* [Roman citizen], Norman baron, American slave-owner, Wallachian Boyard, modern landlord or capitalist.<sup>8</sup> It is, however, clear that in any given economic formation of society, where not the exchange-value but the use-value of the product predominates, surplus labour will be limited by a given set of wants which may be greater or less, and that here no boundless thirst for surplus labour arises from the nature of the production itself. Hence in antiquity over-work becomes horrible only when the object is to obtain exchange-value in its specific independent money-form; in the production of gold and silver. Compulsory working to death is here the recognised form of over-work. Only read Diodorus Siculus.<sup>9</sup> Still these are exceptions in antiquity. But as soon as people, whose production still moves within the lower forms of slave-labour, *corvée*-labour, &c., are drawn into the whirlpool of an international market dominated by the capitalistic mode of production, the sale of their products for export becoming their principal interest, the civilised horrors of over-work are grafted on the barbaric horrors of slavery, serfdom, &c. Hence the negro labour in the Southern States of the American Union preserved something of a patriarchal character, so long as production was chiefly directed to immediate local consumption. But in proportion, as the export of cotton became of vital interest to these states, the over-working of the negro and sometimes the using up of his life in 7 years of labour became a factor in a calculated and calculating system. It was no longer a question of obtaining from him a certain quantity of useful products. It was now a question of production of surplus labour itself: So was it also with the *corvée*, e.g., in the Danubian Principalities (now Roumania).

The comparison of the greed for surplus labour in the Danubian Principalities with the same greed in English factories has a special interest, because surplus labour in the *corvée* has an independent and palpable form.

Suppose the working day consists of 6 hours of necessary labour, and 6 hours of surplus labour. Then the free labourer gives the capitalist every week 6 x 6 or 36 hours of surplus labour. It is the same as if he worked 3 days in the week for himself, and 3 days in the week gratis for the capitalist. But this is not evident on the surface. Surplus labour and necessary labour glide one into the other. I can, therefore, express the same relationship by saying, e.g., that the labourer in every minute works 30 seconds for himself, and 30 for the capitalist, etc. It is otherwise with the *corvée*. The necessary labour which the Wallachian peasant does for his own maintenance is

distinctly marked off from his surplus labour on behalf of the Boyard. The one he does on his own field, the other on the seignorial estate. Both parts of the labour-time exist, therefore, independently, side by side one with the other. In the *corvée* the surplus labour is accurately marked off from the necessary labour. This, however, can make no difference with regard to the quantitative relation of surplus labour to necessary labour. Three days' surplus labour in the week remain three days that yield no equivalent to the labourer himself, whether it be called *corvée* or wage-labour. But in the capitalist the greed for surplus labour appears in the straining after an unlimited extension of the working day, in the Boyard more simply in a direct hunting after days of *corvée*.<sup>10</sup>

In the Danubian Principalities the *corvée* was mixed up with rents in kind and other appurtenances of bondage, but it formed the most important tribute paid to the ruling class. Where this was the case, the *corvée* rarely arose from serfdom; serfdom much more frequently on the other hand took origin from the *corvée*.<sup>11</sup> This is what took place in the Roumanian provinces. Their original mode of production was based on community of the soil, but not in the Slavonic or Indian form. Part of the land was cultivated in severalty as freehold by the members of the community, another part – *ager publicus* – was cultivated by them in common. The products of this common labour served partly as a reserve fund against bad harvests and other accidents, partly as a public store for providing the costs of war, religion, and other common expenses. In course of time military and clerical dignitaries usurped, along with the common land, the labour spent upon it. The labour of the free peasants on their common land was transformed into *corvée* for the thieves of the common land. This *corvée* soon developed into a servile relationship existing in point of fact, not in point of law, until Russia, the liberator of the world, made it legal under presence of abolishing serfdom. The code of the *corvée*, which the Russian General Kisseleff proclaimed in 1831, was of course dictated by the Boyards themselves. Thus Russia conquered with one blow the magnates of the Danubian provinces, and the applause of liberal cretins throughout Europe.

According to the “*Règlement organique*,” as this code of the *corvée* is called, every Wallachian peasant owes to the so-called landlord, besides a mass of detailed payments in kind: (1), 12 days of general labour; (2), one day of field labour; (3), one day of wood carrying. In all, 14 days in the year. With deep insight into Political Economy, however, the working day is not taken in its ordinary sense, but as the working day necessary to the production of an average daily product; and that average daily product is determined in so crafty a way that no Cyclops would be done with it in 24 hours. In dry words, the *Règlement* itself declares with true Russian irony that by 12 working days one must understand the product of the manual labour of 36 days, by 1 day of field labour 3 days, and by 1 day of wood carrying in like manner three times as much. In all, 42 *corvée* days. To this had to be added the so-called *jobagie*, service due to the lord for extraordinary occasions. In proportion to the size of its population, every village has to furnish annually a definite contingent to the *jobagie*. This additional *corvée* is estimated at 14 days for each Wallachian peasant. Thus the prescribed *corvée* amounts to 56 working days yearly. But the agricultural year in Wallachia numbers in consequence of the severe climate only 210 days, of which 40 for Sundays and holidays, 30 on an average for bad weather, together 70 days, do not count. 140 working days remain. The ratio of the *corvée* to the necessary labour  $56/84$  or  $66\frac{2}{3}\%$  gives a much smaller rate of surplus-value than that which regulates the labour of the English agricultural or factory labourer. This is, however, only the legally prescribed *corvée*. And in a spirit yet more “liberal” than the English Factory Acts, the “*Règlement organique*” has known how to facilitate its own evasion. After it has made 56 days out of 12, the nominal day's work of each of the 56 *corvée* days is again so arranged that a portion of it must fall on the ensuing day. In



one day, e.g., must be weeded an extent of land, which, for this work, especially in maize plantations, needs twice as much time. The legal day's work for some kinds of agricultural labour is interpretable in such a way that the day begins in May and ends in October. In Moldavia conditions are still harder.

"The 12 corvée days of the 'Règlement organique' cried a Boyard drunk with victory, amount to 365 days in the year."<sup>12</sup>

If the *Règlement organique* of the Danubian provinces was a positive expression of the greed for surplus labour which every paragraph legalised, the English Factory Acts are the negative expression of the same greed. These acts curb the passion of capital for a limitless draining of labour-power, by forcibly limiting the working day by state regulations, made by a state that is ruled by capitalist-and landlord. Apart from the working-class movement that daily grew more threatening, the limiting of factory labour was dictated by the same necessity which spread guano over the English fields. The same blind eagerness for plunder that in the one case exhausted the soil, had, in the other, torn up by the roots the living force of the nation. Periodical epidemics speak on this point as clearly as the diminishing military standard in Germany and France.<sup>13</sup>

The Factory Act of 1850 now in force (1867) allows for the average working day 10 hours, i.e., for the first 5 days 12 hours from 6 a.m. to 6 p.m., including ½ an hour for breakfast, and an hour for dinner, and thus leaving 10½ working-hours, and 8 hours for Saturday, from 6 a.m. to 2 p.m., of which ½ an hour is subtracted for breakfast. 60 working-hours are left, 10½ for each of the first 5 days, 7½ for the last.<sup>14</sup>

Certain guardians of these laws are appointed, Factory Inspectors, directly under the Home Secretary, whose reports are published half-yearly, by order of Parliament. They give regular and official statistics of the capitalistic greed for surplus labour.

Let us listen, for a moment, to the Factory Inspectors.<sup>15</sup>

"The fraudulent mill-owner begins work a quarter of an hour (sometimes more, sometimes less) before 6 a.m., and leaves off a quarter of an hour (sometimes more, sometimes less) after 6 p.m. He takes 5 minutes from the beginning and from the end of the half hour nominally allowed for breakfast, and 10 minutes at the beginning and end of the hour nominally allowed for dinner. He works for a quarter of an hour (sometimes more, sometimes less) after 2 p.m. on Saturday. Thus his gain is –

Before 6 a.m.,	15 minutes.
After 6 p.m.,	15 "
At breakfast time,	10 "
At dinner time,	20 "
Five days – 300 minutes,	<u>60 "</u>
On Saturday before 6 a.m.,	15 minutes.
At breakfast time,	10 "
After 2 p.m.,	<u>15 "</u>
	40 minutes.
Total weekly,	340 minutes.

Or 5 hours and 40 minutes weekly, which multiplied by 50 working weeks in the year (allowing two for holidays and occasional stoppages) is equal to 27 working days."<sup>16</sup>

“Five minutes a day’s increased work, multiplied by weeks, are equal to two and a half days of produce in the year.”<sup>17</sup>

“An additional hour a day gained by small instalments before 6 a.m., after 6 p.m., and at the beginning and end of the times nominally fixed for meals, is nearly equivalent to working 13 months in the year.”<sup>18</sup>

Crises during which production is interrupted and the factories work “short time,” i.e., for only a part of the week, naturally do not affect the tendency to extend the working day. The less business there is, the more profit has to be made on the business done. The less time spent in work, the more of that time has to be turned into surplus labour-time.

Thus the Factory Inspector’s report on the period of the crisis from 1857 to 1858:

“It may seem inconsistent that there should be any overworking at a time when trade is so bad; but that very badness leads to the transgression by unscrupulous men, they get the extra profit of it. ... In the last half year, says Leonard Horner, 122 mills in my district have been given up; 143 were found standing,” yet, over-work is continued beyond the legal hours.”<sup>19</sup>

“For a great part of the time,” says Mr. Howell, “owing to the depression of trade, many factories were altogether closed, and a still greater number were working short time. I continue, however, to receive about the usual number of complaints that half, or three-quarters of an hour in the day, are snatched from the workers by encroaching upon the times professedly allowed for rest and refreshment.”<sup>20</sup>

The same phenomenon was reproduced on a smaller scale during the frightful cotton-crises from 1861 to 1865.<sup>21</sup>

“It is sometimes advanced by way of excuse, when persons are found at work in a factory, either at a meal hour, or at some illegal time, that they will not leave the mill at the appointed hour, and that compulsion is necessary to force them to cease work [cleaning their machinery, &c.], especially on Saturday afternoons. But, if the hands remain in a factory after the machinery has ceased to revolve ... they would not have been so employed if sufficient time had been set apart specially for cleaning, &c., either before 6 a.m. [*sic!*] or before 2 p.m. on Saturday afternoons.”<sup>22</sup>

“The profit to be gained by it (over-working in violation of the Act) appears to be, to many, a greater temptation than they can resist; they calculate upon the chance of not being found out; and when they see the small amount of penalty and costs, which those who have been convicted have had to pay, they find that if they should be detected there will still be a considerable balance of gain....”<sup>23</sup> In cases where the additional time is gained by a multiplication of small thefts in the course of the day, there are insuperable difficulties to the inspectors making out a case.”<sup>24</sup>

These “small thefts” of capital from the labourer’s meal and recreation time, the factory inspectors also designate as “petty pilferings of minutes,”<sup>25</sup> “snatching a few minutes,”<sup>26</sup> or, as the labourers technically called them, “nibbling and cribbling at meal-times.”<sup>27</sup>

It is evident that in this atmosphere the formation of surplus-value by surplus labour, is no secret.

“If you allow me,” said a highly respectable master to me, “to work only ten minutes in the day over-time, you put one thousand a year in my pocket.”<sup>28</sup>

“Moments are the elements of profit.”<sup>29</sup>

Nothing is from this point of view more characteristic than the designation of the workers who work full time as “full-timers,” and the children under 13 who are only allowed to work 6 hours as “half-timers.” The worker is here nothing more than personified labour-time. All individual distinctions are merged in those of “full-timers” and “half-timers”<sup>30</sup>

### Section 3: Branches of English Industry Without Legal Limits to Exploitation

We have hitherto considered the tendency to the extension of the working day, the were-wolf's hunger for surplus labour in a department where the monstrous exactions, not surpassed, says an English bourgeois economist, by the cruelties of the Spaniards to the American red-skins<sup>31</sup>, caused capital at last to be bound by the chains of legal regulations. Now, let us cast a glance at certain branches of production in which the exploitation of labour is either free from fetters to this day, or was so yesterday.

Mr. Broughton Charlton, county magistrate, declared, as chairman of a meeting held at the Assembly Rooms, Nottingham, on the 14th January, 1860, “that there was an amount of privation and suffering among that portion of the population connected with the lace trade, unknown in other parts of the kingdom, indeed, in the civilised world .... Children of nine or ten years are dragged from their squalid beds at two, three, or four o'clock in the morning and compelled to work for a bare subsistence until ten, eleven, or twelve at night, their limbs wearing away, their frames dwindling, their faces whitening, and their humanity absolutely sinking into a stone-like torpor, utterly horrible to contemplate.... We are not surprised that Mr. Mallett, or any other manufacturer, should stand forward and protest against discussion.... The system, as the Rev. Montagu Valpy describes it, is one of unmitigated slavery, socially, physically, morally, and spiritually.... What can be thought of a town which holds a public meeting to petition that the period of labour for men shall be diminished to eighteen hours a day? .... We declaim against the Virginian and Carolinian cotton-planters. Is their black-market, their lash, and their barter of human flesh more detestable than this slow sacrifice of humanity which takes place in order that veils and collars may be fabricated for the benefit of capitalists?”<sup>32</sup>

The potteries of Staffordshire have, during the last 22 years, been the subject of three parliamentary inquiries. The result is embodied in Mr. Scriven's Report of 1841 to the “Children's Employment Commissioners,” in the report of Dr. Greenhow of 1860 published by order of the medical officer of the Privy Council (Public Health, 3rd Report, 112-113), lastly, in the report of Mr. Longe of 1862 in the “First Report of the Children's Employment Commission, of the 13th June, 1863.” For my purpose it is enough to take, from the reports of 1860 and 1863, some depositions of the exploited children themselves. From the children we may form an opinion as to the adults, especially the girls and women, and that in a branch of industry by the side of which cotton-spinning appears an agreeable and healthful occupation.<sup>33</sup>

William Wood, 9 years old, was 7 years and 10 months when he began to work. He “ran moulds” (carried ready-moulded articles into the drying-room, afterwards bringing back the empty mould) from the beginning. He came to work every day in the week at 6 a.m., and left off about 9 p.m. “I work till 9 o'clock at night six days in the week. I have done so seven or eight weeks.”

Fifteen hours of labour for a child 7 years old! J. Murray, 12 years of age, says: “I turn jigger, and run moulds. I come at 6. Sometimes I come at 4. I worked all

night last night, till 6 o'clock this morning. I have not been in bed since the night before last. There were eight or nine other boys working last night. All but one have come this morning. I get 3 shillings and sixpence. I do not get any more for working at night. I worked two nights last week."

Fernyhough, a boy of ten:

"I have not always an hour (for dinner). I have only half an hour sometimes; on Thursday, Friday, and Saturday."<sup>34</sup>

Dr. Greenhow states that the average duration of life in the pottery districts of Stoke-on-Trent, and Wolstanton is extraordinarily short. Although in the district of Stoke, only 36.6% and in Wolstanton only 30.4% of the adult male population above 20 are employed in the potteries, among the men of that age in the first district more than half, in the second, nearly 2/5 of the whole deaths are the result of pulmonary diseases among the potters. Dr. Boothroyd, a medical practitioner at Hanley, says:

"Each successive generation of potters is more dwarfed and less robust than the preceding one."

In like manner another doctor, Mr. M'Bean:

"Since he began to practice among the potters 25 years ago, he had observed a marked degeneration especially shown in diminution of stature and breadth."

These statements are taken from the report of Dr. Greenhow in 1860.<sup>35</sup>

From the report of the Commissioners in 1863, the following: Dr. J. T. Arledge, senior physician of the North Staffordshire Infirmary, says:

"The potters as a class, both men and women, represent a degenerated population, both physically and morally. They are, as a rule, stunted in growth, ill-shaped, and frequently ill-formed in the chest; they become prematurely old, and are certainly short-lived; they are phlegmatic and bloodless, and exhibit their debility of constitution by obstinate attacks of dyspepsia, and disorders of the liver and kidneys, and by rheumatism. But of all diseases they are especially prone to chest-disease, to pneumonia, phthisis, bronchitis, and asthma. One form would appear peculiar to them, and is known as potter's asthma, or potter's consumption. Scrofula attacking the glands, or bones, or other parts of the body, is a disease of two-thirds or more of the potters .... That the 'degenerescence' of the population of this district is not even greater than it is, is due to the constant recruiting from the adjacent country, and intermarriages with more healthy races."<sup>36</sup>

Mr. Charles Parsons, late house surgeon of the same institution, writes in a letter to Commissioner Longe, amongst other things:

"I can only speak from personal observation and not from statistical data, but I do not hesitate to assert that my indignation has been aroused again and again at the sight of poor children whose health has been sacrificed to gratify the avarice of either parents or employers." He enumerates the causes of the diseases of the potters, and sums them up in the phrase, "long hours." The report of the Commission trusts that "a manufacture which has assumed so prominent a place in the whole world, will not long be subject to the remark that its great success is accompanied with the physical deterioration, widespread bodily suffering, and early death of the workpeople ... by whose labour and skill such great results have been achieved."<sup>37</sup>

And all that holds of the potteries in England is true of those in Scotland.<sup>38</sup>

The manufacture of lucifer matches dates from 1833, from the discovery of the method of applying phosphorus to the match itself. Since 1845 this manufacture has rapidly developed in England, and has extended especially amongst the thickly populated parts of London as well as in Manchester, Birmingham, Liverpool, Bristol, Norwich, Newcastle and Glasgow. With it has spread the form of lockjaw, which a Vienna physician in 1845 discovered to be a disease peculiar to lucifer-matchmakers. Half the workers are children under thirteen, and young persons under eighteen. The manufacture is on account of its unhealthiness and unpleasantness in such bad odour that only the most miserable part of the labouring class, half-starved widows and so forth, deliver up their children to it, "the ragged, half-starved, untaught children."<sup>39</sup>

Of the witnesses that Commissioner White examined (1863), 270 were under 18, 50 under 10, 10 only 8, and 5 only 6 years old. A range of the working day from 12 to 14 or 15 hours, night-labour, irregular meal-times, meals for the most part taken in the very workrooms that are pestilent with phosphorus. Dante would have found the worst horrors of his Inferno surpassed in this manufacture.

In the manufacture of paper-hangings the coarser sorts are printed by machine; the finer by hand (block-printing). The most active business months are from the beginning of October to the end of April. During this time the work goes on fast and furious without intermission from 6 a.m. to 10 p.m. or further into the night.

J. Leach deposes:

"Last winter six out of nineteen girls were away from ill-health at one time from over-work. I have to bawl at them to keep them awake." W. Duffy: "I have seen when the children could none of them keep their eyes open for the work; indeed, none of us could." J. Lightbourne: "Am 13 ... We worked last winter till 9 (evening), and the winter before till 10. I used to cry with sore feet every night last winter." G. Apsden: "That boy of mine when he was 7 years old I used to carry him on my back to and fro through the snow, and he used to have 16 hours a day ... I have often knelt down to feed him as he stood by the machine, for he could not leave it or stop." Smith, the managing partner of a Manchester factory: "We (he means his "hands" who work for "us") work on with no stoppage for meals, so that day's work of 10½ hours is finished by 4.30 p.m., and all after that is over-time."<sup>40</sup> (Does this Mr. Smith take no meals himself during 10½ hours?) "We (this same Smith) seldom leave off working before 6 p.m. (he means leave off the consumption of "our" labour-power machines), so that we (iterum Crispinus) are really working over-time the whole year round. For all these, children and adults alike (152 children and young persons and 140 adults), the average work for the last 18 months has been at the very least 7 days, 5 hours, or 78 1/2 hours a week. For the six weeks ending May 2nd this year (1862), the average was higher – 8 days or 84 hours a week."

Still this same Mr. Smith, who is so extremely devoted to the *pluralis majestatis* [the Royal "we," i.e., speaking on behalf of his subjects], adds with a smile, "Machine-work is not great." So the employers in the block-printing say: "Hand labour is more healthy than machine work." On the whole, manufacturers declare with indignation against the proposal "to stop the machines at least during meal-times."

"A clause," says Mr. Otley, manager of a wall-paper factory in the Borough, "which allowed work between, say 6 a.m. and 9 p.m. in would suit us (!) very well, but the factory hours, 6 a.m. to 6 p.m., are not suitable. Our machine is always stopped for dinner. (What generosity!) There is no waste of paper and

colour to speak of. But,” he adds sympathetically, “I can understand the loss of time not being liked.”

The report of the Commission opines with naïveté that the fear of some “leading firms” of losing time, *i.e.*, the time for appropriating the labour of others, and thence losing profit is not a sufficient reason for allowing children under 13, and young persons under 18, working 12 to 16 hours per day, to lose their dinner, nor for giving it to them as coal and water are supplied to the steam-engine, soap to wool, oil to the wheel – as merely auxiliary material to the instruments of labour, during the process of production itself.<sup>41</sup>

No branch of industry in England (we do not take into account the making of bread by machinery recently introduced) has preserved up to the present day a method of production so archaic, so – as we see from the poets of the Roman Empire – pre-Christian, as baking. But capital, as was said earlier, is at first indifferent as to the technical character of the labour-process; it begins by taking it just as it finds it.

The incredible adulteration of bread, especially in London, was first revealed by the House of Commons Committee “on the adulteration of articles of food” (1855-56), and Dr. Hassall’s work, “Adulterations detected.”<sup>42</sup> The consequence of these revelations was the Act of August 6th, 1860, “for preventing the adulteration of articles of food and drink,” an inoperative law, as it naturally shows the tenderest consideration for every Free-trader who determines by the buying or selling of adulterated commodities “to turn an honest penny.”<sup>43</sup> The Committee itself formulated more or less naïvely its conviction that Free-trade meant essentially trade with adulterated, or as the English ingeniously put it, “sophisticated” goods. In fact this kind of sophistry knows better than Protagoras how to make white black, and black white, and better than the Eleatics how to demonstrate *ad oculos* [before your own eyes] that everything is only appearance.<sup>44</sup>

At all events the Committee had directed the attention of the public to its “daily bread,” and therefore to the baking trade. At the same time in public meetings and in petitions to Parliament rose the cry of the London journeymen bakers against their over-work, &c. The cry was so urgent that Mr. H. S. Tremenhoe, also a member of the Commission of 1863 several times mentioned, was appointed Royal Commissioner of Inquiry. His report,<sup>45</sup> together with the evidence given, roused not the heart of the public but its stomach. Englishmen, always well up in the Bible, knew well enough that man, unless by elective grace a capitalist, or landlord, or sinecurist, is commanded to eat his bread in the sweat of his brow, but they did not know that he had to eat daily in his bread a certain quantity of human perspiration mixed with the discharge of abscesses, cobwebs, dead black-beetles, and putrid German yeast, without counting alum, sand, and other agreeable mineral ingredients. Without any regard to his holiness, Free-trade, the free baking-trade was therefore placed under the supervision of the State inspectors (Close of the Parliamentary session of 1863), and by the same Act of Parliament, work from 9 in the evening to 5 in the morning was forbidden for journeymen bakers under 18. The last clause speaks volumes as to the over-work in this old-fashioned, homely line of business.

“The work of a London journeyman baker begins, as a rule, at about eleven at night. At that hour he ‘makes the dough,’ – a laborious process, which lasts from half an hour to three quarters of an hour, according to the size of the batch or the labour bestowed upon it. He then lies down upon the kneading-board, which is also the covering of the trough in which the dough is ‘made’; and with a sack under him, and another rolled up as a pillow, he sleeps for about a couple of hours. He is then engaged in a rapid and continuous labour for about five hours – throwing out the dough, ‘scaling it off,’ moulding it, putting it into the oven,

preparing and baking rolls and fancy bread, taking the batch bread out of the oven, and up into the shop, &c., &c. The temperature of a bakehouse ranges from about 75 to upwards of 90 degrees, and in the smaller bakehouses approximates usually to the higher rather than to the lower degree of heat. When the business of making the bread, rolls, &c., is over, that of its distribution begins, and a considerable proportion of the journeymen in the trade, after working hard in the manner described during the night, are upon their legs for many hours during the day, carrying baskets, or wheeling hand-carts, and sometimes again in the bakehouse, leaving off work at various hours between 1 and 6 p.m. according to the season of the year, or the amount and nature of their master's business; while others are again engaged in the bakehouse in 'bringing out' more batches until late in the afternoon.<sup>46</sup> ... During what is called 'the London season,' the operatives belonging to the 'full-priced' bakers at the West End of the town, generally begin work at 11 p.m., and are engaged in making the bread, with one or two short (sometimes very short) intervals of rest, up to 8 o'clock the next morning. They are then engaged all day long, up to 4, 5, 6, and as late as 7 o'clock in the evening carrying out bread, or sometimes in the afternoon in the bakehouse again, assisting in the biscuit-baking. They may have, after they have done their work, sometimes five or six, sometimes only four or five hours' sleep before they begin again. On Fridays they always begin sooner, some about ten o'clock, and continue in some cases, at work, either in making or delivering the bread up to 8 p.m. on Saturday night, but more generally up to 4 or 5 o'clock, Sunday morning. On Sundays the men must attend twice or three times during the day for an hour or two to make preparations for the next day's bread.... The men employed by the underselling masters (who sell their bread under the 'full price,' and who, as already pointed out, comprise three-fourths of the London bakers) have not only to work on the average longer hours, but their work is almost entirely confined to the bakehouse. The underselling masters generally sell their bread... in the shop. If they send it out, which is not common, except as supplying chandlers' shops, they usually employ other hands for that purpose. It is not their practice to deliver bread from house to house. Towards the end of the week ... the men begin on Thursday night at 10 o'clock, and continue on with only slight intermission until late on Saturday evening."<sup>47</sup>

Even the bourgeois intellect understands the position of the "underselling" masters. "The unpaid labour of the men was made the source whereby the competition was carried on."<sup>48</sup> And the "full-priced" baker denounces his underselling competitors to the Commission of Inquiry as thieves of foreign labour and adulterators.

"They only exist now by first defrauding the public, and next getting 18 hours' work out of their men for 12 hours' wages."<sup>49</sup>

The adulteration of bread and the formation of a class of bakers that sells the bread below the full price, date from the beginning of the 18th century, from the time when the corporate character of the trade was lost, and the capitalist in the form of the miller or flour-factor, rises behind the nominal master baker.<sup>50</sup> Thus was laid the foundation of capitalistic production in this trade, of the unlimited extension of the working day and of night-labour, although the latter only since 1824 gained a serious footing, even in London.<sup>51</sup>

After what has just been said, it will be understood that the Report of the Commission classes journeymen bakers among the short-lived labourers, who, having by good luck escaped the

normal decimation of the children of the working-class, rarely reach the age of 42. Nevertheless, the baking trade is always overwhelmed with applicants. The sources of the supply of these labour-powers to London are Scotland, the western agricultural districts of England, and Germany.

In the years 1858-60, the journeymen bakers in Ireland organised at their own expense great meetings to agitate against night and Sunday work. The public – e.g., at the Dublin meeting in May, 1860 – took their part with Irish warmth. As a result of this movement, day-labour alone was successfully established in Wexford, Kilkenny, Clonmel, Waterford, &c.

“In Limerick, where the grievances of the journeymen are demonstrated to be excessive, the movement has been defeated by the opposition of the master bakers, the miller bakers being the greatest opponents. The example of Limerick led to a retrogression in Ennis and Tipperary. In Cork, where the strongest possible demonstration of feeling took place, the masters, by exercising their power of turning the men out of employment, have defeated the movement. In Dublin, the master bakers have offered the most determined opposition to the movement, and by discountenancing as much as possible the journeymen promoting it, have succeeded in leading the men into acquiescence in Sunday work and night-work, contrary to the convictions of the men.”<sup>52</sup>

The Committee of the English Government, which Government, in Ireland, is armed to the teeth, and generally knows how to show it, remonstrates in mild, though funereal, tones with the implacable master bakers of Dublin, Limerick, Cork, &c.:

“The Committee believe that the hours of labour are limited by natural laws, which cannot be violated with impunity. That for master bakers to induce their workmen, by the fear of losing employment, to violate their religious convictions and their better feelings, to disobey the laws of the land, and to disregard public opinion (this all refers to Sunday labour), is calculated to provoke ill-feeling between workmen and masters, ... and affords an example dangerous to religion, morality, and social order.... The Committee believe that any constant work beyond 12 hours a-day encroaches on the domestic and private life of the working-man, and so leads to disastrous moral results, interfering with each man’s home, and the discharge of his family duties as a son, a brother, a husband, a father. That work beyond 12 hours has a tendency to undermine the health of the workingman, and so leads to premature old age and death, to the great injury of families of working-men, thus deprived of the care and support of the head of the family when most required.”<sup>53</sup>

So far, we have dealt with Ireland. On the other side of the channel, in Scotland, the agricultural labourer, the ploughman, protests against his 13-14 hours’ work in the most inclement climate, with 4 hours’ additional work on Sunday (in this land of Sabbatarians!),<sup>54</sup> whilst, at the same time, three railway men are standing before a London coroner’s jury – a guard, an engine-driver, a signalman. A tremendous railway accident has hurried hundreds of passengers into another world. The negligence of the employee is the cause of the misfortune. They declare with one voice before the jury that ten or twelve years before, their labour only lasted eight hours a-day. During the last five or six years it had been screwed up to 14, 18, and 20 hours, and under a specially severe pressure of holiday-makers, at times of excursion trains, it often lasted for 40 or 50 hours without a break. They were ordinary men, not Cyclops. At a certain point their labour-power failed. Torpor seized them. Their brain ceased to think, their eyes to see. The thoroughly “respectable” British jurymen answered by a verdict that sent them to the next assizes on a charge



of manslaughter, and, in a gentle “rider” to their verdict, expressed the pious hope that the capitalistic magnates of the railways would, in future, be more extravagant in the purchase of a sufficient quantity of labour-power, and more “abstemious,” more “self-denying,” more “thrifty,” in the draining of paid labour-power.<sup>55</sup>

From the motley crowd of labourers of all callings, ages, sexes, that press on us more busily than the souls of the slain on Ulysses, on whom – without referring to the Blue books under their arms – we see at a glance the mark of over-work, let us take two more figures whose striking contrast proves that before capital all men are alike – a milliner and a blacksmith.

In the last week of June, 1863, all the London daily papers published a paragraph with the “sensational” heading, “Death from simple over-work.” It dealt with the death of the milliner, Mary Anne Walkley, 20 years of age, employed in a highly-respectable dressmaking establishment, exploited by a lady with the pleasant name of Elise. The old, often-told story,<sup>56</sup> was once more recounted. This girl worked, on an average, 16½ hours, during the season often 30 hours, without a break, whilst her failing labour-power was revived by occasional supplies of sherry, port, or coffee. It was just now the height of the season. It was necessary to conjure up in the twinkling of an eye the gorgeous dresses for the noble ladies bidden to the ball in honour of the newly-imported Princess of Wales. Mary Anne Walkley had worked without intermission for 26½ hours, with 60 other girls, 30 in one room, that only afforded 1/3 of the cubic feet of air required for them. At night, they slept in pairs in one of the stifling holes into which the bedroom was divided by partitions of board.<sup>57</sup> And this was one of the best millinery establishments in London. Mary Anne Walkley fell ill on the Friday, died on Sunday, without, to the astonishment of Madame Elise, having previously completed the work in hand. The doctor, Mr. Keys, called too late to the death-bed, duly bore witness before the coroner’s jury that

“Mary Anne Walkley had died from long hours of work in an over-crowded work-room, and a too small and badly ventilated bedroom.”

In order to give the doctor a lesson in good manners, the coroner’s jury thereupon brought in a verdict that

“the deceased had died of apoplexy, but there was reason to fear that her death had been accelerated by over-work in an over-crowded workroom, &c.”

“Our white slaves,” cried the *Morning Star*, the organ of the Free-traders, Cobden and Bright, “our white slaves, who are toiled into the grave, for the most part silently pine and die.”<sup>58</sup>

“It is not in dressmakers’ rooms that working to death is the order of the day, but in a thousand other places; in every place I had almost said, where ‘a thriving business’ has to be done.... We will take the blacksmith as a type. If the poets were true, there is no man so hearty, so merry, as the blacksmith; he rises early and strikes his sparks before the sun; he eats and drinks and sleeps as no other man. Working in moderation, he is, in fact, in one of the best of human positions, physically speaking. But we follow him into the city or town, and we see the stress of work on that strong man, and what then is his position in the death-rate of his country. In Marylebone, blacksmiths die at the rate of 31 per thousand per annum, or 11 above the mean of the male adults of the country in its entirety. The occupation, instinctive almost as a portion of human art, unobjectionable as a branch of human industry, is made by mere excess of work, the destroyer of the man. He can strike so many blows per day, walk so many steps, breathe so many breaths, produce so much work, and live an average, say of fifty years; he is made to strike so many more blows, to walk so many more steps, to breathe so many

more breaths per day, and to increase altogether a fourth of his life. He meets the effort; the result is, that producing for a limited time a fourth more work, he dies at 37 for 50.”<sup>59</sup>

## Section 4: Day and Night Work. The Relay System

Constant capital, the means of production, considered from the standpoint of the creation of surplus-value, only exist to absorb labour, and with every drop of labour a proportional quantity of surplus labour. While they fail to do this, their mere existence causes a relative loss to the capitalist, for they represent during the time they lie fallow, a useless advance of capital. And this loss becomes positive and absolute as soon as the intermission of their employment necessitates additional outlay at the recommencement of work. The prolongation of the working day beyond the limits of the natural day, into the night, only acts as a palliative. It quenches only in a slight degree the vampire thirst for the living blood of labour. To appropriate labour during all the 24 hours of the day is, therefore, the inherent tendency of capitalist production. But as it is physically impossible to exploit the same individual labour-power constantly during the night as well as the day, to overcome this physical hindrance, an alternation becomes necessary between the workpeople whose powers are exhausted by day, and those who are used up by night. This alternation may be effected in various ways; e.g., it may be so arranged that part of the workers are one week employed on day-work, the next week on night-work. It is well known that this relay system, this alternation of two sets of workers, held full sway in the full-blooded youth-time of the English cotton manufacture, and that at the present time it still flourishes, among others, in the cotton spinning of the Moscow district. This 24 hours' process of production exists to-day as a system in many of the branches of industry of Great Britain that are still “free,” in the blast-furnaces, forges, plate-rolling mills, and other metallurgical establishments in England, Wales, and Scotland. The working-time here includes, besides the 24 hours of the 6 working days, a great part also of the 24 hours of Sunday. The workers consist of men and women, adults and children of both sexes. The ages of the children and young persons run through all intermediate grades, from 8 (in some cases from 6) to 18.<sup>60</sup>

In some branches of industry, the girls and women work through the night together with the males.<sup>61</sup>

Placing on one side the generally injurious influence of night-labour,<sup>62</sup> the duration of the process of production, unbroken during the 24 hours, offers very welcome opportunities of exceeding the limits of the normal working day, e.g., in the branches of industry already mentioned, which are of an exceedingly fatiguing nature; the official working day means for each worker usually 12 hours by night or day. But the over-work beyond this amount is in many cases, to use the words of the English official report, “truly fearful.”<sup>63</sup>

“It is impossible,” the report continues, “for any mind to realise the amount of work described in the following passages as being performed by boys of from 9 to 12 years of age ... without coming irresistibly to the conclusion that such abuses of the power of parents and of employers can no longer be allowed to exist.”<sup>64</sup>

“The practice of boys working at all by day and night turns either in the usual course of things, or at pressing times, seems inevitably to open the door to their not unfrequently working unduly long hours. These hours are, indeed, in some cases, not only cruelly but even incredibly long for children. Amongst a number of boys it will, of course, not unfrequently happen that one or more are from some cause absent. When this happens, their place is made up by one or more boys,

who work in the other turn. That this is a well understood system is plain ... from the answer of the manager of some large rolling-mills, who, when I asked him how the place of the boys absent from their turn was made up, 'I daresay, sir, you know that as well as I do,' and admitted the fact."<sup>65</sup>

"At a rolling-mill where the proper hours were from 6 a.m. to 5½ p.m., a boy worked about four nights every week till 8½ p.m. at least ... and this for six months. Another, at 9 years old, sometimes made three 12-hour shifts running, and, when 10, has made two days and two nights running." A third, "now 10 ... worked from 6 a.m. till 12 p.m. three nights, and till 9 p.m. the other nights." "Another, now 13, ... worked from 6 p.m. till 12 noon next day, for a week together, and sometimes for three shifts together, e.g., from Monday morning till Tuesday night." "Another, now 12, has worked in an iron foundry at Stavely from 6 a.m. till 12 p.m. for a fortnight on end; could not do it any more." "George Allinsworth, age 9, came here as cellar-boy last Friday; next morning we had to begin at 3, so I stopped here all night. Live five miles off. Slept on the floor of the furnace, over head, with an apron under me, and a bit of a jacket over me. The two other days I have been here at 6 a.m. Aye! it is hot in here. Before I came here I was nearly a year at the same work at some works in the country. Began there, too, at 3 on Saturday morning – always did, but was very gain [near] home, and could sleep at home. Other days I began at 6 in the morning, and gi'en over at 6 or 7 in the evening," &c.<sup>66</sup>

Let us now hear how capital itself regards this 24 hours' system. The extreme forms of the system, its abuse in the "cruel and incredible" extension of the working day are naturally passed over in silence. Capital only speaks of the system in its "normal" form.

Messrs. Naylor & Vickers, steel manufacturers, who employ between 600 and 700 persons, among whom only 10 per cent are under 18, and of those, only 20 boys under 18 work in night sets, thus express themselves:

"The boys do not suffer from the heat. The temperature is probably from 86° to 90°.... At the forges and in the rolling mills the hands work night and day, in relays, but all the other parts of the work are day-work, *i.e.*, from 6 a.m. to 6 p.m. In the forge the hours are from 12 to 12. Some of the hands always work in the night, without any alternation of day and night work.... We do not find any difference in the health of those who work regularly by night and those who work by day, and probably people can sleep better if they have the same period of rest than if it is changed.... About 20 of the boys under the age of 18 work in the night sets.... We could not well do without lads under 18 working by night. The objection would be the increase in the cost of production.... Skilled hands and the heads in every department are difficult to get, but of lads we could get any number.... But from the small proportion of boys that we employ, the subject (*i.e.*, of restrictions on night-work) is of little importance or interest to us."<sup>67</sup>

Mr. J. Ellis, one of the firm of Messrs. John Brown & Co., steel and iron works, employing about 3,000 men and boys, part of whose operations, namely, iron and heavier steel work, goes on night and day by relays, states "that in the heavier steel work one or two boys are employed to a score or two men." Their concern employs upwards of 500 boys under 18, of whom about 1/3 or 170 are under the age of 13. With reference to the proposed alteration of the law, Mr. Ellis says:

"I do not think it would be very objectionable to require that no person under the age of 18 should work more than 12 hours in the 24. But we do not think that any

line could be drawn over the age of 12, at which boys could be dispensed with for night-work. But we would sooner be prevented from employing boys under the age of 13, or even so high as 14, at all, than not be allowed to employ boys that we do have at night. Those boys who work in the day sets must take their turn in the night sets also, because the men could not work in the night sets only; it would ruin their health.... We think, however, that night-work in alternate weeks is no harm."

(Messrs. Naylor & Vickers, on the other hand, in conformity with the interest of their business, considered that periodically changed night-labour might possibly do more harm than continual night-labour.)

"We find the men who do it, as well as the others who do other work only by day.... Our objections to not allowing boys under 18 to work at night, would be on account of the increase of expense, but this is the only reason."

(What cynical naïveté!) "We think that the increase would be more than the trade, with due regard to its being successfully carried out, could fairly bear. (What mealy-mouthed phraseology!) Labour is scarce here, and might fall short if there were such a regulation." (*i.e.*, Ellis Brown & Co. might fall into the fatal perplexity of being obliged to pay labour-power its full value.)<sup>68</sup>

The "Cyclops Steel and Iron Works," of Messrs. Cammell & Co., are concocted on the same large scale as those of the above-mentioned John Brown & Co. The managing director had handed in his evidence to the Government Commissioner, Mr. White, in writing. Later he found it convenient to suppress the MS. when it had been returned to him for revision. Mr. White, however, has a good memory. He remembered quite clearly that for the Messrs. Cyclops the forbidding of the night-labour of children and young persons "would be impossible, it would be tantamount to stopping their works," and yet their business employs little more than 6% of boys under 18, and less than 1% under 13.<sup>69</sup>

On the same subject Mr. E. F. Sanderson, of the firm of Sanderson, Bros., & Co., steel rolling-mills and forges, Attercliffe, says:

"Great difficulty would be caused by preventing boys under 18 from working at night. The chief would be the increase of cost from employing men instead of boys. I cannot say what this would be, but probably it would not be enough to enable the manufacturers to raise the price of steel, and consequently it would fall on them, as of course the men (what queer-headed folk!) would refuse to pay it."

Mr. Sanderson does not know how much he pays the children, but

"perhaps the younger boys get from 4s. to 5s. a week.... The boys' work is of a kind for which the strength of the boys is generally ('generally,' of course not always) quite sufficient, and consequently there would be no gain in the greater strength of the men to counterbalance the loss, or it would be only in the few cases in which the metal is heavy. The men would not like so well not to have boys under them, as men would be less obedient. Besides, boys must begin young to learn the trade. Leaving day-work alone open to boys would not answer this purpose."

And why not? Why could not boys learn their handicraft in the day-time? Your reason?

"Owing to the men working days and nights in alternate weeks, the men would be separated half the time from their boys, and would lose half the profit which they make from them. The training which they give to an apprentice is considered as

part of the return for the boys' labour, and thus enables the man to get it at a cheaper rate. Each man would want half of this profit."

In other words, Messrs. Sanderson would have to pay part of the wages of the adult men out of their own pockets instead of by the night-work of the boys. Messrs. Sanderson's profit would thus fall to some extent, and this is the good Sandersonian reason why boys cannot learn their handicraft in the day.<sup>70</sup> In addition to this, it would throw night-labour on those who worked instead of the boys, which they would not be able to stand. The difficulties in fact would be so great that they would very likely lead to the giving up of night-work altogether, and "as far as the work itself is concerned," says E. F. Sanderson, "this would suit as well, but –" But Messrs. Sanderson have something else to make besides steel. Steel-making is simply a pretext for surplus-value making. The smelting furnaces, rolling-mills, &c., the buildings, machinery, iron, coal, &c., have something more to do than transform themselves into steel. They are there to absorb surplus labour, and naturally absorb more in 24 hours than in 12. In fact they give, by grace of God and law, the Sandersons a cheque on the working-time of a certain number of hands for all the 24 hours of the day, and they lose their character as capital, are therefore a pure loss for the Sandersons, as soon as their function of absorbing labour is interrupted.

"But then there would be the loss from so much expensive machinery, lying idle half the time, and to get through the amount of work which we are able to do on the present system, we should have to double our premises and plant, which would double the outlay."

But why should these Sandersons pretend to a privilege not enjoyed by the other capitalists who only work during the day, and whose buildings, machinery, raw material, therefore lie "idle" during the night? E. F. Sanderson answers in the name of all the Sandersons:

"It is true that there is this loss from machinery lying idle in those manufactories in which work only goes on by day. But the use of furnaces would involve a further loss in our case. If they were kept up there would be a waste of fuel (instead of, as now, a waste of the living substance of the workers), and if they were not, there would be loss of time in laying the fires and getting the heat up (whilst the loss of sleeping time, even to children of 8 is a gain of working-time for the Sanderson tribe), and the furnaces themselves would suffer from the changes of temperature." (Whilst those same furnaces suffer nothing from the day and night change of labour.)<sup>71</sup>

## **Section 5: The Struggle for a Normal Working Day. Compulsory Laws for the Extension of the Working Day from the Middle of the 14th to the End of the 17th Century**

"What is a working day? What is the length of time during which capital may consume the labour-power whose daily value it buys? How far may the working day be extended beyond the working-time necessary for the reproduction of labour-power itself?" It has been seen that to these questions capital replies: the working day contains the full 24 hours, with the deduction of the few hours of repose without which labour-power absolutely refuses its services again. Hence it is self-evident that the labourer is nothing else, his whole life through, than labour-power, that therefore all his disposable time is by nature and law labour-time, to be devoted to the self-expansion of capital. Time for education, for intellectual development, for the fulfilling of social

functions and for social intercourse, for the free-play of his bodily and mental activity, even the rest time of Sunday (and that in a country of Sabbatarians!)<sup>72</sup> – moonshine! But in its blind unrestrainable passion, its were-wolf hunger for surplus labour, capital oversteps not only the moral, but even the merely physical maximum bounds of the working day. It usurps the time for growth, development, and healthy maintenance of the body. It steals the time required for the consumption of fresh air and sunlight. It higgles over a meal-time, incorporating it where possible with the process of production itself, so that food is given to the labourer as to a mere means of production, as coal is supplied to the boiler, grease and oil to the machinery. It reduces the sound sleep needed for the restoration, reparation, refreshment of the bodily powers to just so many hours of torpor as the revival of an organism, absolutely exhausted, renders essential. It is not the normal maintenance of the labour-power which is to determine the limits of the working day; it is the greatest possible daily expenditure of labour-power, no matter how diseased, compulsory, and painful it may be, which is to determine the limits of the labourers' period of repose. Capital cares nothing for the length of life of labour-power. All that concerns it is simply and solely the maximum of labour-power, that can be rendered fluent in a working day. It attains this end by shortening the extent of the labourer's life, as a greedy farmer snatches increased produce from the soil by robbing it of its fertility.

The capitalistic mode of production (essentially the production of surplus-value, the absorption of surplus labour), produces thus, with the extension of the working day, not only the deterioration of human labour-power by robbing it of its normal, moral and physical, conditions of development and function. It produces also the premature exhaustion and death of this labour-power itself.<sup>73</sup> It extends the labourer's time of production during a given period by shortening his actual life-time.

But the value of the labour-power includes the value of the commodities necessary for the reproduction of the worker, or for the keeping up of the working-class. If then the unnatural extension of the working day, that capital necessarily strives after in its unmeasured passion for self-expansion, shortens the length of life of the individual labourer, and therefore the duration of his labour-power, the forces used up have to be replaced at a more rapid rate and the sum of the expenses for the reproduction of labour-power will be greater; just as in a machine the part of its value to be reproduced every day is greater the more rapidly the machine is worn out. It would seem therefore that the interest of capital itself points in the direction of a normal working day.

The slave-owner buys his labourer as he buys his horse. If he loses his slave, he loses capital that can only be restored by new outlay in the slave-mart.

But "the rice-grounds of Georgia, or the swamps of the Mississippi may be fatally injurious to the human constitution; but the waste of human life which the cultivation of these districts necessitates, is not so great that it cannot be repaired from the teeming preserves of Virginia and Kentucky. Considerations of economy, moreover, which, under a natural system, afford some security for humane treatment by identifying the master's interest with the slave's preservation, when once trading in slaves is practiced, become reasons for racking to the uttermost the toil of the slave; for, when his place can at once be supplied from foreign preserves, the duration of his life becomes a matter of less moment than its productiveness while it lasts. It is accordingly a maxim of slave management, in slave-importing countries, that the most effective economy is that which takes out of the human chattel in the shortest space of time the utmost amount of exertion it is capable of putting forth. It is in tropical culture, where annual profits often equal the whole capital of plantations, that negro life is most

recklessly sacrificed. It is the agriculture of the West Indies, which has been for centuries prolific of fabulous wealth, that has engulfed millions of the African race. It is in Cuba, at this day, whose revenues are reckoned by millions, and whose planters are princes, that we see in the servile class, the coarsest fare, the most exhausting and unremitting toil, and even the absolute destruction of a portion of its numbers every year.”<sup>74</sup>

*Mutato nomine de te fabula narratur* [It is of you that the story is told – Horace]. For slave-trade read labour-market, for Kentucky and Virginia, Ireland and the agricultural districts of England, Scotland, and Wales, for Africa, Germany. We heard how over-work thinned the ranks of the bakers in London. Nevertheless, the London labour-market is always over-stocked with German and other candidates for death in the bakeries. Pottery, as we saw, is one of the shortest-lived industries. Is there any want therefore of potters? Josiah Wedgwood, the inventor of modern pottery, himself originally a common workman, said in 1785 before the House of Commons that the whole trade employed from 15,000 to 20,000 people.<sup>75</sup> In the year 1861 the population alone of the town centres of this industry in Great Britain numbered 101,302.

“The cotton trade has existed for ninety years.... It has existed for three generations of the English race, and I believe I may safely say that during that period it has destroyed nine generations of factory operatives.”<sup>76</sup>

No doubt in certain epochs of feverish activity the labour-market shows significant gaps. In 1834, *e.g.* But then the manufacturers proposed to the Poor Law Commissioners that they should send the “surplus-population” of the agricultural districts to the north, with the explanation “that the manufacturers would absorb and use it up.”<sup>77</sup>

Agents were appointed with the consent of the Poor Law Commissioners. ... An office was set up in Manchester, to which lists were sent of those workpeople in the agricultural districts wanting employment, and their names were registered in books. The manufacturers attended at these offices, and selected such persons as they chose; when they had selected such persons as their ‘wants required’, they gave instructions to have them forwarded to Manchester, and they were sent, ticketed like bales of goods, by canals, or with carriers, others tramping on the road, and many of them were found on the way lost and half-starved. This system had grown up unto a regular trade. This House will hardly believe it, but I tell them, that this traffic in human flesh was as well kept up, they were in effect as regularly sold to these [Manchester] manufacturers as slaves are sold to the cotton-grower in the United States.... In 1860, ‘the cotton trade was at its zenith.’ ... The manufacturers again found that they were short of hands.... They applied to the ‘flesh agents, as they are called. Those agents sent to the southern downs of England, to the pastures of Dorsetshire, to the glades of Devonshire, to the people tending kine in Wiltshire, but they sought in vain. The surplus-population was ‘absorbed.’”

The *Bury Guardian* said, on the completion of the French treaty, that “10,000 additional hands could be absorbed by Lancashire, and that 30,000 or 40,000 will be needed.” After the “flesh agents and sub-agents” had in vain sought through the agricultural districts,

“a deputation came up to London, and waited on the right hon. gentleman [Mr. Villiers, President of the Poor Law Board] with a view of obtaining poor children from certain union houses for the mills of Lancashire.”<sup>78</sup>

What experience shows to the capitalist generally is a constant excess of population, i.e., an excess in relation to the momentary requirements of surplus labour-absorbing capital, although this excess is made up of generations of human beings stunted, short-lived, swiftly replacing each other, plucked, so to say, before maturity.<sup>79</sup> And, indeed, experience shows to the intelligent observer with what swiftness and grip the capitalist mode of production, dating, historically speaking, only from yesterday, has seized the vital power of the people by the very root – shows how the degeneration of the industrial population is only retarded by the constant absorption of primitive and physically uncorrupted elements from the country – shows how even the country labourers, in spite of fresh air and the principle of natural selection, that works so powerfully amongst them, and only permits the survival of the strongest, are already beginning to die off.<sup>80</sup> Capital that has such good reasons for denying the sufferings of the legions of workers that surround it, is in practice moved as much and as little by the sight of the coming degradation and final depopulation of the human race, as by the probable fall of the earth into the sun. In every stockjobbing swindle every one knows that some time or other the crash must come, but every one hopes that it may fall on the head of his neighbour, after he himself has caught the shower of gold and placed it in safety. *Après moi le déluge!* [*After me, the flood*] is the watchword of every capitalist and of every capitalist nation. Hence Capital is reckless of the health or length of life of the labourer, unless under compulsion from society.<sup>81</sup> To the out-cry as to the physical and mental degradation, the premature death, the torture of over-work, it answers: Ought these to trouble us since they increase our profits? But looking at things as a whole, all this does not, indeed, depend on the good or ill will of the individual capitalist. Free competition brings out the inherent laws of capitalist production, in the shape of external coercive laws having power over every individual capitalist.<sup>82</sup>

The establishment of a normal working day is the result of centuries of struggle between capitalist and labourer. The history of this struggle shows two opposed tendencies. Compare, e.g., the English factory legislation of our time with the English labour Statutes from the 14th century to well into the middle of the 18th.<sup>83</sup> Whilst the modern Factory Acts compulsorily shortened the working day, the earlier statutes tried to lengthen it by compulsion. Of course the pretensions of capital in embryo – when, beginning to grow, it secures the right of absorbing a *quantum sufficit* [sufficient quantity] of surplus labour, not merely by the force of economic relations, but by the help of the State – appear very modest when put face to face with the concessions that, growling and struggling, it has to make in its adult condition. It takes centuries ere the “free” labourer, thanks to the development of capitalistic production, agrees, i.e., is compelled by social conditions, to sell the whole of his active life. his very capacity for work, for the price of the necessities of life, his birth-right for a mess of pottage. Hence it is natural that the lengthening of the working day, which capital, from the middle of the 14th to the end of the 17th century, tries to impose by State-measures on adult labourers, approximately coincides with the shortening of the working day which, in the second half of the 19th century, has here and there been effected by the State to prevent the coining of children’s blood into capital. That which to-day, e.g., in the State of Massachusetts, until recently the freest State of the North-American Republic, has been proclaimed as the statutory limit of the labour of children under 12, was in England, even in the middle of the 17th century, the normal working day of able-bodied artisans, robust labourers, athletic blacksmiths.<sup>84</sup>

The first “Statute of Labourers” (23 Edward III., 1349) found its immediate pretext (not its cause, for legislation of this kind lasts centuries after the pretext for it has disappeared) in the great plague that decimated the people, so that, as a Tory writer says, “The difficulty of getting men to work on reasonable terms (i.e., at a price that left their employers a reasonable quantity of surplus



labour) grew to such a height as to be quite intolerable.”<sup>85</sup> Reasonable wages were, therefore, fixed by law as well as the limits of the working day. The latter point, the only one that here interests us, is repeated in the Statute of 1496 (Henry VII.). The working day for all artificers and field labourers from March to September ought, according to this statute (which, however, could not be enforced), to last from 5 in the morning to between 7 and 8 in the evening. But the meal-times consist of 1 hour for breakfast, 1½ hours for dinner, and ½ an hour for “noon-meate,” i.e., exactly twice as much as under the factory acts now in force.<sup>86</sup> In winter, work was to last from 5 in the morning until dark, with the same intervals. A statute of Elizabeth of 1562 leaves the length of the working day for all labourers “hired for daily or weekly wage” untouched, but aims at limiting the intervals to 2½ hours in the summer, or to 2 in the winter. Dinner is only to last 1 hour, and the “afternoon-sleep of half an hour” is only allowed between the middle of May and the middle of August. For every hour of absence 1d. is to be subtracted from the wage. In practice, however, the conditions were much more favourable to the labourers than in the statute-book. William Petty, the father of Political Economy, and to some extent the founder of Statistics, says in a work that he published in the last third of the 17th century:

“Labouring-men (then meaning field-labourers) work 10 hours per diem, and make 20 meals per week, viz., 3 a day for working days, and 2 on Sundays; whereby it is plain, that if they could fast on Friday nights, and dine in one hour and an half, whereas they take two, from eleven to one; thereby thus working 1/20 more, and spending 1/20 less, the above-mentioned (tax) might be raised.”<sup>87</sup>

Was not Dr. Andrew Ure right in crying down the 12 hours’ bill of 1833 as a retrogression to the times of the dark ages? It is true these regulations contained in the statute mentioned by Petty, apply also to apprentices. But the condition of child-labour, even at the end of the 17th century, is seen from the following complaint:

“‘Tis not their practice (in Germany) as with us in this kingdom, to bind an apprentice for seven years; three or four is their common standard: and the reason is, because they are educated from their cradle to something of employment, which renders them the more apt and docile, and consequently the more capable of attaining to a ripeness and quicker proficiency in business. Whereas our youth, here in England, being bred to nothing before they come to be apprentices, make a very slow progress and require much longer time wherein to reach the perfection of accomplished artists.”<sup>88</sup>

Still, during the greater part of the 18th century, up to the epoch of Modern Industry and machinism, capital in England had not succeeded in seizing for itself, by the payment of the weekly value of labour-power, the whole week of the labourer, with the exception, however, of the agricultural labourers. The fact that they could live for a whole week on the wage of four days, did not appear to the labourers a sufficient reason that they should work the other two days for the capitalist. One party of English economists, in the interest of capital, denounces this obstinacy in the most violent manner, another party defends the labourers. Let us listen, *e.g.*, to the contest between Postlethwayt whose Dictionary of Trade then had the same reputation as the kindred works of MacCulloch and MacGregor to-day, and the author (already quoted) of the “Essay on Trade and Commerce.”<sup>89</sup>

Postlethwayt says among other things:

“We cannot put an end to those few observations, without noticing that trite remark in the mouth of too many; that if the industrious poor can obtain enough to maintain themselves in five days, they will not work the whole six. Whence they infer the necessity of even the necessities of life being made dear by taxes, or any

other means, to compel the working artisan and manufacturer to labour the whole six days in the week, without ceasing. I must beg leave to differ in sentiment from those great politicians, who contend for the perpetual slavery of the working people of this kingdom; they forget the vulgar adage, all work and no play. Have not the English boasted of the ingenuity and dexterity of her working artists and manufacturers which have heretofore given credit and reputation to British wares in general? What has this been owing to? To nothing more probably than the relaxation of the working people in their own way. Were they obliged to toil the year round, the whole six days in the week, in a repetition of the same work, might it not blunt their ingenuity, and render them stupid instead of alert and dexterous; and might not our workmen lose their reputation instead of maintaining it by such eternal slavery? ... And what sort of workmanship could we expect from such hard-driven animals? ... Many of them will execute as much work in four days as a Frenchman will in five or six. But if Englishmen are to be eternal drudges, 'tis to be feared they will degenerate below the Frenchmen. As our people are famed for bravery in war, do we not say that it is owing to good English roast beef and pudding in their bellies, as well as their constitutional spirit of liberty? And why may not the superior ingenuity and dexterity of, our artists and manufacturers, be owing to that freedom and liberty to direct themselves in their own way, and I hope we shall never have them deprived of such privileges and that good living from whence their ingenuity no less than their courage may proceed.”<sup>90</sup>

Thereupon the author of the “Essay on Trade and Commerce” replies:

“If the making of every seventh day an holiday is supposed to be of divine institution, as it implies the appropriating the other six days to labour” (he means capital as we shall soon see) “surely it will not be thought cruel to enforce it .... That mankind in general, are naturally inclined to ease and indolence, we fatally experience to be true, from the conduct of our manufacturing populace, who do not labour, upon an average, above four days in a week, unless provisions happen to be very dear.... Put all the necessities of the poor under one denomination; for instance, call them all wheat, or suppose that ... the bushel of wheat shall cost five shillings and that he (a manufacturer) earns a shilling by his labour, he then would be obliged to work five days only in a week. If the bushel of wheat should cost but four shillings, he would be obliged to work but four days; but as wages in this kingdom are much higher in proportion to the price of necessities ... the manufacturer, who labours four days, has a surplus of money to live idle with the rest of the week . ... I hope I have said enough to make it appear that the moderate labour of six days in a week is no slavery. Our labouring people do this, and to all appearance are the happiest of all our labouring poor,<sup>91</sup> but the Dutch do this in manufactures, and appear to be a very happy people. The French do so, when holidays do not intervene.<sup>92</sup> But our populace have adopted a notion, that as Englishmen they enjoy a birthright privilege of being more free and independent than in any country in Europe. Now this idea, as far as it may affect the bravery of our troops, may be of some use; but the less the manufacturing poor have of it, certainly the better for themselves and for the State. The labouring people should never think themselves independent of their superiors.... It is extremely dangerous to encourage mobs in a commercial state like ours, where, perhaps, seven parts

out of eight of the whole, are people with little or no property. The cure will not be perfect, till our manufacturing poor are contented to labour six days for the same sum which they now earn in four days.”<sup>93</sup>

To this end, and for “extirpating idleness debauchery and excess,” promoting a spirit of industry, “lowering the price of labour in our manufactories, and easing the lands of the heavy burden of poor’s rates,” our “faithful Eckart” of capital proposes this approved device: to shut up such labourers as become dependent on public support, in a word, paupers, in “an *ideal workhouse*.” Such ideal workhouse must be made a “House of Terror,” and not an asylum for the poor, “where they are to be plentifully fed, warmly and decently clothed, and where they do but little work.”<sup>94</sup> In this “House of Terror,” this “ideal workhouse, the poor shall work 14 hours in a day, allowing proper time for meals, in such manner that there shall remain 12 hours of neat-labour.”<sup>95</sup>

Twelve working-hours daily in the Ideal Workhouse, in the “House of Terror” of 1770! 63 years later, in 1833, when the English Parliament reduced the working day for children of 13 to 18, in four branches of industry to 12 full hours, the judgment day of English Industry had dawned! In 1852, when Louis Bonaparte sought to secure his position with the bourgeoisie by tampering with the legal working day, the French working people cried out with one voice “the law that limits the working day to 12 hours is the one good that has remained to us of the legislation of the Republic!”<sup>96</sup> At Zürich the work of children over 10, is limited to 12 hours; in Aargau in 1862, the work of children between 13 and 16, was reduced from 12½ to 12 hours; in Austria in 1860, for children between 14 and 16, the same reduction was made.<sup>97</sup> “What a progress,” since 1770! Macaulay would shout with exultation!

The “House of Terror” for paupers of which the capitalistic soul of 1770 only dreamed, was realised a few years later in the shape of a gigantic “Workhouse” for the industrial worker himself. It is called the Factory. And the ideal this time fades before the reality.

## Section 6: The Struggle for a Normal Working Day. Compulsory Limitation by Law of the Working-Time. English Factory Acts, 1833

After capital had taken centuries in extending the working day to its normal maximum limit, and then beyond this to the limit of the natural day of 12 hours,<sup>98</sup> there followed on the birth of machinism and modern industry in the last third of the 18th century, a violent encroachment like that of an avalanche in its intensity and extent. All bounds of morals and nature, age and sex, day and night, were broken down. Even the ideas of day and night, of rustic simplicity in the old statutes, became so confused that an English judge, as late as 1860, needed a quite Talmudic sagacity to explain “judicially” what was day and what was night.<sup>99</sup> Capital celebrated its orgies.

As soon as the working-class, stunned at first by the noise and turmoil of the new system of production, recovered, in some measure, its senses, its resistance began, and first in the native land of machinism, in England. For 30 years, however, the concessions conquered by the workpeople were purely nominal. Parliament passed 5 labour Laws between 1802 and 1833, but was shrewd enough not to vote a penny for their carrying out, for the requisite officials, &c.<sup>100</sup>

They remained a dead letter. “The fact is, that prior to the Act of 1833, young persons and children were worked all night, all day, or both *ad libitum*.”<sup>101</sup>

A normal working day for modern industry only dates from the Factory Act of 1833, which included cotton, wool, flax, and silk factories. Nothing is more characteristic of the spirit of capital than the history of the English Factory Acts from 1833 to 1864.

The Act of 1833 declares the ordinary factory working day to be from half-past five in the morning to half-past eight in the evening and within these limits, a period of 15 hours, it is lawful to employ young persons (*i.e.*, persons between 13 and 18 years of age), at any time of the day, provided no one individual young person should work more than 12 hours in any one day, except in certain cases especially provided for. The 6th section of the Act provided. "That there shall be allowed in the course of every day not less than one and a half hours for meals to every such person restricted as hereinbefore provided." The employment of children under 9, with exceptions mentioned later was forbidden; the work of children between 9 and 13 was limited to 8 hours a day, night-work, *i.e.*, according to this Act, work between 8:30 p.m. and 5:30 a.m., was forbidden for all persons between 9 and 18.

The law-makers were so far from wishing to trench on the freedom of capital to exploit adult labour-power, or, as they called it, "the freedom of labour," that they created a special system in order to prevent the Factory Acts from having a consequence so outrageous.

"The great evil of the factory system as at present conducted," says the first report of the Central Board of the Commission of June 28th 1833, "has appeared to us to be that it entails the necessity of continuing the labour of children to the utmost length of that of the adults. The only remedy for this evil, short of the limitation of the labour of adults which would, in our opinion, create an evil greater than that which is sought to be remedied, appears to be the plan of working double sets of children."

... Under the name of System of Relays, this "plan" was therefore carried out, so that, e.g., from 5.30 a.m. until 1.30 in the afternoon, one set of children between 9 and 13, and from 1.30 p.m. to 8.30 in the evening another set were "put to," &c.

In order to reward the manufacturers for having, in the most barefaced way, ignored all the Acts as to children's labour passed during the last twenty-two years, the pill was yet further gilded for them. Parliament decreed that after March 1st, 1834, no child under 11, after March 1st 1835, no child under 12, and after March 1st, 1836, no child under 13 was to work more than eight hours in a factory. This "liberalism," so full of consideration for "capital," was the more noteworthy as Dr. Farre, Sir A. Carlisle, Sir B. Brodie, Sir C. Bell, Mr. Guthrie, &c., in a word, the most distinguished physicians and surgeons in London, had declared in their evidence before the House of Commons, that there was danger in delay. Dr. Farre expressed himself still more coarsely.

"Legislation is necessary for the prevention of death, in any form in which it can be prematurely inflicted, and certainly this (*i.e.*, the factory method) must be viewed as a most cruel mode of inflicting it."

That same "reformed" Parliament, which in its delicate consideration for the manufacturers, condemned children under 13, for years to come, to 72 hours of work per week in the Factory Hell, on the other hand, in the Emancipation Act, which also administered freedom drop by drop, forbade the planters, from the outset, to work any negro slave more than 45 hours a week.

But in no wise conciliated, capital now began a noisy agitation that went on for several years. It turned chiefly on the age of those who, under the name of children, were limited to 8 hours' work, and were subject to a certain amount of compulsory education. According to capitalistic anthropology, the age of childhood ended at 10, or at the outside, at 11. The more nearly the time approached for the coming into full force of the Factory Act, the fatal year 1836, the more wildly raged the mob of manufacturers. They managed, in fact, to intimidate the government to such an extent that in 1835 it proposed to lower the limit of the age of childhood from 13 to 12. In the meantime the pressure from without grew more threatening. Courage failed the House of

Commons. It refused to throw children of 13 under the Juggernaut Car of capital for more than 8 hours a day, and the Act of 1833 came into full operation. It remained unaltered until June, 1844.

In the ten years during which it regulated factory work, first in part, and then entirely, the official reports of the factory inspectors teem with complaints as to the impossibility of putting the Act into force. As the law of 1833 left it optional with the lords of capital during the 15 hours, from 5.30 a.m. to 8.30 p.m., to make every "young person," and every "child" begin, break off, resume, or end his 12 or 8 hours at any moment they liked, and also permitted them to assign to different persons, different times for meals, these gentlemen soon discovered a new "system of relays," by which the labour-horses were not changed at fixed stations, but were constantly re-harnessed at changing stations. We do not pause longer on the beauty of this system, as we shall have to return to it later. But this much is clear at the first glance: that this system annulled the whole Factory Act, not only in the spirit, but in the letter. How could factory inspectors, with this complex bookkeeping in respect to each individual child or young person, enforce the legally determined work-time and the granting of the legal mealtimes? In a great many of the factories, the old brutalities soon blossomed out again unpunished. In an interview with the Home Secretary (1844), the factory inspectors demonstrated the impossibility of any control under the newly invented relay system.<sup>102</sup> In the meantime, however, circumstances had greatly changed. The factory hands, especially since 1838, had made the Ten Hours' Bill their economic, as they had made the Charter their political, election-cry. Some of the manufacturers, even, who had managed their factories in conformity with the Act of 1833, overwhelmed Parliament with memorials on the immoral competition of their false brethren whom greater impudence, or more fortunate local circumstances, enabled to break the law. Moreover, however much the individual manufacturer might give the rein to his old lust for gain, the spokesmen and political leaders of the manufacturing class ordered a change of front and of speech towards the workpeople. They had entered upon the contest for the repeal of the Corn Laws, and needed the workers to help them to victory. They promised therefore, not only a double-sized loaf of bread, but the enactment of the Ten Hours' Bill in the Free-trade millennium.<sup>103</sup> Thus they still less dared to oppose a measure intended only to make the law of 1833 a reality. Threatened in their holiest interest, the rent of land, the Tories thundered with philanthropic indignation against the "nefarious practices"<sup>104</sup> of their foes.

This was the origin of the additional Factory Act of June 7th, 1844. It came into effect on September 10th, 1844. It places under protection a new category of workers, viz., the women over 18. They were placed in every respect on the same footing as the young persons, their work time limited to twelve hours, their night-labour forbidden, &c. For the first time, legislation saw itself compelled to control directly and officially the labour of adults. In the Factory Report of 1844-1845, it is said with irony:

"No instances have come to my knowledge of adult women having expressed any regret at their *rights* being thus far interfered with."<sup>105</sup> The working-time of children under 13 was reduced to 6½, and in certain circumstances to 7 hours a-day.<sup>106</sup>

To get rid of the abuses of the "spurious relay system," the law established besides others the following important regulations: –

"That the hours of work of children and young persons shall be reckoned from the time when any child or young person shall begin to work in the morning."

So that if A, e.g., begins work at 8 in the morning, and B at 10, B's work-day must nevertheless end at the same hour as A's. "The time shall be regulated by a public clock," for example, the nearest railway clock, by which the factory clock is to be set. The occupier is to hang up a

“legible” printed notice stating the hours for the beginning and ending of work and the times allowed for the several meals. Children beginning work before 12 noon may not be again employed after 1 p.m. The afternoon shift must therefore consist of other children than those employed in the morning. Of the hour and a half for meal-times,

“one hour thereof at the least shall be given before three of the clock in the afternoon ... and at the same period of the day. No child or young person shall be employed more than five hours before 1 p.m. without an interval for meal-time of at least 30 minutes. No child or young person [or female] shall be employed or allowed to remain in any room in which any manufacturing process is then [*i.e.*, at mealtimes] carried on,” &c.

It has been seen that these minutiae, which, with military uniformity, regulate by stroke of the clock the times, limits, pauses of the work were not at all the products of Parliamentary fancy. They developed gradually out of circumstances as natural laws of the modern mode of production. Their formulation, official recognition, and proclamation by the State, were the result of a long struggle of classes. One of their first consequences was that in practice the working day of the adult males in factories became subject to the same limitations, since in most processes of production the co-operation of the children, young persons, and women is indispensable. On the whole, therefore, during the period from 1844 to 1847, the 12 hours’ working day became general and uniform in all branches of industry under the Factory Act.

The manufacturers, however, did not allow this “progress” without a compensating “retrogression.” At their instigation the House of Commons reduced the minimum age for exploitable children from 9 to 8, in order to assure that additional supply of factory children which is due to capitalists, according to divine and human law.<sup>107</sup>

The years 1846-47 are epoch-making in the economic history of England. The Repeal of the Corn Laws, and of the duties on cotton and other raw material; Free-trade proclaimed as the guiding star of legislation; in a word, the arrival of the millennium. On the other hand, in the same years, the Chartist movement and the 10 hours’ agitation reached their highest point. They found allies in the Tories panting for revenge. Despite the fanatical opposition of the army of perjured Free-traders, with Bright and Cobden at their head, the Ten Hours’ Bill, struggled for so long, went through Parliament.

The new Factory Act of June 8th, 1847, enacted that on July 1st, 1847, there should be a preliminary shortening of the working day for “young persons” (from 13 to 18), and all females to 11 hours, but that on May 1st, 1848, there should be a definite limitation of the working day to 10 hours. In other respects, the Act only amended and completed the Acts of 1833 and 1844.

Capital now entered upon a preliminary campaign in order to hinder the Act from coming into full force on May 1st, 1848. And the workers themselves, under the presence that they had been taught by experience, were to help in the destruction of their own work. The moment was cleverly chosen.

“It must be remembered, too, that there has been more than two years of great suffering (in consequence of the terrible crisis of 1846-47) among the factory operatives, from many mills having worked short time, and many being altogether closed. A considerable number of the operatives must therefore be in very narrow circumstances many, it is to be feared, in debt; so that it might fairly have been presumed that at the present time they would prefer working the longer time, in order to make up for past losses, perhaps to pay off debts, or get their furniture out

of pawn, or replace that sold, or to get a new supply of clothes for themselves and their families.”<sup>108</sup>

The manufacturers tried to aggravate the natural effect of these circumstances by a general reduction of wages by 10%. This was done so to say, to celebrate the inauguration of the new Free-trade era. Then followed a further reduction of 8 1/3% as soon as the working day was shortened to 11, and a reduction of double that amount as soon as it was finally shortened to 10 hours. Wherever, therefore, circumstances allowed it, a reduction of wages of at least 25% took place.<sup>109</sup> Under such favourably prepared conditions the agitation among the factory workers for the repeal of the Act of 1847 was begun. Neither lies, bribery, nor threats were spared in this attempt. But all was in vain. Concerning the half-dozen petitions in which workpeople were made to complain of “their oppression by the Act,” the petitioners themselves declared under oral examination, that their signatures had been extorted from them. “They felt themselves oppressed, but not exactly by the Factory Act.”<sup>110</sup> But if the manufacturers did not succeed in making the workpeople speak as they wished, they themselves shrieked all the louder in press and Parliament in the name of the workpeople. They denounced the Factory Inspectors as a kind of revolutionary commissioners like those of the French National Convention ruthlessly sacrificing the unhappy factory workers to their humanitarian crotchet. This manoeuvre also failed. Factory Inspector Leonard Horner conducted in his own person, and through his sub-inspectors, many examinations of witnesses in the factories of Lancashire. About 70% of the workpeople examined declared in favour of 10 hours, a much smaller percentage in favour of 11, and an altogether insignificant minority for the old 12 hours.<sup>111</sup>

Another “friendly” dodge was to make the adult males work 12 to 15 hours, and then to blazon abroad this fact as the best proof of what the proletariat desired in its heart of hearts. But the “ruthless” Factory Inspector Leonard Horner was again to the fore. The majority of the “over-times” declared:

“They would much prefer working ten hours for less wages, but that they had no choice; that so many were out of employment (so many spinners getting very low wages by having to work as piecers, being unable to do better), that if they refused to work the longer time, others would immediately get their places, so that it was a question with them of agreeing to work the longer time, or of being thrown out of employment altogether.”<sup>112</sup>

The preliminary campaign of capital thus came to grief, and the Ten Hours’ Act came into force May 1st, 1848. But meanwhile the fiasco of the Chartist party whose leaders were imprisoned, and whose organisation was dismembered, had shaken the confidence of the English working-class in its own strength. Soon after this the June insurrection in Paris and its bloody suppression united, in England as on the Continent, all fractions of the ruling classes, landlords and capitalists, stock-exchange wolves and shop-keepers, Protectionists and Freetraders, government and opposition, priests and freethinkers, young whores and old nuns, under the common cry for the salvation of Property, Religion, the Family and Society. The working-class was everywhere proclaimed, placed under a ban, under a virtual law of suspects. The manufacturers had no need any longer to restrain themselves. They broke out in open revolt not only against the Ten Hours’ Act, but against the whole of the legislation that since 1833 had aimed at restricting in some measure the “free” exploitation of labour-power. It was a pro-slavery rebellion in miniature, carried on for over two years with a cynical recklessness, a terrorist energy all the cheaper because the rebel capitalist risked nothing except the skin of his “hands.”

To understand that which follows we must remember that the Factory Acts of 1833, 1844, and 1847 were all three in force so far as the one did not amend the other: that not one of these limited

the working day of the male worker over 18, and that since 1833 the 15 hours from 5.30 a.m. to 8.30 p.m. had remained the legal “day,” within the limits of which at first the 12, and later the 10 hours’ labour of young persons and women had to be performed under the prescribed conditions.

The manufacturers began by here and there discharging a part of, in many cases half of the young persons and women employed by them, and then, for the adult males, restoring the almost obsolete night-work. The Ten Hours’ Act, they cried, leaves no other alternative.<sup>113</sup>

Their second step dealt with the legal pauses for meals. Let us hear the Factory Inspectors.

“Since the restriction of the hours of work to ten, the factory occupiers maintain, although they have not yet practically gone the whole length, that supposing the hours of work to be from 9 a.m. to 7 p.m. they fulfil the provisions of the statutes by allowing an hour before 9 a.m. and half an hour after 7 p.m. [for meals]. In some cases they now allow an hour, or half an hour for dinner, insisting at the same time, that they are not bound to allow any part of the hour and a half in the course of the factory working day.”<sup>114</sup> The manufacturers maintained therefore that the scrupulously strict provisions of the Act of 1844 with regard to meal-times only gave the operatives permission to eat and drink before coming into, and after leaving the factory – i.e., at home. And why should not the workpeople eat their dinner before 9 in the morning? The crown lawyers, however, decided that the prescribed meal-times

“must be in the interval during the working-hours, and that it will not be lawful to work for 10 hours continuously, from 9 a.m. to 7 p.m., without any interval.”<sup>115</sup>

After these pleasant demonstrations, Capital preluded its revolt by a step which agreed with the letter of the law of 1844, and was therefore legal.

The Act of 1844 certainly prohibited the employment after 1 p.m. of such children, from 8 to 13, as had been employed before noon. But it did not regulate in any way the 6½ hours’ work of the children whose work-time began at 12 midday or later. Children of 8 might, if they began work at noon, be employed from 12 to 1, 1 hour; from 2 to 4 in the afternoon, 2 hours; from 5 to 8.30 in the evening, 3½ hours; in all, the legal 6½ hours. Or better still. In order to make their work coincide with that of the adult male labourers up to 8.30 p.m., the manufacturers only had to give them no work till 2 in the afternoon, they could then keep them in the factory without intermission till 8.30 in the evening.

“And it is now expressly admitted that the practice exists in England from the desire of mill-owners to have their machinery at work for more than 10 hours a-day, to keep the children at work with male adults after all the young persons and women have left, and until 8.30 p.m. if the factory-owners choose.”<sup>116</sup>

Workmen and factory inspectors protested on hygienic and moral grounds, but Capital answered:

“My deeds upon my head! I crave the law,  
The penalty and forfeit of my bond.”

In fact, according to statistics laid before the House of Commons on July 26th, 1850, in spite of all protests, on July 15th, 1850, 3,742 children were subjected to this “practice” in 257 factories.<sup>117</sup> Still, this was not enough. The Lynx eye of Capital discovered that the Act of 1844 did not allow 5 hours’ work before mid-day without a pause of at least 30 minutes for refreshment, but prescribed nothing of the kind for work after mid-day. Therefore, it claimed and obtained the enjoyment not only of making children of 8 drudge without intermission from 2 to 8.30 p.m., but also of making them hunger during that time.



“Ay, his breast.  
So says the bond.”

This Shylock-clinging<sup>118</sup> to the letter of the law of 1844, so far as it regulated children’s labour, was but to lead up to an open revolt against the same law, so far as it regulated the labour of “young persons and women.” It will be remembered that the abolition of the “false relay system” was the chief aim and object of that law. The masters began their revolt with the simple declaration that the sections of the Act of 1844 which prohibited the *ad libitum* use of young persons and women in such short fractions of the day of 15 hours as the employer chose, were “comparatively harmless” so long as the work-time was fixed at 12 hours. But under the Ten Hours’ Act they were a “grievous hardship.”<sup>119</sup> They informed the inspectors in the coolest manner that they should place themselves above the letter of the law, and re-introduce the old system on their own account.<sup>120</sup> They were acting in the interests of the ill-advised operatives themselves, “in order to be able to pay them higher wages.”

“This was the only possible plan by which to maintain, under the Ten Hours’ Act, the industrial supremacy of Great Britain.” “Perhaps it may be a little difficult to detect irregularities under the relay system; but what of that? Is the great manufacturing interest of this country to be treated as a secondary matter in order to save some little trouble to Inspectors and Sub-Inspectors of Factories?”<sup>121</sup>

All these shifts naturally were of no avail. The Factory Inspectors appealed to the Law Courts. But soon such a cloud of dust in the way of petitions from the masters overwhelmed the Home Secretary, Sir George Grey, that in a circular of August 5th, 1848, he recommends the inspectors not

“to lay informations against mill-owners for a breach of the letter of the Act, or for employment of young persons by relays in cases in which there is no reason to believe that such young persons have been actually employed for a longer period than that sanctioned by law.” Hereupon, Factory Inspector J. Stuart allowed the so-called relay system during the 15 hours of the factory day throughout Scotland, where it soon flourished again as of old. The English Factory Inspectors, on the other hand, declared that the Home Secretary had no power dictatorially to suspend the law, and continued their legal proceedings against the pro-slavery rebellion.

But what was the good of summoning the capitalists when the Courts in this case the country magistrates – Cobbett’s “Great Unpaid” – acquitted them? In these tribunals, the masters sat in judgment on themselves. An example. One Eskrigge, cotton-spinner, of the firm of Kershaw, Leese, & Co., had laid before the Factory Inspector of his district the scheme of a relay system intended for his mill. Receiving a refusal, he at first kept quiet. A few months later, an individual named Robinson, also a cotton-spinner, and if not his Man Friday, at all events related to Eskrigge, appeared before the borough magistrates of Stockport on a charge of introducing the identical plan of relays invented by Eskrigge. Four Justices sat, among them three cottonspinners, at their head this same inevitable Eskrigge. Eskrigge acquitted Robinson, and now was of opinion that what was right for Robinson was fair for Eskrigge. Supported by his own legal decision, he introduced the system at once into his own factory.<sup>122</sup> Of course, the composition of this tribunal was in itself a violation of the law.<sup>123</sup>

These judicial farces, exclaims Inspector Howell, “urgently call for a remedy – either that the law should be so altered as to be made to conform to these decisions, or that it should be administered by a less fallible tribunal, whose

decisions would conform to the law ... when these cases are brought forward. I long for a stipendiary magistrate.”<sup>124</sup>

The crown lawyers declared the masters’ interpretation of the Act of 1848 absurd. But the Saviours of Society would not allow themselves to be turned from their purpose. Leonard Horner reports,

“Having endeavoured to enforce the Act ... by ten prosecutions in seven magisterial divisions, and having been supported by the magistrates in one case only ... I considered it useless to prosecute more for this evasion of the law. That part of the Act of 1848 which was framed for securing uniformity in the hours of work, ... is thus no longer in force in my district (Lancashire). Neither have the sub-inspectors or myself any means of satisfying ourselves, when we inspect a mill working by shifts, that the young persons and women are not working more than 10 hours a-day.... In a return of the 30th April, ... of millowners working by shifts, the number amounts to 114, and has been for some time rapidly increasing. In general, the time of working the mill is extended to 13½ hours’ from 6 a.m. to 7½ p.m., .... in some instances it amounts to 15 hours, from 5½ a.m. to 8½ p.m.”<sup>125</sup>

Already, in December, 1848, Leonard Horner had a list of 65 manufacturers and 29 overlookers who unanimously declared that no system of supervision could, under this relay system, prevent enormous over-work.<sup>126</sup> Now, the same children and young persons were shifted from the spinning-room to the weaving-room, now, during 15 hours, from one factory to another.<sup>127</sup> How was it possible to control a system which,

“under the guise of relays, is some one of the many plans for shuffling ‘the hands’ about in endless variety, and shifting the hours of work and of rest for different individuals throughout the day, so that you may never have one complete set of hands working together in the same room at the same time.”<sup>128</sup>

But altogether independently of actual over-work, this so-called relay system was an offspring of capitalistic fantasy, such as Fourier, in his humorous sketches of “Courses Seances,” has never surpassed, except that the “attraction of labour” was changed into the attraction of capital. Look, for example, at those schemes of the masters which the “respectable” press praised as models of “what a reasonable degree of care and method can accomplish.” The *personnel* of the workpeople was sometimes divided into from 12 to 14 categories, which themselves constantly changed and recharged their constituent parts. During the 15 hours of the factory day, capital dragged in the labourer now for 30 minutes, now for an hour, and then pushed him out again, to drag him into the factory and to thrust him out afresh, hounding him hither and thither, in scattered shreds of time, without ever losing hold of him until the full 10 hours’ work was done. As on the stage, the same persons had to appear in turns in the different scenes of the different acts. But as an actor during the whole course of the play belongs to the stage, so the operatives, during 15 hours, belonged to the factory, without reckoning the time for going and coming. Thus the hours of rest were turned into hours of enforced idleness, which drove the youths to the pot-house, and the girls to the brothel. At every new trick that the capitalist, from day to day, hit upon for keeping his machinery going 12 or 15 hours without increasing the number of his hands, the worker had to swallow his meals now in this fragment of time, now in that. At the time of the 10 hours’ agitation, the masters cried out that the working mob petitioned in the hope of obtaining 12 hours’ wages for 10 hours’ work. Now they reversed the medal. They paid 10 hours’ wages for 12 or 15 hours’ lordship over labour-power.<sup>129</sup> This was the gist of the matter, this the masters’ interpretation of the 10 hours’ law! These were the same unctuous Free-traders, perspiring with

the love of humanity, who for full 10 years, during the Anti-Corn Law agitation, had preached to the operatives, by a reckoning of pounds, shillings, and pence, that with free importation of corn, and with the means possessed by English industry, 10 hours' labour would be quite enough to enrich the capitalists.<sup>130</sup> This revolt of capital, after two years was at last crowned with victory by a decision of one of the four highest Courts of Justice in England, the Court of Exchequer, which in a case brought before it on February 8th, 1850, decided that the manufacturers were certainly acting against the sense of the Act of 1844, but that this Act itself contained certain words that rendered it meaningless. "By this decision, the Ten Hours' Act was abolished."<sup>131</sup> A crowd of masters, who until then had been afraid of using the relay system for young persons and women, now took it up heart and soul.<sup>132</sup>

But on this apparently decisive victory of capital, followed at once a revulsion. The workpeople had hitherto offered a passive, although inflexible and unrelenting resistance. They now protested in Lancashire and Yorkshire in threatening meetings. The pretended Ten Hours' Act was thus simple humbug, parliamentary cheating, had never existed! The Factory Inspectors urgently warned the Government that the antagonism of classes had arrived at an incredible tension. Some of the masters themselves murmured:

"On account of the contradictory decisions of the magistrates, a condition of things altogether abnormal and anarchical obtains. One law holds in Yorkshire, another in Lancashire, one law in one parish of Lancashire, another in its immediate neighbourhood. The manufacturer in large towns could evade the law, the manufacturer in country districts could not find the people necessary for the relay system, still less for the shifting of hands from one factory to another," &c.

And the first birthright of capital is equal exploitation of labour-power by all capitalists.

Under these circumstances a compromise between masters and men was effected that received the seal of Parliament in the additional Factory Act of August 5th, 1850. The working day for "young persons and women," was raised from 10 to 10½ hours for the first five days of the week, and shortened to 7½ on the Saturday. The work was to go on between 6 a.m. and 6 p.m.<sup>133</sup>, with pauses of not less than 1½ hours for meal-times, these meal-times to be allowed at one and the same time for all, and conformably to the conditions of 1844. By this an end was put to the relay system once for all.<sup>134</sup> For children's labour, the Act of 1844 remained in force.

One set of masters, this time as before, secured to itself special seigniorial rights over the children of the proletariat. These were the silk manufacturers. In 1833 they had howled out in threatening fashion, "if the liberty of working children of any age for 10 hours a day were taken away, it would stop their works."<sup>135</sup> It would be impossible for them to buy a sufficient number of children over 13. They extorted the privilege they desired. The pretext was shown on subsequent investigation to be a deliberate lie.<sup>136</sup> It did not, however, prevent them, during 10 years, from spinning silk 10 hours a day out of the blood of little children who had to be placed upon stools for the performance of their work.<sup>137</sup> The Act of 1844 certainly "robbed" them of the "liberty" of employing children under 11 longer than 6½ hours a day. But it secured to them, on the other hand, the privilege of working children between 11 and 13, 10 hours a day, and of annulling in their case the education made compulsory for all other factory children. This time the pretext was

"the delicate texture of the fabric in which they were employed, requiring a lightness of touch, only to be acquired by their early introduction to these factories."<sup>138</sup>

The children were slaughtered out-and-out for the sake of their delicate fingers, as in Southern Russia the horned cattle for the sake of their hide and tallow. At length, in 1850, the privilege

granted in 1844, was limited to the departments of silk-twisting and silk-winding. But here, to make amends to capital bereft of its “freedom,” the work-time for children from 11 to 13 was raised from 10 to 10½ hours. Pretext: “Labour in silk mills was lighter than in mills for other fabrics, and less likely in other respects also to be prejudicial to health.”<sup>139</sup> Official medical inquiries proved afterwards that, on the contrary,

“the average death-rate is exceedingly high in the silk districts and amongst the female part of the population is higher even than it is in the cotton districts of Lancashire.”<sup>140</sup>

Despite the protests of the Factory Inspector, renewed every 6 months, the mischief continues to this hour.<sup>141</sup>

The Act of 1850 changed the 15 hours’ time from 6 a.m. to 8.30 p.m., into the 12 hours from 6 a.m. to 6 p.m. for “young persons and women” only. It did not, therefore, affect children who could always be employed for half an hour before and 2½ hours after this period, provided the whole of their labour did not exceed 6½ hours. Whilst the bill was under discussion, the Factory Inspectors laid before Parliament statistics of the infamous abuses due to this anomaly. To no purpose. In the background lurked the intention of screwing up, during prosperous years, the working day of adult males to 15 hours by the aid of the children. The experience of the three following years showed that such an attempt must come to grief against the resistance of the adult male operatives. The Act of 1850 was therefore finally completed in 1853 by forbidding the “employment of children in the morning before and in the evening after young persons and women.” Henceforth with a few exceptions the Factory Act of 1850 regulated the working day of all workers in the branches of industry that come under it.<sup>142</sup> Since the passing of the first Factory Act half a century had elapsed.<sup>143</sup>

Factory legislation for the first time went beyond its original sphere in the “Printworks’ Act of 1845.” The displeasure with which capital received this new “extravagance” speaks through every line of the Act. It limits the working day for children from 8 to 13, and for women to 16 hours, between 6 a.m. and 10 p.m., without any legal pause for meal-times. It allows males over 13 to be worked at will day and night.<sup>144</sup> It is a Parliamentary abortion.<sup>145</sup>

However, the principle had triumphed with its victory in those great branches of industry which form the most characteristic creation of the modern mode of production. Their wonderful development from 1853 to 1860, hand-in-hand with the physical and moral regeneration of the factory workers, struck the most purblind. The masters from whom the legal limitation and regulation had been wrung step by step after a civil war of half a century, themselves referred ostentatiously to the contrast with the branches of exploitation still “free.”<sup>146</sup> The Pharisees of “Political Economy” now proclaimed the discernment of the necessity of a legally fixed working day as a characteristic new discovery of their “science.”<sup>147</sup> It will be easily understood that after the factory magnates had resigned themselves and become reconciled to the inevitable, the power of resistance of capital gradually weakened, whilst at the same time the power of attack of the working-class grew with the number of its allies in the classes of society not immediately interested in the question. Hence the comparatively rapid advance since 1860.

The dye-works and bleach-works all came under the Factory Act of 1850 in 1860;<sup>148</sup> lace and stocking manufactures in 1861.

In consequence of the first report of the Commission on the employment of children (1863) the same fate was shared by the manufacturers of all earthenwares (not merely pottery), Lucifer-matches, percussion caps, cartridges, carpets, fustian-cutting, and many processes included under the name of “finishing.” In the year 1863 bleaching in the open air<sup>149</sup> and baking were placed

under special Acts, by which, in the former, the labour of young persons and women during the night-time (from 8 in the evening to 6 in the morning), and in the latter, the employment of journeymen bakers under 18, between 9 in the evening and 5 in the morning were forbidden. We shall return to the later proposals of the same Commission, which threatened to deprive of their “freedom” all the important branches of English Industry, with the exception of agriculture, mines, and the means of transport.<sup>150</sup>

## Section 7: The Struggle for a Normal Working Day. Reaction of the English Factory Acts on Other Countries

The reader will bear in mind that the production of surplus-value, or the extraction of surplus labour, is the specific end and aim, the sum and substance, of capitalist production, quite apart from any changes in the mode of production, which may arise from the subordination of labour to capital. He will remember that as far as we have at present gone only the independent labourer, and therefore only the labourer legally qualified to act for himself, enters as a vendor of a commodity into a contract with the capitalist. If, therefore, in our historical sketch, on the one hand, modern industry, on the other, the labour of those who are physically and legally minors, play important parts, the former was to us only a special department, and the latter only a specially striking example of labour exploitation. Without, however, anticipating the subsequent development of our inquiry, from the mere connexion of the historic facts before us it follows:

*First.* The passion of capital for an unlimited and reckless extension of the working day, is first gratified in the industries earliest revolutionised by water-power, steam, and machinery, in those first creations of the modern mode of production, cotton, wool, flax, and silk spinning, and weaving. The changes in the material mode of production, and the corresponding changes in the social relations of the producers<sup>151</sup> gave rise first to an extravagance beyond all bounds, and then in opposition to this, called forth a control on the part of Society which legally limits, regulates, and makes uniform the working day and its pauses. This control appears, therefore, during the first half of the nineteenth century simply as exceptional legislation.<sup>152</sup> As soon as this primitive dominion of the new mode of production was conquered, it was found that, in the meantime, not only had many other branches of production been made to adopt the same factory system, but that manufactures with more or less obsolete methods, such as potteries, glass-making, &c., that old-fashioned handicrafts, like baking, and, finally, even that the so-called domestic industries, such as nail-making,<sup>153</sup> had long since fallen as completely under capitalist exploitation as the factories themselves. Legislation was, therefore, compelled to gradually get rid of its exceptional character, or where, as in England, it proceeds after the manner of the Roman Casuists, to declare any house in which work was done to be a factory.<sup>154</sup>

*Second.* The history of the regulation of the working day in certain branches of production, and the struggle still going on in others in regard to this regulation, prove conclusively that the isolated labourer, the labourer as “free” vendor of his labour-power, when capitalist production has once attained a certain stage, succumbs without any power of resistance. The creation of a normal working day is, therefore, the product of a protracted civil war, more or less dissembled, between the capitalist class and the working-class. As the contest takes place in the arena of modern industry, it first breaks out in the home of that industry – England.<sup>155</sup> The English factory workers were the champions, not only of the English, but of the modern working-class generally, as their theorists were the first to throw down the gauntlet to the theory of capital.<sup>156</sup> Hence, the philosopher of the Factory, Ure, denounces as an ineffable disgrace to the English working-class

that they inscribed “the slavery of the Factory Acts” on the banner which they bore against capital, manfully striving for “perfect freedom of labour.”<sup>157</sup>

France limps slowly behind England. The February revolution was necessary to bring into the world the 12 hours’ law,<sup>158</sup> which is much more deficient than its English original. For all that, the French revolutionary method has its special advantages. It once for all commands the same limit to the working day in all shops and factories without distinction, whilst English legislation reluctantly yields to the pressure of circumstances, now on this point, now on that, and is getting lost in a hopelessly bewildering tangle of contradictory enactments.<sup>159</sup> On the other hand, the French law proclaims as a principle that which in England was only won in the name of children, minors, and women, and has been only recently for the first time claimed as a general right.<sup>160</sup>

In the United States of North America, every independent movement of the workers was paralysed so long as slavery disfigured a part of the Republic. Labour cannot emancipate itself in the white skin where in the black it is branded. But out of the death of slavery a new life at once arose. The first fruit of the Civil War was the eight hours’ agitation, that ran with the seven-leagued boots of the locomotive from the Atlantic to the Pacific, from New England to California. The General Congress of labour at Baltimore (August 16th, 1866) declared:

“The first and great necessity of the present, to free the labour of this country from capitalistic slavery, is the passing of a law by which eight hours shall be the normal working day in all States of the American Union. We are resolved to put forth all our strength until this glorious result is attained.”<sup>161</sup>

At the same time, the Congress of the International Working Men’s Association at Geneva, on the proposition of the London General Council, resolved that “the limitation of the working day is a preliminary condition without which all further attempts at improvement and emancipation must prove abortive... the Congress proposes eight hours as the legal limit of the working day.”

Thus the movement of the working-class on both sides of the Atlantic, that had grown instinctively out of the conditions of production themselves, endorsed the words of the English Factory Inspector, R. J. Saunders

“Further steps towards a reformation of society can never be carried out with any hope of success, unless the hours of labour be limited, and the prescribed limit strictly enforced.”<sup>162</sup>

It must be acknowledged that our labourer comes out of the process of production other than he entered. In the market he stood as owner of the commodity “labour-power” face to face with other owners of commodities, dealer against dealer. The contract by which he sold to the capitalist his labour-power proved, so to say, in black and white that he disposed of himself freely. The bargain concluded, it is discovered that he was no “free agent,” that the time for which he is free to sell his labour-power is the time for which he is forced to sell it,<sup>163</sup> that in fact the vampire will not lose its hold on him “so long as there is a muscle, a nerve, a drop of blood to be exploited.”<sup>164</sup> For “protection” against “the serpent of their agonies,” the labourers must put their heads together, and, as a class, compel the passing of a law, an all-powerful social barrier that shall prevent the very workers from selling, by voluntary contract with capital, themselves and their families into slavery and death.<sup>165</sup> In place of the pompous catalogue of the “inalienable rights of man” comes the modest Magna Charta of a legally limited working day, which shall make clear “when the time which the worker sells is ended, and when his own begins.” Quantum mutatus ab illo! [What a great change from that time! – Virgil]<sup>166</sup>

<sup>1</sup> “A day’s labour is vague, it may be long or short.” (“An Essay on Trade and Commerce, Containing Observations on Taxes, &c.” London. 1770, p. 73.)

<sup>2</sup> This question is far more important than the celebrated question of Sir Robert Peel to the Birmingham Chamber of Commerce: What is a pound? A question that could only have been proposed, because Peel was as much in the dark as to the nature of money as the “little shilling men” of Birmingham.

<sup>3</sup> “It is the aim of the capitalist to obtain with his expended capital the greatest possible quantity of labour (d’obtenir du capital dépense la plus forte somme de travail possible).” J. G. Courcelle-Seneuil. “Traité théorique et pratique des entreprises industrielles.” 2nd ed. Paris, 1857, p. 63.

<sup>4</sup> “An hour’s labour lost in a day is a prodigious injury to a commercial State.... There is a very great consumption of luxuries among the labouring poor of this kingdom: particularly among the manufacturing populace, by which they also consume their time, the most fatal of consumptions.” “An Essay on Trade and Commerce, &c.,” p. 47, and 15

<sup>5</sup> “Si le manouvrier libre prend un instant de repos, l’économie sordide qui le suit des yeux avec inquiétude, prétend qu’il la vole.” [If the free labourer allows himself an instant of rest, the base and petty management, which follows him with wary eyes, claims he is stealing from it.] N. Linguet, “Théorie des Lois Civiles. &c.” London, 1767, t. II., p. 466.

<sup>6</sup> During the great strike of the London builders, 1860-61, for the reduction of the working day to 9 hours, their Committee published a manifesto that contained, to some extent, the plea of our worker. The manifesto alludes, not without irony, to the fact, that the greatest profit-monger amongst the building masters, a certain Sir M. Peto, was in the odour of sanctity (This same Peto, after 1867, came to an end a la Strousberg.)

<sup>7</sup> “Those who labour ... in reality feed both the pensioners ... [called the rich] and themselves.” (Edmund Burke, l.c., p. 2.)

<sup>8</sup> Niebuhr in his “Roman History” says very naively: “It is evident that works like the Etruscan, which in their ruins astound us, pre-suppose in little (!) states lords and vassals.” Sismondi says far more to the purpose that “Brussels lace” pre-supposes wage-lords and wage-slaves.

<sup>9</sup> “One cannot see these unfortunates (in the gold mines between Egypt, Ethiopia, and Arabia) who cannot even have their bodies clean, or their nakedness clothed, without pitying their miserable lot. There is no indulgence, no forbearance for the sick, the feeble, the aged, for woman’s weakness. All must, forced by blows, work on until death puts an end to their sufferings and their distress.” (“Diod. Sic. Bibl. Hist.,” lib. 2, c. 13.)

<sup>10</sup> That which follows refers to the situation in the Rumanian provinces before the change effected since the Crimean war.

<sup>11</sup> This holds likewise for Germany, and especially for Prussia east of the Elbe. In the 15th century the German peasant was nearly everywhere a man, who, whilst subject to certain rents paid in produce and labour was otherwise at least practically free. The German colonists in Brandenburg, Pomerania, Silesia, and Eastern Prussia, were even legally acknowledged as free men. The victory of the nobility in the peasants’ war put an end to that. Not only were the conquered South German peasants again enslaved. From the middle of the 16th century the peasants of Eastern Prussia, Brandenburg, Pomerania, and Silesia, and soon after the free peasants of Schleswig-Holstein were degraded to the condition of serfs. (Maurer, Fronhöfe iv. vol., — Meitzen, “Der Boden des preussischen Staats” — Hanssen, “Leibeigenschaft in Schleswig-Holstein.” — F. E.)

<sup>12</sup> Further details are to be found in E. Regnault’s “Histoire politique et sociale des Principautés Danubiennes,” Paris, 1855.

<sup>13</sup> “In general and within certain limits, exceeding the medium size of their kind, is evidence of the prosperity of organic beings. As to man, his bodily height lessens if his due growth is interfered with, either by physical or local conditions. In all European countries in which the conscription holds, since its introduction, the medium height of adult men, and generally their fitness for military service, has diminished. Before the revolution (1789), the minimum for the infantry in France was 165 centimetres; in 1818 (law of March 10th), 157; by the law of March 21, 1832, 156 cm.; on the average in France more than half are rejected on account of deficient height or bodily weakness. The military standard in Saxony was in 1780, 178 cm. It is now 155. In Prussia it is 157. According to the statement of Dr. Meyer in the Bavarian Gazette, May 9th, 1862, the result of an average of 9 years is, that in Prussia out of 1,000 conscripts 716 were unfit for military service, 317 because of deficiency in height, and 399 because of bodily defects.... Berlin in 1858 could not provide its contingent of recruits, it was 156 men short.” J. von Liebig: “Die Chemie in ihrer Anwendung auf Agrikultur und Physiologie. 1862,” 7th Ed., vol. 1, pp. 117, 118.

<sup>14</sup> The history of the Factory Act of 1850 will be found in the course of this chapter.

<sup>15</sup> I only touch here and there on the period from the beginning of modern industry in England to 1845. For this period I refer the reader to “Die Lage der arbeitenden Klasse in England,” [Condition of the Working Class in England] von Friedrich Engels, Leipzig, 1845. How completely Engels understood the nature of the capitalist mode of production is shown by the Factory Reports, Reports on Mines, &c., that have appeared since 1845, and how wonderfully he painted the circumstances in detail is seen on the most superficial comparison of his work with the official reports of the Children’s Employment Commission, published 18 to 20 years later (1863-1867). These deal especially with the branches of industry in which the Factory Acts had not, up to 1862, been introduced, in fact are not yet introduced. Here, then, little or no alteration had been enforced, by authority, in the conditions painted by Engels. I borrow my examples chiefly from the Free-trade period after 1848, that age of paradise, of which the commercial travellers for the great firm of Free-trade, blatant as ignorant, tell such fabulous tales. For the rest England figures here in the foreground because she is the classic representative of capitalist production, and she alone has a continuous set of official statistics of the things we are considering.

<sup>16</sup> “Suggestions, &c. by Mr. L. Horner, Inspector of Factories,” in Factories Regulation Acts. Ordered by the House of Commons to be printed, 9th August, 1859, pp. 4, 5.

<sup>17</sup> Reports of the Inspector of Factories for the half year. October, 1856, p. 35.

<sup>18</sup> Reports, &c., 30th April, 1858, p. 9.

<sup>19</sup> Reports, &c., l.c., p. 10.

<sup>20</sup> Reports &c., l.c., p. 25.

<sup>21</sup> Reports &c., for the half year ending 30th April, 1861. See Appendix No. 2; Reports, &c., 31st October, 1862, pp. 7, 52, 53. The violations of the Acts became more numerous during the last half year 1863. Cf Reports, &c., ending 31st October, 1863, p. 7.

<sup>22</sup> Reports, &c., October 31st, 1860, p. 23. With what fanaticism, according to the evidence of manufacturers given in courts of law, their hands set themselves against every interruption in factory labour, the following curious circumstance shows. In the beginning of June, 1836, information reached the magistrates of Dewsbury (Yorkshire) that the owners of 8 large mills in the neighbourhood of Batley had violated the Factory Acts. Some of these gentlemen were accused of having kept at work 5 boys between 12 and 15 years of age, from 6 a.m. on Friday to 4 p.m. on the following Saturday, not allowing them any respite except for meals and one hour for sleep at midnight. And these children had to do this ceaseless labour of 30 hours in the “shoddyhole,” as the hole is called, in which the woollen rags are pulled in pieces, and where a dense atmosphere of dust,



shreds, &c., forces even the adult workman to cover his mouth continually with handkerchiefs for the protection of his lungs! The accused gentlemen affirm in lieu of taking an oath — as quakers they were too scrupulously religious to take an oath — that they had, in their great compassion for the unhappy children, allowed them four hours for sleep, but the obstinate children absolutely would not go to bed. The quaker gentlemen were mulcted in £20. Dryden anticipated these gentry:

Fox full fraught in seeming sanctity,  
That feared an oath, but like the devil would lie,  
That look'd like Lent, and had the holy leer,  
And durst not sin! before he said his prayer!"

<sup>23</sup> Rep., 31st Oct., 1856, p. 34.

<sup>24</sup> l.c., p. 35.

<sup>25</sup> l.c., p. 48.

<sup>26</sup> l.c., p. 48.

<sup>27</sup> l.c., p. 48.

<sup>28</sup> l.c., p. 48.

<sup>29</sup> Report of the Insp. &c., 30th April 1860, p. 56.

<sup>30</sup> This is the official expression both in the factories and in the reports.

<sup>31</sup> "The cupidity of mill-owners whose cruelties in the pursuit of gain have hardly been exceeded by those perpetrated by the Spaniards on the conquest of America in the pursuit of gold." John Wade, "History of the Middle and Working Classes," 3rd Ed. London, 1835, p. 114. The theoretical part of this book, a kind of hand-book of Political Economy, is, considering the time of its publication, original in some parts, *e.g.*, on commercial crises. The historical part is, to a great extent, a shameless plagiarism of Sir F. M. Eden's "The State of the Poor," London, 1797.

<sup>32</sup> *Daily Telegraph*, 17th January, 1860.

<sup>33</sup> Cf. F. Engels "Lage, etc." pp. 249-51.

<sup>34</sup> Children's Employment Commission. First report., etc., 1863. Evidence. pp. 16, 19, 18.

<sup>35</sup> Public Health, 3rd report, etc., pp. 102, 104, 105.

<sup>36</sup> Child. Empl. Comm. I. Report, p. 24.

<sup>37</sup> Children's Employment Commission, p. 22, and xi.

<sup>38</sup> l.c., p. xlviii.

<sup>39</sup> l.c., p. liv.

<sup>40</sup> This is not to be taken in the same sense as our surplus labour time. These gentlemen consider 10½ hours of labour as the normal working day, which includes of course the normal surplus labour. After this begins "overtime" which is paid a little better. It will be seen later that the labour expended during the so-called normal day is paid below its value, so that the overtime is simply a capitalist trick in order to extort more surplus labour, which it would still be, even if the labour-power expended during the normal working day were properly paid.

<sup>41</sup> l.c., Evidence, pp. 123, 124, 125, 140, and 54.

<sup>42</sup> Alum finely powdered, or mixed with salt, is a normal article of commerce bearing the significant name of "bakers' stuff."

<sup>43</sup> Soot is a well-known and very energetic form of carbon, and forms a manure that capitalistic chimney-sweeps sell to English farmers. Now in 1862 the British juryman had in a law-suit to decide whether soot, with which, unknown to the buyer, 90% of dust and sand are mixed, is genuine soot in

the commercial sense or adulterated soot in the legal sense. The “amis du commerce” [friends of commerce] decided it to be genuine commercial soot, and non-suited the plaintiff farmer, who had in addition to pay the costs of the suit.

<sup>44</sup> The French chemist, Chevallier, in his treatise on the “sophistications” of commodities, enumerates for many of the 600 or more articles which he passes in review, 10, 20, 30 different methods of adulteration. He adds that he does not know all the methods and does not mention all that he knows. He gives 6 kinds of adulteration of sugar, 9 of olive oil, 10 of butter, 12 of salt, 19 of milk, 20 of bread, 23 of brandy, 24 of meal, 28 of chocolate, 30 of wine, 32 of coffee, etc. Even God Almighty does not escape this fate. See Rouard de Card, “On the Falsifications of the materials of the Sacrament.” (“De la falsification des substances sacramentelles,” Paris, 1856.)

<sup>45</sup> “Report, &c., relative to the grievances complained of by the journeymen bakers, &c., London, 1862,” and “Second Report, &c., London, 1863.”

<sup>46</sup> *l.c.*, First Report, &c., p. vi.

<sup>47</sup> *l.c.*, p. lxxi.

<sup>48</sup> George Read, “The History of Baking,” London, 1848, p. 16.

<sup>49</sup> Report (First) &c. Evidence of the “full-priced” baker Cheeseman, p. 108.

<sup>50</sup> George Read, *l.c.* At the end of the 17th and the beginning of the 18th centuries the factors (agents) that crowded into every possible trade were still denounced as “public nuisances.” Thus the Grand Jury at the quarter session of the Justices of the Peace for the County of Somerset, addressed a presentment to the Lower House which, among other things, states, “that these factors of Blackwell Hall are a Public Nuisance and Prejudice to the Clothing Trade, and ought to be put down as a Nuisance.” “The Case of our English Wool, &c.,” London, 1685, pp. 6, 7.

<sup>51</sup> First Report, &c.

<sup>52</sup> Report of Committee on the Baking Trade in Ireland for 1861.

<sup>53</sup> *l.c.*

<sup>54</sup> Public meeting of agricultural labourers at Lasswade, near Edinburgh, January 5th, 1866. (See *Workman's Advocate*, January 13th, 1866.) The formation since the close of 1865 of a Trades' Union among the agricultural labourers at first in Scotland is a historic event. In one of the most oppressed agricultural districts of England, Buckinghamshire, the labourers, in March, 1867, made a great strike for the raising of their weekly wage from 9-10 shillings to 12 shillings. (It will be seen from the preceding passage that the movement of the English agricultural proletariat, entirely crushed since the suppression of its violent manifestations after 1830, and especially since the introduction of the new Poor Laws, begins again in the sixties, until it becomes finally epoch-making in 1872. I return to this in the 2nd volume, as well as to the Blue books that have appeared since 1867 on the position of the English land labourers. Addendum to the 3rd ed.)

<sup>55</sup> *Reynolds' Newspaper*, January, 1866. — Every week this same paper has, under the sensational headings, “Fearful and fatal accidents,” “Appalling tragedies,” &c., a whole list of fresh railway catastrophes. On these an employee on the North Staffordshire line comments: “Everyone knows the consequences that may occur if the driver and fireman of a locomotive engine are not continually on the look-out. How can that be expected from a man who has been at such work for 29 or 30 hours, exposed to the weather, and without rest. The following is an example which is of very frequent occurrence: — One fireman commenced work on the Monday morning at a very early hour. When he had finished what is called a day's work, he had been on duty 14 hours 50 minutes. Before he had time to get his tea, he was again called on for duty.... The next time he finished he had been on duty 14 hours 25 minutes, making a total of 29 hours 15 minutes without intermission. The rest of the week's work was made up as follows: — Wednesday, 15 hours; Thursday, 15 hours 35 minutes; Friday, 14½

hours; Saturday, 14 hours 10 minutes, making a total for the week of 88 hours 30 minutes. Now, sir, fancy his astonishment on being paid 6 1/4 days for the whole. Thinking it was a mistake, he applied to the time-keeper,... and inquired what they considered a day's work, and was told 13 hours for a goods man (*i.e.*, 78 hours).... He then asked for what he had made over and above the 78 hours per week, but was refused. However, he was at last told they would give him another quarter, *i.e.*, 10d.," *l.c.*, 4th February. 1866.

<sup>56</sup> Cf F. Engels, *l.c.*, pp. 253, 254.

<sup>57</sup> Dr. Letheby, Consulting Physician of the Board of Health, declared: "The minimum of air for each adult ought to be in a sleeping room 300, and in a dwelling room 500 cubic feet." Dr. Richardson, Senior Physician to one of the London Hospitals: "With needlewomen of all kinds, including milliners, dressmakers, and ordinary seamstresses, there are three miseries — over-work, deficient air, and either deficient food or deficient digestion.... Needlework, in the main, ... is infinitely better adapted to women than to men. But the mischiefs of the trade, in the metropolis especially, are that it is monopolised by some twenty-six capitalists, who, under the advantages that spring from capital, can bring in capital to force economy out of labour. This power tells throughout the whole class. If a dressmaker can get a little circle of customers, such is the competition that, in her home, she must work to the death to hold together, and this same over-work she must of necessity inflict on any who may assist her. If she fail, or do not try independently, she must join an establishment, where her labour is not less, but where her money is safe. Placed thus, she becomes a mere slave, tossed about with the variations of society. Now at home, in one room, starving, or near to it, then engaged 15, 16, aye, even 18 hours out of the 24, in an air that is scarcely tolerable, and on food which, even if it be good, cannot be digested in the absence of pure air. On these victims, consumption, which is purely a disease of bad air, feeds." Dr. Richardson: "Work and Over-work," in "Social Science Review," 18th July, 1863.

<sup>58</sup> *Morning Star*, 23rd June, 1863. — *The Times* made use of the circumstance to defend the American slave-owners against Bright, &c. "Very many of us think," says a leader of July 2nd, 1863, "that, while we work our own young women to death, using the scourge of starvation, instead of the crack of the whip, as the instrument of compulsion, we have scarcely a right to hound on fire and slaughter against families who were born slave-owners, and who, at least, feed their slaves well, and work them lightly." In the same manner, the *Standard*, a Tory organ, fell foul of the Rev. Newman Hall: "He excommunicated the slave-owners, but prays with the fine folk who, without remorse, make the omnibus drivers and conductors of London, &c., work 16 hours a-day for the wages of a dog." Finally, spake the oracle, Thomas Carlyle, of whom I wrote, in 1850, "Zum Teufel ist der Genius, der Kultus ist geblieben." ["In the cult of genius ... The cult remains," paraphrasing Schiller] In a short parable, he reduces the one great event of contemporary history, the American Civil War, to this level, that the Peter of the North wants to break the head of the Paul of the South with all his might, because the Peter of the North hires his labour by the day, and the Paul of the South hires his by the life. (*Macmillan's Magazine*. Ilias Americana in nuce. August, 1863.) Thus, the bubble of Tory sympathy for the urban workers — by no means for the rural — has burst at last. The sum of all is — slavery!

<sup>59</sup> Dr. Richardson, *l.c.*

<sup>60</sup> Children's Employment Commission. Third Report. London, 1864, pp. iv., v., vi.

<sup>61</sup> "Both in Staffordshire and in South Wales young girls and women are employed on the pit banks and on the coke heaps, not only by day but also by night. This practice has been often noticed in Reports presented to Parliament, as being attended with great and notorious evils. These females employed with the men, hardly distinguished from them in their dress, and begrimed with dirt and smoke, are exposed to the deterioration of character, arising from the loss of self-respect, which can

hardly fail to follow from their unfeminine occupation.” (l. c., 194, p. xxvi. Cf. Fourth Report (1865), 61, p. xiii.) It is the same in glass-works.

<sup>62</sup> A steel manufacturer who employs children in night-labour remarked: “It seems but natural that boys who work at night cannot sleep and get proper rest by day, but will be running about.” (l.c., Fourth Report, 63, p. xiii.) On the importance of sunlight for the maintenance and growth of the body, a physician writes: “Light also acts upon the tissues of the body directly in hardening them and supporting their elasticity. The muscles of animals, when they are deprived of a proper amount of light, become soft and inelastic, the nervous power loses its tone from defective stimulation, and the elaboration of all growth seems to be perverted.... In the case of children, constant access to plenty of light during the day, and to the direct rays of the sun for a part of it, is most essential to health. Light assists in the elaboration of good plastic blood, and hardens the fibre after it has been laid down. It also acts as a stimulus upon the organs of sight, and by this means brings about more activity in the various cerebral functions.” Dr. W. Strange, Senior Physician of the Worcester General Hospital, from whose work on “Health” (1864) this passage is taken, writes in a letter to Mr. White, one of the commissioners: “I have had opportunities formerly, when in Lancashire, of observing the effects of nightwork upon children, and I have no hesitation in saying, contrary to what some employers were fond of asserting, those children who were subjected to it soon suffered in their health.” (l.c., 284., p. 55.) That such a question should furnish the material of serious controversy, shows plainly how capitalist production acts on the brain-functions of capitalists and their retainers.

<sup>63</sup> l.c., 57, p. xii.

<sup>64</sup> l.c.. Fourth Report (1865). 58. p. xii.

<sup>65</sup> l.c.

<sup>66</sup> l.c., p. xiii. The degree of culture of these “labour-powers” must naturally be such as appears in the following dialogues with one of the commissioners: Jeremiah Haynes, age 12 — “Four times four is 8; 4 fours are 16. A king is him that has all the money and gold. We have a king (told it is a Queen), they call her the Princess Alexandra. Told that she married the Queen’s son. The Queen’s son is the Princess Alexandra. A Princess is a man.” William Turner, age 12 — “Don’t live in England. Think it is a country, but didn’t know before.” John Morris, age 14 — “Have heard say that God made the world, and that all the people was drowned but one, heard say that one was a little bird.” William Smith age 15 — “God made man, man made woman.” Edward Taylor, age 15 — “Do not know of London.” Henry Matthewman, age 17 — “Had been to chapel, but missed a good many times lately. One name that they preached about was Jesus Christ, but I cannot say any others, and I cannot tell anything about him. He was not killed, but died like other people. He was not the same as other people in some ways, because he was religious in some ways and others isn’t.” (l.c., p. xv.) “The devil is a good person. I don’t know where he lives.” “Christ was a wicked man.” “This girl spelt God as dog, and did not know the name of the queen.” (“Ch. Employment Comm. V. Report, 1866” p. 55, n. 278.) The same system obtains in the glass and paper works as in the metallurgical, already cited. In the paper factories, where the paper is made by machinery, night-work is the rule for all processes, except rag-sorting. In some cases night-work, by relays, is carried on incessantly through the whole week, usually from Sunday night until midnight of the following Saturday. Those who are on day-work work 5 days of 12, and 1 day of 18 hours; those on night-work 5 nights of 12, and 1 of 6 hours in each week. In other cases each set works 24 hours consecutively on alternate days, one set working 6 hours on Monday, and 18 on Saturday to make up the 24 hours. In other cases an intermediate system prevails, by which all employed on the paper-making machinery work 15 or 16 hours every day in the week. This system, says Commissioner Lord, “seems to combine all the evils of both the 12 hours’ and the 24 hours’ relays.” Children under 13, young persons under 18, and women, work under this night system. Sometimes under the 12 hours’ system they are obliged, on account of the non-

appearance of those that ought to relieve them, to work a double turn of 24 hours. The evidence proves that boys and girls very often work overtime, which, not unfrequently, extends to 24 or even 36 hours of uninterrupted toil. In the continuous and unvarying process of glazing are found girls of 12 who work the whole month 14 hours a day, "without any regular relief or cessation beyond 2 or, at most, 3 breaks of half an hour each for meals." In some mills, where regular night-work has been entirely given up, over-work goes on to a terrible extent, "and that often in the dirtiest, and in the hottest, and in the most monotonous of the various processes." ("Ch. Employment Comm. Report IV., 1865," p. xxxviii, and xxxix.)

<sup>67</sup> Fourth Report, &c.. 1865, 79, p. xvi.

<sup>68</sup> l.c., 80. p. xvi.

<sup>69</sup> l.c., 82. p. xvii.

<sup>70</sup> In our reflecting and reasoning age a man is not worth much who cannot give a good reason for everything, no matter how bad or how crazy. Everything in the world that has been done wrong has been done wrong for the very best of reasons. (Hegel, l.c., p. 249 )

<sup>71</sup> l.c., 85, p. xvii. To similar tender scruples of the glass manufacturers that regular meal-times for the children are impossible because as a consequence a certain quantity of heat, radiated by the furnaces, would be "a pure loss" or "wasted," Commissioner White makes answer. His answer is unlike that of Ure, Senior, &c., and their puny German plagiarists à la Roscher who are touched by the "abstinence," "self-denial," "saving," of the capitalists in the expenditure of their gold, and by their Timur-Tamerlanish prodigality of human life! "A certain amount of heat beyond what is usual at present might also be going to waste, if meal-times were secured in these cases, but it seems likely not equal in money-value to the waste of animal power now going on in glass-houses throughout the kingdom from growing boys not having enough quiet time to eat their meals at ease, with a little rest afterwards for digestion." (l.c., p. xiv.) And this in the year of progress 1865! Without considering the expenditure of strength in lifting and carrying, such a child, in the sheds where bottle and flint glass are made, walks during the performance of his work 15-20 miles in every 6 hours! And the work often lasts 14 or 15 hours! In many of these glass works, as in the Moscow spinning mills, the system of 6 hours' relays is in force. "During the working part of the week six hours is the utmost unbroken period ever attained at any one time for rest, and out of this has to come the time spent in coming and going to and from work, washing, dressing, and meals, leaving a very short period indeed for rest, and none for fresh air and play, unless at the expense of the sleep necessary for young boys, especially at such hot and fatiguing work.... Even the short sleep is obviously liable to be broken by a boy having to wake himself if it is night, or by the noise, if it is day." Mr. White gives cases where a boy worked 36 consecutive hours; others where boys of 12 drudged on until 2 in the morning, and then slept in the works till 5 a.m. (3 hours!) only to resume their work. "The amount of work," say Tremeneere and Tufnell, who drafted the general report, "done by boys, youths, girls, and women, in the course of their daily or nightly spell of labour, is certainly extraordinary." (l.c., xliii. and xlv.) Meanwhile, late by night, self-denying Mr. Glass-Capital, primed with port-wine, reels out of his club homeward droning out idiotically. "Britons never, never shall be slaves!"

<sup>72</sup> In England even now occasionally in rural districts a labourer is condemned to imprisonment for desecrating the Sabbath, by working in his front garden. The same labourer is punished for breach of contract if he remains away from his metal, paper, or glass works on the Sunday, even if it be from a religious whim. The orthodox Parliament will hear nothing of Sabbath-breaking if it occurs in the process of expanding capital. A memorial (August 1863), in which the London day-labourers in fish and poultry shops asked for the abolition of Sunday labour, states that their work lasts for the first 6 days of the week on an average 15 hours a-day, and on Sunday 8-10 hours. From this same memorial we learn also that the delicate gourmands among the aristocratic hypocrites of Exeter Hall, especially

encourage this “Sunday labour.” These “holy ones,” so zealous *in cute curanda* [in attending to their bodily pleasures], show their Christianity by the humility with which they bear the overwork, the privations, and the hunger of others. *Obsequium ventris istis (the labourers) perniciosius est* [Gluttony is more ruinous to their stomachs – paraphrase of Horace].

<sup>73</sup> “We have given in our previous reports the statements of several experienced manufacturers to the effect that over-hours ... certainly tend prematurely to exhaust the working power of the men.” (l.c., 64, p. xiii.)

<sup>74</sup> Cairnes, “The Slave Power,” pp. 110. 111.

<sup>75</sup> John Ward: “The Borough of Stoke-upon-Trent,” London, 1843, p. 42.

<sup>76</sup> Ferrand’s Speech in the House of Commons, 27th April, 1863.

<sup>77</sup> “Those were the very words used by the cotton manufacturers.” l.c.

<sup>78</sup> l.c. Mr. Villiers, despite the best of intentions on his part, was “legally” obliged to refuse the requests of the manufacturers. These gentlemen, however, attained their end through the obliging nature of the local poor law boards. Mr. A. Redgrave, Inspector of Factories, asserts that this time the system under which orphans and pauper children were treated “legally” as apprentices “was not accompanied with the old abuses” (on these “abuses” see Engels, l.c.), although in one case there certainly was “abuse of this system in respect to a number of girls and young women brought from the agricultural districts of Scotland into Lancashire and Cheshire.” Under this system the manufacturer entered into a contract with the workhouse authorities for a certain period. He fed, clothed and lodged the children, and gave them a small allowance of money. A remark of Mr. Redgrave to be quoted directly seems strange, especially if we consider that even among the years of prosperity of the English cotton trade, the year 1860 stands unparalleled, and that, besides, wages were exceptionally high. For this extraordinary demand for work had to contend with the depopulation of Ireland, with unexampled emigration from the English and Scotch agricultural districts to Australia and America, with an actual diminution of the population in some of the English agricultural districts, in consequence partly of an actual breakdown of the vital force of the labourers, partly of the already effected dispersion of the disposable population through the dealers in human flesh. Despite all this Mr. Redgrave says: “This kind of labour, however, would only be sought after when none other could be procured, for it is a high-priced labour. The ordinary wages of a boy of 13 would be about 4s. per week, but to lodge, to clothe, to feed, and to provide medical attendance and proper superintendence for 50 or 100 of these boys, and to set aside some remuneration for them, could not be accomplished for 4s. a-head per week.” (Report of the Inspector of Factories for 30th April, 1860, p. 27.) Mr. Redgrave forgets to tell us how the labourer himself can do all this for his children out of their 4s. a-week wages, when the manufacturer cannot do it for the 50 or 100 children lodged, boarded, superintended all together. To guard against false conclusions from the text, I ought here to remark that the English cotton industry, since it was placed under the Factory Act of 1850 with its regulations of labour-time, &c., must be regarded as the model industry of England. The English cotton operative is in every respect better off than his Continental companion in misery. “The Prussian factory operative labours at least ten hours per week more than his English competitor, and if employed at his own loom in his own house, his labour is not restricted to even those additional hours. (“Rep. of Insp. of Fact.,” 31st October, 1855, p. 103.) Redgrave, the Factory Inspector mentioned above, after the Industrial Exhibition in 1851, travelled on the Continent, especially in France and Germany, for the purpose of inquiring into the conditions of the factories. Of the Prussian operative he says: “He receives a remuneration sufficient to procure the simple fare, and to supply the slender comforts to which he has been accustomed ... he lives upon his coarse fare, and works hard, wherein his position is subordinate to that of the English operative.” (“Rep. of Insp. of Fact.” 31st Oct., 1855, p. 85.)

<sup>79</sup> The over-worked “die off with strange rapidity; but the places of those who perish are instantly filled, and a frequent change of persons makes no alteration in the scene.” (“England and America.” London, 1833, vol. I, p. 55. By E. G. Wakefield.)

<sup>80</sup> See “Public Health. Sixth Report of the Medical Officer of the Privy Council, 1863.” Published in London 1864. This report deals especially with the agricultural labourers. “Sutherland ... is commonly represented as a highly improved county ... but ... recent inquiry has discovered that even there, in districts once famous for fine men and gallant soldiers, the inhabitants have degenerated into a meagre and stunted race. In the healthiest situations, on hill sides fronting the sea, the faces of their famished children are as pale as they could be in the foul atmosphere of a London alley.” (W. Th. Thornton. “Overpopulation and its Remedy.” l.c., pp. 74, 75.) They resemble in fact the 30,000 “gallant Highlanders” whom Glasgow pigs together in its wynds and closes, with prostitutes and thieves.

<sup>81</sup> “But though the health of a population is so important a fact of the national capital, we are afraid it must be said that the class of employers of labour have not been the most forward to guard and cherish this treasure.... The consideration of the health of the operatives was forced upon the mill-owners.” (*Times*, November 5th, 1861.) “The men of the West Riding became the clothiers of mankind ... the health of the workpeople was sacrificed, and the race in a few generations must have degenerated. But a reaction set in. Lord Shaftesbury’s Bill limited the hours of children’s labour,” &c. (“Report of the Registrar-General,” for October 1861.)

<sup>82</sup> We, therefore, find, e.g., that in the beginning of 1863, 26 firms owning extensive potteries in Staffordshire, amongst others, Josiah Wedgwood, & Sons, petition in a memorial for “some legislative enactment.” Competition with other capitalists permits them no voluntary limitation of working-time for children, &c. “Much as we deplore the evils before mentioned, it would not be possible to prevent them by any scheme of agreement between the manufacturers. ... Taking all these points into consideration, we have come to the conviction that some legislative enactment is wanted.” (“Children’s Employment Comm.” Rep. I, 1863, p. 322.) Most recently a much more striking example offers. The rise in the price of cotton during a period of feverish activity, had induced the manufacturers in Blackburn to shorten, by mutual consent, the working-time in their mills during a certain fixed period. This period terminated about the end of November, 1871. Meanwhile, the wealthier manufacturers, who combined spinning with weaving, used the diminution of production resulting from this agreement, to extend their own business and thus to make great profits at the expense of the small employers. The latter thereupon turned in their extremity to the operatives, urged them earnestly to agitate for the 9 hours’ system, and promised contributions in money to this end.

<sup>83</sup> The labour Statutes, the like of which were enacted at the same time in France, the Netherlands, and elsewhere, were first formally repealed in England in 1813, long after the changes in methods of production had rendered them obsolete.

<sup>84</sup> “No child under 12 years of age shall be employed in any manufacturing establishment more than 10 hours in one day.” General Statutes of Massachusetts, 63, ch. 12. (The various Statutes were passed between 1836 and 1858.) “Labour performed during a period of 10 hours on any day in all cotton, woollen, silk, paper, glass, and flax factories, or in manufactories of iron and brass, shall be considered a legal day’s labour. And be it enacted, that hereafter no minor engaged in any factory shall be holden or required to work more than 10 hours in any day, or 60 hours in any week; and that hereafter no minor shall be admitted as a worker under the age of 10 years in any factory within this State.” State of New Jersey. An Act to limit the hours of labour, &c., § 1 and 2. (Law of 18th March, 1851.) “No minor who has attained the age of 12 years, and is under the age of 15 years, shall be employed in any manufacturing establishment more than 11 hours in any one day, nor before 5 o’clock in the morning, nor after 7.30 in the evening.” (“Revised Statutes of the State of Rhode Island,” &c., ch. 139, § 23, 1st July, 1857.)

<sup>85</sup> "Sophisms of Free Trade." 7th Ed. London, 1850, p. 205, 9th Ed., p. 253. This same Tory, moreover, admits that "Acts of Parliament regulating wages, but against the labourer and in favour of the master, lasted for the long period of 464 years. Population grew. These laws were then found, and really became, unnecessary and burdensome." (l.c., p. 206.)

<sup>86</sup> In reference to this statute, J. Wade with truth remarks: "From the statement above (i.e., with regard to the statute) it appears that in 1496 the diet was considered equivalent to one-third of the income of an artificer and one-half the income of a labourer, which indicates a greater degree of independence among the working-classes than prevails at present; for the board, both of labourers and artificers, would now be reckoned at a much higher proportion of their wages." (J. Wade, "History of the Middle and Working Classes," pp. 24, 25, and 577.) The opinion that this difference is due to the difference in the price-relations between food and clothing then and now is refuted by the most cursory glance at "Chronicon Preciosum, &c." By Bishop Fleetwood. 1st Ed., London, 1707; 2nd Ed., London, 1745.

<sup>87</sup> W. Petty. "Political Anatomy of Ireland, Verbum Sapienti," 1672, Ed. 1691, p. 10.

<sup>88</sup> "A Discourse on the necessity of encouraging Mechanick Industry," London, 1690, p. 13. Macaulay, who has falsified English history in the interests of the Whigs and the bourgeoisie, declares as follows: "The practice of setting children prematurely to work ... prevailed in the 17th century to an extent which, when compared with the extent of the manufacturing system, seems almost incredible. At Norwich, the chief seat of the clothing trade, a little creature of six years old was thought fit for labour. Several writers of that time, and among them some who were considered as eminently benevolent, mention with exultation the fact that in that single city, boys and girls of very tender age create wealth exceeding what was necessary for their own subsistence by twelve thousand pounds a year. The more carefully we examine the history of the past, the more reason shall we find to dissent from those who imagine that our age has been fruitful of new social evils.... That which is new is the intelligence and the humanity which remedies them." ("History of England," vol. 1., p. 417.) Macaulay might have reported further that "extremely well-disposed" *amis du commerce* in the 17th century, narrate with "exultation" how in a poorhouse in Holland a child of four was employed, and that this example of "*vertu mise en pratique*" [applied virtue] passes muster in all the humanitarian works, *à la* Macaulay, to the time of Adam Smith. It is true that with the substitution of manufacture for handicrafts, traces of the exploitation of children begin to appear. This exploitation existed always to a certain extent among peasants, and was the more developed, the heavier the yoke pressing on the husbandman. The tendency of capital is there unmistakably; but the facts themselves are still as isolated as the phenomena of two-headed children. Hence they were noted "with exultation" as especially worthy of remark and as wonders by the far-seeing "*amis du commerce*," and recommended as models for their own time and for posterity. This same Scotch sycophant and fine talker, Macaulay, says: "We hear to-day only of retrogression and see only progress." What eyes, and especially what ears!

<sup>89</sup> Among the accusers of the workpeople, the most angry is the anonymous author quoted in the text of "An Essay on Trade and Commerce, containing Observations on Taxes, &c.," London, 1770. He had already dealt with this subject in his earlier work: "Considerations on Taxes." London, 1765. On the same side follows Polonius Arthur Young, the unutterable statistical prattler. Among the defenders of the working-classes the foremost are: Jacob Vanderlint, in: "Money Answers all Things." London, 1734, the Rev. Nathaniel Forster, D. D., in "An Enquiry into the Causes of the Present High Price of Provisions," London, 1767; Dr. Price, and especially Postlethwayt, as well in the supplement to his "Universal Dictionary of Trade and Commerce," as in his "Great Britain's Commercial Interest explained and improved." 2nd Edition, 1755. The facts themselves are confirmed by many other writers of the time, among others by Josiah Tucker.

<sup>90</sup> Postlethwayt, l.c., "First Preliminary Discourse," p. 14.



<sup>91</sup> “An Essay,” &c. He himself relates on p. 96 wherein the “happiness” of the English agricultural labourer already in 1770 consisted. “Their powers are always upon the stretch, they cannot live cheaper than they do, nor work harder.”

<sup>92</sup> Protestantism, by changing almost all the traditional holidays into workdays, plays an important part in the genesis of capital.

<sup>93</sup> “An Essay,” 4c., pp. 15, 41, 96, 97, 55, 57, 69. — Jacob Vanderlint, as early as 1734, declared that the secret of the out-cry of the capitalists as to the laziness of the working people was simply that they claimed for the same wages 6 days’ labour instead of 4.

<sup>94</sup> l.c., p. 242.

<sup>95</sup> l.c. “The French,” he says, “laugh at our enthusiastic ideas of liberty.” l.c., p. 78.

<sup>96</sup> “They especially objected to work beyond the 12 hours per day, because the law which fixed those hours, is the only good which remains to them of the legislation of the Republic.” (“Rep. of Insp. of Fact.”, 31 st October, 1856, p. 80.) The French Twelve Hours’ Bill of September 5th, 1850, a bourgeois edition of the decree of the Provisional Government of March 2nd, 1848, holds in all workshops without exceptions. Before this law the working day in France was without definite limit. It lasted in the factories 14, 15, or more hours. See “Des classes ouvrières en France, pendant l’année 1848. Par M. Blanqui.” M. Blanqui the economist, not the Revolutionist, had been entrusted by the Government with an inquiry into the condition of the working-class.

<sup>97</sup> Belgium is the model bourgeois state in regard to the regulation of the working day. Lord Howard of Welden, English Plenipotentiary at Brussels, reports to the Foreign Office May 12th, 1862: “M. Rogier, the minister, informed me that children’s labour is limited neither by a general law nor by any local regulations; that the Government, during the last three years, intended in every session to propose a bill on the subject, but always found an insuperable obstacle in the jealous opposition to any legislation in contradiction with the principle of perfect freedom of labour.”

<sup>98</sup> “It is certainly much to be regretted that any class of persons should toil 12 hours a day, which, including the time for their meals and for going to and returning from their work, amounts, in fact, to 14 of the 24 hours.... Without entering into the question of health, no one will hesitate, I think, to admit that, *in a moral point of view*, so entire an absorption of the time of the working-classes, without intermission, from the early age of 13, and in trades not subject to restriction, much younger, must be extremely prejudicial, and is an evil greatly to be deplored.... For the sake, therefore, of public morals, of bringing up an orderly population, and of giving the great body of the people a reasonable enjoyment of life, it is much to be desired that in all trades some portion of every working day should be reserved for rest and leisure.” (Leonard Horner in “Reports of Insp. of Fact. for 31st Dec., 1841.”)

<sup>99</sup> See “Judgment of Mr. J. H. Otway, Belfast. Hilary Sessions, County Antrim, 1860.”

<sup>100</sup> It is very characteristic of the regime of Louis Philippe, the bourgeois king, that the one Factory Act passed during his reign, that of March 22nd, 1841, was never put in force. And this law only dealt with child-labour. It fixed 8 hours a day for children between 8 and 12, 12 hours for children between 12 and 16, &c., with many exceptions which allow night-work even for children 8 years old. The supervision and enforcement of this law are, in a country where every mouse is under police administration, left to the good-will of the *amis du commerce*. Only since 1853, in one single department — the Departement du Nord — has a paid government inspector been appointed. Not less characteristic of the development of French society, generally, is the fact, that Louis Philippe’s law stood solitary among the all-embracing mass of French laws, till the Revolution of 1848.

<sup>101</sup> “Report of Insp. of Fact.” 30th April, 1860, p. 50.

<sup>102</sup> “Rept. of Insp. of Fact.,” 31st October, 1849, p. 6

<sup>103</sup> “Rept. of Insp. of Fact.,” 31st October, 1848, p. 98.

<sup>104</sup> Leonard Horner uses the expression “nefarious practices” in his official reports. (“Report of Insp. of Fact.,” 31st October, 1859, p. 7.)

<sup>105</sup> “Rept.,” &c., 30th Sept., 1844, p. 15.

<sup>106</sup> The Act allows children to be employed for 10 hours if they do not work day after day, but only on alternate days. In the main, this clause remained inoperative.

<sup>107</sup> “As a reduction in their hours of work would cause a larger number (of children) to be employed, it was thought that the additional supply of children from 8 to 9 years of age would meet the increased demand” (l.c., p. 13 ).

<sup>108</sup> Rep. of Insp. of Fact.,” 31st Oct., 1848, p. 16.

<sup>109</sup> “I found that men who had been getting 10s. a week, had had 1s. taken off for a reduction in the rate of 10 per cent, and 1s. 6d. off the remaining 9s. for the reduction in time, together 2s. 6d.. and notwithstanding this, many of them said they would rather work 10 hours.” l.c.

<sup>110</sup> “‘Though I signed it [the petition], I said at the time I was putting my hand to a wrong thing.’ ‘Then why did you put your hand to it?’ ‘Because I should have been turned off if I had refused.’ Whence it would appear that this petitioner felt himself ‘oppressed,’ but not exactly by the Factory Act.” l.c., p. 102.

<sup>111</sup> p. 17, l.c. In Mr. Horner’s district 10,270 adult male labourers were thus examined in 181 factories. Their evidence is to be found in the appendix to the Factory Reports for the half-year ending October 1848. These examinations furnish valuable material in other connexions also.

<sup>112</sup> l.c. See the evidence collected by Leonard Horner himself, Nos. 69, 70, 71, 72, 92, 93, and that collected by Sub-Inspector A., Nos. 51, 52, 58, 59, 62, 70, of the Appendix. One manufacturer, too, tells the plain truth. See No. 14, and No. 265, l.c.

<sup>113</sup> Reports, &c., for 31st October, 1848, pp. 133, 134.

<sup>114</sup> Reports, &c., for 30th April, 1848, p. 47.

<sup>115</sup> Reports, &c., for 31st October, 1848, p. 130.

<sup>116</sup> Reports, &c., l.c., p. 142.

<sup>117</sup> Reports &c., for 31st October, 1850, pp. 5, 6.

<sup>118</sup> The nature of capital remains the same in its developed as in its undeveloped form. In the code which the influence of the slave-owners, shortly before the outbreak of the American Civil War, imposed on the territory of New Mexico, it is said that the labourer, in as much as the capitalist has bought his labour-power, “is his (the capitalist’s) money.” The same view was current among the Roman patricians. The money they had advanced to the plebeian debtor had been transformed via the means of subsistence into the flesh and blood of the debtor. This “flesh and blood” were, therefore, “their money.” Hence, the Shylock-law of the Ten Tables. Linguet’s hypothesis that the patrician creditors from time to time prepared, beyond the Tiber, banquets of debtors’ flesh, may remain as undecided as that of Daumer on the Christian Eucharist.

<sup>119</sup> Reports, &c.. for 30th April, 1848, p. 28.

<sup>120</sup> Thus, among others, Philanthropist Ashworth to Leonard Horner, in a disgusting Quaker letter. (Reports, &c., April, 1849, p. 4.)

<sup>121</sup> l.c., p. 140.

<sup>122</sup> Reports, &c., for 30th April, 1849, pp. 21, 22. Cf like examples *ibid.*, pp. 4, 5.

<sup>123</sup> By I. and II. Will. IV., ch. 24, s. 10, known as Sir John Hobhouse’s Factory Act, it was forbidden to any owner of a cotton-spinning or weaving mill, or the father, son, or brother of such owner, to act as Justice of the Peace in any inquiries that concerned the Factory Act.

<sup>124</sup> l.c.

<sup>125</sup> Reports, &c., for 30th April, 1849, p. 5.

<sup>126</sup> Reports, &c., for 31st October, 1849, p. 6.

<sup>127</sup> Reports, &c., for 30th April, 1849, p. 21.

<sup>128</sup> Reports, &c., for 31st October, 1848, p. 95.

<sup>129</sup> See Reports, &c., for 30th April, 1849, p. 6, and the detailed explanation of the “shifting system,” by Factory Inspectors Howell and Saunders, in “Reports, &c., for 31st October, 1848.” See also the petition to the Queen from the clergy of Ashton and vicinity, in the spring of 1849, against the “shift system.”

<sup>130</sup> Cf. for example, “The Factory Question and the Ten Hours’ Bill.”, By R. H. Greg, 1837.

<sup>131</sup> F. Engels: “The English Ten Hours’ Bill.” (In the “*Neue Rheinische Zeitung. Politisch-ökonomische Revue.*” Edited by K. Marx. April number, 1850, p. 13.) The same “high” Court of Justice discovered, during the American Civil War, a verbal ambiguity which exactly reversed the meaning of the law against the arming of pirate ships.

<sup>132</sup> Rep., &c., for 30th April, 1850.

<sup>133</sup> In winter, from 7 a.m. to 7 p.m. may be substituted.

<sup>134</sup> “The present law (of 1850) was a compromise whereby the employed surrendered the benefit of the Ten Hours’ Act for the advantage of one uniform period for the commencement and termination of the labour of those whose labour is restricted.” (Reports, &c., for 30th April, 1852, p. 14.)

<sup>135</sup> Reports, &c., for Sept., 1844, p. 13.

<sup>136</sup> l.c.

<sup>137</sup> l.c.

<sup>138</sup> “Reports, &c., for 31st Oct., 1846,” p. 20.

<sup>139</sup> Reports, &c., for 31st Oct., 1861, p. 26.

<sup>140</sup> l.c., p. 27. On the whole the working population, subject to the Factory Act, has greatly improved physically. All medical testimony agrees on this point, and personal observation at different times has convinced me of it. Nevertheless, and exclusive of the terrible death-rate of children in the first years of their life, the official reports of Dr. Greenhow show the unfavourable health condition of the manufacturing districts as compared with “agricultural districts of normal health.” As evidence, take the following table from his 1861 report: —

<b>Percentage of Adult Males Engaged in Manufactures</b>	14.9	42.6	37.3	41.9	31.0	14.9	36.6	30.4	—
<b>Death-rate from Pulmonary Affections per 100,000 Males</b>	598	708	547	611	691	588	721	726	305

Name of District	Wigan	Blackburn	Halifax	Bradford	Macclesfield	Leek	Stoke-upon-Trent	Woolstanton	Eight healthy agricultural districts
Death-rate from Pulmonary Affections per 100,000 Females	644	734	564	603	804	705	665	727	340
Percentage of Adult Females Engaged in Manufactures	18.0	34.9	20.4	30.0	26.0	17.2	19.3	13.9	—
Kind of Female Occupation	Cotton	Do.	Worsted	Do.	Silk	Do.	Earthenware	Do.	—

<sup>141</sup> It is well known with what reluctance the English “Free-traders” gave up the protective duty on the silk manufacture. Instead of the protection against French importation, the absence of protection to English factory children now serves their turn.

<sup>142</sup> During 1859 and 1860, the zenith years of the English cotton industry, some manufacturers tried, by the decoy bait of higher wages for over-time, to reconcile the adult male operatives to an extension of the working day. The hand-mule spinners and self-actor mincers put an end to the experiment by a petition to their employers in which they say, “Plainly speaking, our lives are to us a burthen; and, while we are confined to the mills *nearly two days a week more* than the other operatives of the country, we feel like helots in the land, and that we are perpetuating a system injurious to ourselves and future generations.... This, therefore, is to give you most respectful notice that when we commence work again after the Christmas and New Year’s holidays, we shall work 60 hours per week, and no more, or from six to six, with one hour and a half out.” (Reports, &c., for 30th April, 1860, p. 30.)

<sup>143</sup> On the means that the wording of this Act afforded for its violation of the Parliamentary Return “Factories Regulation Act” (6th August, 1859), and in it Leonard Horner’s “Suggestions for amending the Factory Acts to enable the Inspectors to prevent illegal working, now becoming very prevalent.”

<sup>144</sup> Children of the age of 8 years and upwards, have, indeed, been employed from 6 a.m. to 9 p.m. during the last half year in my district.” (Reports, &c., for 31st October, 1857, p. 39.)

<sup>145</sup> “The Printworks’ Act is admitted to be a failure both with reference to its educational and protective provisions.” (Reports, &c., for 31st October, 1862, p. 52.)

<sup>146</sup> Thus, *e.g.*, E. Potter in a letter to the *Times* of March 24th, 1863. The *Times* reminded him of the maufacturers’ revolt against the Ten Hours’ Bill.

<sup>147</sup> Thus, among others, Mr. W. Newmarch, collaborator and editor of Tooke’s “History of Prices.” Is it a scientific advance to make cowardly concessions to public opinion?

<sup>148</sup> The Act passed in 1860, determined that, in regard to dye and bleachworks, the working day should be fixed on August 1st, 1861, provisionally at 12 hours, and definitely on August 1st, 1862, at

10 hours, *i.e.*, at 10½ hours for ordinary days, and 7½ for Saturday. Now, when the fatal year, 1862, came, the old farce was repeated. Besides, the manufacturers petitioned Parliament to allow the employment of young persons and women for 12 hours during one year longer. "In the existing condition of the trade (the time of the cotton famine), it was greatly to the advantage of the operatives to work 12 hours per day, and make wages when they could." A bill to this effect had been brought in, "and it was mainly due to the action of the operative bleachers in Scotland that the bill was abandoned." (Reports, &c., for 31st October, 1862, pp. 14-15.) Thus defeated by the very workpeople, in whose name it pretended to speak, Capital discovered, with the help of lawyer spectacles, that the Act of 1860, drawn up, like all the Acts of Parliament for the "protection of labour," in equivocal phrases, gave them a pretext to exclude from its working the calenderers and finishers. English jurisprudence, ever the faithful servant of capital, sanctioned in the Court of Common Pleas this piece of pettifoggery. "The operatives have been greatly disappointed ... they have complained of over-work, and it is greatly to be regretted that the clear intention of the legislature should have failed by reason of a faulty definition." (l.c., p. 18.)

<sup>149</sup> The "open-air bleachers" had evaded the law of 1860, by means of the lie that no women worked at it in the night. The lie was exposed by the Factory Inspectors, and at the same time Parliament was, by petitions from the operatives, bereft of its notions as to the cool meadow-fragrance, in which bleaching in the open-air was reported to take place. In this aerial bleaching, drying-rooms were used at temperatures of from 90° to 100° Fahrenheit, in which the work was done for the most part by girls. "Cooling" is the technical expression for their occasional escape from the drying-rooms into the fresh air. "Fifteen girls in stoves. Heat from 80° to 90° for linens, and 100° and upwards for cambrics. Twelve girls ironing and doing-up in a small room about 10 feet square, in the centre of which is a close stove. The girls stand round the stove, which throws out a terrific heat, and dries the cambrics rapidly for the ironers. The hours of work for these hands are unlimited. If busy, they work till 9 or 12 at night for successive nights." (Reports, &c., for 31st October, 1862, p. 56.) A medical man states: "No special hours are allowed for cooling, but if the temperature gets too high, or the workers' hands get soiled from perspiration, they are allowed to go out for a few minutes.... My experience, which is considerable, in treating the diseases of stove workers, compels me to express the opinion that their sanitary condition is by no means so high as that of the operatives in a spinning factory (and Capital, in its memorials to Parliament, had painted them as floridly healthy after the manner of Rubens.) The diseases most observable amongst them are phthisis, bronchitis, irregularity of uterine functions, hysteria in its most aggravated forms, and rheumatism. All of these, I believe, are either directly or indirectly induced by the impure, overheated air of the apartments in which the hands are employed and the want of sufficient comfortable clothing to protect them from the cold, damp atmosphere, in winter, when going to their homes." (l.c., pp. 56-57.) The Factory Inspectors remarked on the supplementary law of 1860, torn from these open-air bleachers: "The Act has not only failed to afford that protection to the workers which it appears to offer, but contains a clause ... apparently so worded that, unless persons are detected working after 8 o'clock at night they appear to come under no protective provisions at all, and if they do so work the mode of proof is so doubtful that a conviction can scarcely follow." (l.c., p. 52.) "To all intents and purposes, therefore, as an Act for any benevolent or educational purpose, it is a failure; since it can scarcely be called benevolent to permit, which is tantamount to compelling, women and children to work 14 hours a day with or without meals, as the case may be, and perhaps for longer hours than these, without limit as to age, without reference to sex, and without regard to the social habits of the families of the neighbourhood, in which such works (bleaching and dyeing) are situated." (Reports, &c., for 30th April, 1863, p. 40.)

<sup>150</sup> *Note to the 2nd Ed.* Since 1866, when I wrote the above passages, a reaction has again set in.

<sup>151</sup> "The conduct of each of these classes (capitalists and workmen) has been the result of the relative situation in which they have been placed." (Reports, &c., for 31st October, 1848, p. 113.)

<sup>152</sup> “The employments, placed under restriction, were connected with the manufacture of textile fabrics by the aid of steam or water-power. There were two conditions to which an employment must be subject to cause it to be inspected, viz., the use of steam or waterpower, and the manufacture of certain specified fibre.” (Reports, &c., for 31st October, 1864, p. 8.)

<sup>153</sup> On the condition of so-called domestic industries, specially valuable materials are to be found in the latest reports of the Children’s Employment Commission.

<sup>154</sup> “The Acts of last Session (1864) ... embrace a diversity of occupations, the customs in which differ greatly, and the use of mechanical power to give motion to machinery is no longer one of the elements necessary, as formerly, to constitute, in legal phrase, a ‘Factory.’” (Reports, &c., for 31st October, 1864, p. 8.)

<sup>155</sup> Belgium, the paradise of Continental Liberalism, shows no trace of this movement. Even in the coal and metal mines labourers of both sexes, and all ages, are consumed, in perfect “freedom” at any period and through any length of time. Of every 1,000 persons employed there, 733 are men, 88 women, 135 boys, and 44 girls under 16; in the blast furnaces, &c., of every 1,000, 668 are men, 149 women, 98 boys, and 85 girls under 16. Add to this the low wages for the enormous exploitation of mature and immature labour-power. The average daily pay for a man is 2s. 8d., for a woman, 1s. 8d., for a boy, 1s. 2½d. As a result, Belgium had in 1863, as compared with 1850, nearly doubled both the amount and the value of its exports of coal, iron, &c.

<sup>156</sup> Robert Owen, soon after 1810, not only maintained the necessity of a limitation of the working day in theory, but actually introduced the 10 hours’ day into his factory at New Lanark. This was laughed at as a communistic Utopia; so were his “Combination of children’s education with productive labour and the Co-operative Societies of Workingmen”, first called into being by him. To-day, the first Utopia is a Factory Act, the second figures as an official phrase in all Factory Acts, the third is already being used as a cloak for reactionary humbug.

<sup>157</sup> Ure: “French translation, Philosophie des Manufactures.” Paris, 1836, Vol. II, pp. 39, 40, 67, 77, &c.

<sup>158</sup> In the *Compte Rendu* of the International Statistical Congress at Paris, 1855, it is stated: “The French law, which limits the length of daily labour in factories and workshops to 12 hours, does not confine this work to definite fixed hours. For children’s labour only the work-time is prescribed as between 5 a.m. and 9 p.m. Therefore, some of the masters use the right which this fatal silence gives them to keep their works going, without intermission, day in, day out, possibly with the exception of Sunday. For this purpose they use two different sets of workers, of whom neither is in the workshop more than 12 hours at a time, but the work of the establishment lasts day and night. The law is satisfied, but is humanity?” Besides “the destructive influence of night-labour on the human organism,” stress is also laid upon “the fatal influence of the association of the two sexes by night in the same badly-lighted workshops.”

<sup>159</sup> “For instance, there is within my district one occupier who, within the same curtilage, is at the same time a bleacher and dyer under the Bleaching and Dyeing Works Act, a printer under the Print Works Act, and a finisher under the Factory Act.” (Report of Mr. Baker, in Reports, lic., for October 31st, 1861, p. 20.) After enumerating the different provisions of these Acts, and the complications arising from them, Mr. Baker says: “It will hence appear that it must be very difficult to secure the execution of these three Acts of Parliament where the occupier chooses to evade the law.” But what is assured to the lawyers by this is law-suits.

<sup>160</sup> Thus the Factory Inspectors at last venture to say: “These objections (of capital to the legal limitation of the working day) must succumb before the broad principle of the rights of labour.... There is a time when the master’s right in his workman’s labour ceases, and his time becomes his own, even if there were no exhaustion in the question.” (Reports, &c., for 31 st Oct., 1862, p. 54.)

<sup>161</sup> “We, the workers of Dunkirk, declare that the length of time of labour required under the present system is too great, and that, far from leaving the worker time for rest and education, it plunges him into a condition of servitude but little better than slavery. That is why we decide that 8 hours are enough for a working day, and ought to be legally recognised as enough; why we call to our help that powerful lever, the press; ... and why we shall consider all those that refuse us this help as enemies of the reform of labour and of the rights of the labourer.” (Resolution of the Working Men of Dunkirk, New York State, 1866.)

<sup>162</sup> Reports, &c., for Oct., 1848, p. 112.

<sup>163</sup> “The proceedings (the manoeuvres of capital, e.g., from 1848-50) have afforded, moreover, incontrovertible proof of the fallacy of the assertion so often advanced, that operatives need no protection, but may be considered as free agents in the disposal of the only property which they possess — the labour of their hands and the sweat of their brows.” (Reports, &c., for April 30th, 1850, p. 45.) “Free labour (if so it may be termed) even in a free country, requires the strong arm of the law to protect it.” (Reports, &c., for October 31st, 1864, p. 34.) “To permit, which is tantamount to compelling ... to work 14 hours a day with or without meals,” &c. (Repts., &c., for April 30th, 1863, p. 40.)

<sup>164</sup> Friedrich Engels, l.c., p. 5.

<sup>165</sup> The 10 Hours’ Act has, in the branches of industry that come under it, “put an end to the premature decrepitude of the former long-hour workers.” (Reports, &c., for 31st Oct., 1859, p. 47.) “Capital (in factories) can never be employed in keeping the machinery in motion beyond a limited time, without certain injury to the health and morals of the labourers employed; and they are not in a position to protect themselves.” (l.c., p. 8)

<sup>166</sup> “A still greater boon is the distinction at last made clear between the worker’s own time and his master’s. The worker knows now when that which he sells is ended, and when his own begins; and by possessing a sure foreknowledge of this, is enabled to prearrange his own minutes for his own purposes.” (l.c., p. 52.) “By making them masters of their own time (the Factory Acts) have given them a moral energy which is directing them to the eventual possession of political power” (l.c., p. 47). With suppressed irony, and in very well weighed words, the Factory Inspectors hint that the actual law also frees the capitalist from some of the brutality natural to a man who is a mere embodiment of capital, and that it has given him time for a little “culture.” “Formerly the master had no time for anything but money; the servant had no time for anything but labour” (l.c., p. 48).

## Chapter 11: Rate and Mass of Surplus-Value

In this chapter, as hitherto, the value of labour-power, and therefore the part of the working day necessary for the reproduction or maintenance of that labour-power, are supposed to be given, constant magnitudes.

This premised, with the rate, the mass is at the same time given of the surplus-value that the individual labourer furnishes to the capitalist in a definite period of time. If, *e.g.*, the necessary labour amounts to 6 hours daily, expressed in a quantum of gold = 3 shillings, then 3s. is the daily value of one labour-power or the value of the capital advanced in the buying of one labour-power. If, further, the rate of surplus-value be = 100%, this variable capital of 3s. produces a mass of surplus-value of 3s., or the labourer supplies daily a mass of surplus labour equal to 6 hours.

But the variable capital of a capitalist is the expression in money of the total value of all the labour-powers that he employs simultaneously. Its value is, therefore, equal to the average value of one labour-power, multiplied by the number of labour-powers employed. With a given value of labour-power, therefore, the magnitude of the variable capital varies directly as the number of labourers employed simultaneously. If the daily value of one labour-power = 3s., then a capital of 300s. must be advanced in order to exploit daily 100 labour-powers, or  $n$  times 3s., in order to exploit daily  $n$  labour-powers.

In the same way, if a variable capital of 3s., being the daily value of one labour-power, produce a daily surplus-value of 3s., a variable capital of 300s. will produce a daily surplus-value of 300s., and one of  $n$  times 3s. a daily surplus-value of  $n \times 3s.$  The mass of the surplus-value produced is therefore equal to the surplus-value which the working day of one labourer supplies multiplied by the number of labourers employed. But as further the mass of surplus-value which a single labourer produces, the value of labour-power being given, is determined by the rate of the surplus-value, this law follows: the mass of the surplus-value produced is equal to the amount of the variable capital advanced, multiplied by the rate of surplus-value, in other words: it is determined by the compound ratio between the number of labour-powers exploited simultaneously by the same capitalist and the degree of exploitation of each individual labour-power.

Let the mass of the surplus-value be  $S$ , the surplus-value supplied by the individual labourer in the average day  $s$  the variable capital daily advanced in the purchase of one individual labour-power  $v$ , the sum total of the variable capital  $V$ , the value of an average labour-power  $P$ , its degree of exploitation  $(a'/a)$  (surplus labour/necessary-labour) and the number of labourers employed  $n$ ; we would have:

$$S = \left\{ \begin{array}{l} (s/v) \times V \\ P \times (a'/a) \times n \end{array} \right.$$

It is always supposed, not only that the value of an average labour-power is constant, but that the labourers employed by a capitalist are reduced to average labourers. There are exceptional cases in which the surplus-value produced does not increase in proportion to the number of labourers exploited, but then the value of the labour-power does not remain constant.

In the production of a definite mass of surplus-value, therefore the decrease of one factor may be compensated by the increase of the other. If the variable capital diminishes, and at the same time



the rate of surplus-value increases in the same ratio, the mass of surplus-value produced remains unaltered. If on our earlier assumption the capitalist must advance 300s., in order to exploit 100 labourers a day, and if the rate of surplus-value amounts to 50%, this variable capital of 300s. yields a surplus-value of 150s. or of  $100 \times 3$  working hours. If the rate of surplus-value doubles, or the working day, instead of being extended from 6 to 9, is extended from 6 to 12 hours and at the same time variable capital is lessened by half, and reduced to 150s., it yields also a surplus-value of 150s. or  $50 \times 6$  working hours. Diminution of the variable capital may therefore be compensated by a proportionate rise in the degree of exploitation of labour-power, or the decrease in the number of the labourers employed by a proportionate extension of the working day. Within certain limits therefore the supply of labour exploitable by capital is independent of the supply of labourers.<sup>1</sup> On the contrary, a fall in the rate of surplus-value leaves unaltered the mass of the surplus-value produced, if the amount of the variable capital, or number of the labourers employed, increases in the same proportion.

Nevertheless, the compensation of a decrease in the number of labourers employed, or of the amount of variable capital advanced by a rise in the rate of surplus-value, or by the lengthening of the working day, has impassable limits. Whatever the value of labour-power may be, whether the working time necessary for the maintenance of the labourer is 2 or 10 hours, the total value that a labourer can produce, day in, day out, is always less than the value in which 24 hours of labour are embodied, less than 12s., if 12s. is the money expression for 24 hours of realised labour. In our former assumption, according to which 6 working hours are daily necessary in order to reproduce the labour-power itself or to replace the value of the capital advanced in its purchase, a variable capital of 1,500s., that employs 500 labourers at a rate of surplus-value of 100% with a 12 hours' working day, produces daily a surplus-value of 1,500s. or of  $6 \times 500$  working hours. A capital of 300s. that employs 100 labourers a day with a rate of surplus-value of 200% or with a working day of 18 hours, produces only a mass of surplus-value of 600s. or  $12 \times 100$  working hours; and its total value-product, the equivalent of the variable capital advanced plus the surplus-value, can, day in, day out, never reach the sum of 1,200s. or  $24 \times 100$  working hours. The absolute limit of the average working day – this being by nature always less than 24 hours – sets an absolute limit to the compensation of a reduction of variable capital by a higher rate of surplus-value, or of the decrease of the number of labourers exploited by a higher degree of exploitation of labour-power. This palpable law is of importance for the clearing up of many phenomena, arising from a tendency (to be worked out later on) of capital to reduce as much as possible the number of labourers employed by it, or its variable constituent transformed into labour-power, in contradiction to its other tendency to produce the greatest possible mass of surplus-value. On the other hand, if the mass of labour-power employed, or the amount of variable capital, increases, but not in proportion to the fall in the rate of surplus-value, the mass of the surplus-value produced, falls.

A third law results from the determination, of the mass of the surplus-value produced, by the two factors: rate of surplus-value and amount of variable capital advanced. The rate of surplus-value, or the degree of exploitation of labour-power, and the value of labour-power, or the amount of necessary working time being given, it is self evident that the greater the variable capital, the greater would be the mass of the value produced and of the surplus-value. If the limit of the working day is given, and also the limit of its necessary constituent, the mass of value and surplus-value that an individual capitalist produces, is clearly exclusively dependent on the mass of labour that he sets in motion. But this, under the conditions supposed above, depends on the mass of labour-power, or the number of labourers whom he exploits, and this number in its turn is determined by the amount of the variable capital advanced. With a given rate of surplus-value,

and a given value of labour-power, therefore, the masses of surplus-value produced vary directly as the amounts of the variable capitals advanced. Now we know that the capitalist divides his capital into two parts. One part he lays out in means of production. This is the constant part of his capital. The other part he lays out in living labour-power. This part forms his variable capital. On the basis of the same mode of social production, the division of capital into constant and variable differs in different branches of production, and within the same branch of production, too, this relation changes with changes in the technical conditions and in the social combinations of the processes of production. But in whatever proportion a given capital breaks up into a constant and a variable part, whether the latter is to the former as 1:2 or 1:10 or 1:x, the law just laid down is not affected by this. For, according to our previous analysis, the value of the constant capital reappears in the value of the product, but does not enter into the newly produced value, the newly created value product. To employ 1,000 spinners, more raw material, spindles, &c., are, of course, required, than to employ 100. The value of these additional means of production however may rise, fall, remain unaltered, be large or small; it has no influence on the process of creation of surplus-value by means of the labour-powers that put them in motion. The law demonstrated above now, therefore, takes this form: the masses of value and of surplus-value produced by different capitals – the value of labour-power being given and its degree of exploitation being equal – vary directly as the amounts of the variable constituents of these capitals, *i.e.*, as their constituents transformed into living labour-power.

This law clearly contradicts all experience based on appearance. Everyone knows that a cotton spinner, who, reckoning the percentage on the whole of his applied capital, employs much constant and little variable capital, does not, on account of this, pocket less profit or surplus-value than a baker, who relatively sets in motion much variable and little constant capital. For the solution of this apparent contradiction, many intermediate terms are as yet wanted, as from the standpoint of elementary algebra many intermediate terms are wanted to understand that 0/0 may represent an actual magnitude. Classical economy, although not formulating the law, holds instinctively to it, because it is a necessary consequence of the general law of value. It tries to rescue the law from collision with contradictory phenomena by a violent abstraction. It will be seen later<sup>2</sup> how the school of Ricardo has come to grief over this stumbling block. Vulgar economy which, indeed, “has really learnt nothing,” here as everywhere sticks to appearances in opposition to the law which regulates and explains them. In opposition to Spinoza, it believes that “ignorance is a sufficient reason.”

The labour which is set in motion by the total capital of a society, day in, day out, may be regarded as a single collective working day. If, *e.g.*, the number of labourers is a million, and the average working day of a labourer is 10 hours, the social working day consists of ten million hours. With a given length of this working day, whether its limits are fixed physically or socially, the mass of surplus-value can only be increased by increasing the number of labourers, *i.e.*, of the labouring population. The growth of population here forms the mathematical limit to the production of surplus-value by the total social capital. On the contrary, with a given amount of population, this limit is formed by the possible lengthening of the workingday.<sup>3</sup> It will, however, be seen in the following chapter that this law only holds for the form of surplus-value dealt with up to the present.

From the treatment of the production of surplus-value, so far, it follows that not every sum of money, or of value, is at pleasure transformable into capital. To effect this transformation, in fact, a certain minimum of money or of exchange-value must be presupposed in the hands of the individual possessor of money or commodities. The minimum of variable capital is the cost price of a single labour-power, employed the whole year through, day in, day out, for the production of

surplus-value. If this labourer were in possession of his own means of production, and were satisfied to live as a labourer, he need not work beyond the time necessary for the reproduction of his means of subsistence, say 8 hours a day. He would, besides, only require the means of production sufficient for 8 working hours. The capitalist, on the other hand, who makes him do, besides these 8 hours, say 4 hours' surplus labour, requires an additional sum of money for furnishing the additional means of production. On our supposition, however, he would have to employ two labourers in order to live, on the surplus-value appropriated daily, as well as, and no better than a labourer, i.e., to be able to satisfy his necessary wants. In this case the mere maintenance of life would be the end of his production, not the increase of wealth; but this latter is implied in capitalist production. That he may live only twice as well as an ordinary labourer, and besides turn half of the surplus-value produced into capital, he would have to raise, with the number of labourers, the minimum of the capital advanced 8 times. Of course he can, like his labourer, take to work himself, participate directly in the process of production, but he is then only a hybrid between capitalist and labourer, a "small master." A certain stage of capitalist production necessitates that the capitalist be able to devote the whole of the time during which he functions as a capitalist, i.e., as personified capital, to the appropriation and therefore control of the labour of others, and to the selling of the products of this labour.<sup>4</sup> The guilds of the middle ages therefore tried to prevent by force the transformation of the master of a trade into a capitalist, by limiting the number of labourers that could be employed by one master within a very small maximum. The possessor of money or commodities actually turns into a capitalist in such cases only where the minimum sum advanced for production greatly exceeds the maximum of the middle ages. Here, as in natural science, is shown the correctness of the law discovered by Hegel (in his "Logic"), that merely quantitative differences beyond a certain point pass into qualitative changes.<sup>5</sup>

The minimum of the sum of value that the individual possessor of money or commodities must command, in order to metamorphose himself into a capitalist, changes with the different stages of development of capitalist production, and is at given stages different in different spheres of production, according to their special and technical conditions. Certain spheres of production demand, even at the very outset of capitalist production, a minimum of capital that is not as yet found in the hands of single individuals. This gives rise partly to state subsidies to private persons, as in France in the time of Clobber, and as in many German states up to our own epoch, partly to the formation of societies with legal monopoly for the exploitation of certain branches of industry and commerce, the forerunners of our modern joint stock companies.<sup>6</sup>

Within the process of production, as we have seen, capital acquired the command over labour, i.e., over functioning labour-power or the labourer himself. Personified capital, the capitalist takes care that the labourer does his work regularly and with the proper degree of intensity.

Capital further developed into a coercive relation, which compels the working class to do more work than the narrow round of its own life-wants prescribes. As a producer of the activity of others, as a pumper-out of surplus labour and exploiter of labour-power, it surpasses in energy, disregard of bounds, recklessness and efficiency, all earlier systems of production based on directly compulsory labour.

At first, capital subordinates labour on the basis of the technical conditions in which it historically finds it. It does not, therefore, change immediately the mode of production. The production of surplus-value – in the form hitherto considered by us – by means of simple extension of the working day, proved, therefore, to be independent of any change in the mode of production itself. It was not less active in the old-fashioned bakeries than in the modern cotton factories.

If we consider the process of production from the point of view of the simple labour process, the labourer stands in relation to the means of production, not in their quality as capital, but as the mere means and material of his own intelligent productive activity. In tanning, *e.g.*, he deals with the skins as his simple object of labour. It is not the capitalist whose skin he tans. But it is different as soon as we deal with the process of production from the point of view of the process of creation of surplus-value. The means of production are at once changed into means for the absorption of the labour of others. It is now no longer the labourer that employs the means of production, but the means of production that employ the labourer. Instead of being consumed by him as material elements of his productive activity, they consume him as the ferment necessary to their own life-process, and the life-process of capital consists only in its movement as value constantly expanding, constantly multiplying itself. Furnaces and workshops that stand idle by night, and absorb no living labour, are “a mere loss” to the capitalist. Hence, furnaces and workshops constitute lawful claims upon the night-labour of the work-people. The simple transformation of money into the material factors of the process of production, into means of production, transforms the latter into a title and a right to the labour and surplus labour of others. An example will show, in conclusion, how this sophistication, peculiar to and characteristic of capitalist production, this complete inversion of the relation between dead and living labour, between value and the force that creates value, mirrors itself in the consciousness of capitalists. During the revolt of the English factory lords between 1848 and 1850, “the head of one of the oldest and most respectable houses in the West of Scotland, Messrs. Carlile Sons & Co., of the linen and cotton thread factory at Paisley, a company which has now existed for about a century, which was in operation in 1752, and four generations of the same family have conducted it” ... this “very intelligent gentleman” then wrote a letter<sup>7</sup> in the *Glasgow Daily Mail* of April 25th, 1849, with the title, “The relay system,” in which among other things the following grotesquely naïve passage occurs: “Let us now ... see what evils will attend the limiting to 10 hours the working of the factory.... They amount to the most serious damage to the millowner’s prospects and property. If he (*i.e.*, his “hands”) worked 12 hours before, and is limited to 10, then every 12 machines or spindles in his establishment shrink to 10, and should the works be disposed of, they will be valued only as 10, so that a sixth part would thus be deducted from the value of every factory in the country.”<sup>8</sup>

To this West of Scotland bourgeois brain, inheriting the accumulated capitalistic qualities of “four generations,” the value of the means of production, spindles, &c., is so inseparably mixed up with their property, as capital, to expand their own value, and to swallow up daily a definite quantity of the unpaid labour of others, that the head of the firm of Carlile & Co. actually imagines that if he sells his factory, not only will the value of the spindles be paid to him, but, in addition, their power of annexing surplus-value, not only the labour which is embodied in them, and is necessary to the production of spindles of this kind, but also the surplus labour which they help to pump out daily from the brave Scots of Paisley, and for that very reason he thinks that with the shortening of the working day by 2 hours, the selling-price of 12 spinning machines dwindles to that of 10!

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<sup>1</sup>This elementary law appears to be unknown to the vulgar economists, who, upside-down Archimedes, in the determination of the market-price of labour by supply and demand, imagine they have found the fulcrum by means of which, not to move the world, but to stop its motion.

<sup>2</sup> Further particulars will be given in Book IV.

<sup>3</sup> “The Labour, that is the economic time, of society, is a given portion, say ten hours a day of a million of people, or ten million hours.... Capital has its boundary of increase. This boundary may, at

any given period, be attained in the actual extent of economic time employed.” (“An Essay on the Political Economy of Nations.” London, 1821, pp. 47, 49.)

<sup>4</sup> “The farmer cannot rely on his own labour, and if he does, I will maintain that he is a loser by it. His employment should be a general attention to the whole: his thresher must be watched, or he will soon lose his wages in corn not threshed out, his mowers, reapers, &c., must be looked after; he must constantly go round his fences; he must see there is no neglect; which would be the case if he was confined to any one spot.” (“An Inquiry into the Connexion between the Present Price of Provisions and the Size of Farms, &c. By a Farmer.” London, 1773, p. 12.) This book is very interesting. In it the genesis of the “capitalist farmer” or “merchant farmer,” as he is explicitly called, may be studied, and his self-glorification at the expense of the small farmer who has only to do with bare subsistence, be noted. “The class of capitalists are from the first partially, and they become ultimately completely, discharged from the necessity of the manual labour.” (“Textbook of Lectures on the Political Economy of Nations. By the Rev. Richard Jones.” Hertford 1852. Lecture III., p. 39.)

<sup>5</sup> The molecular theory of modern chemistry first scientifically worked out by Laurent and Gerhardt rests on no other law. (Addition to 3rd Edition.) For the explanation of this statement, which is not very clear to non-chemists, we remark that the author speaks here of the homologous series of carbon compounds, first so named by C. Gerhardt in 1843, each series of which has its own general algebraic formula. Thus the series of paraffins:  $C_nH_{2n+2}$ , that of the normal alcohols:  $C_nH_{2n+2}O$ ; of the normal fatty acids:  $C_nH_{2n}O_2$  and many others. In the above examples, by the simply quantitative addition of  $CH_2$  to the molecular formula, a qualitatively different body is each time formed. On the share (overestimated by Marx) of Laurent and Gerhardt in the determination of this important fact see Kopp, “Entwicklung der Chemie.” Munchen, 1873, pp. 709, 716, and Schorkmmer, “The Rise and Development of Organic Chemistry.” London, 1879, p. 54. — *F. E.* See Letter from Marx to Engels, 22 June 1867

For Hegel’s formulation of the idea in the *Logic*, see Remark: Examples of Such Nodal Lines; the Maxim, ‘Nature Does Not Make Leaps’.

<sup>6</sup> Martin Luther calls these kinds of institutions: “The Company Monopolia.”

<sup>7</sup> Reports of Insp. of Fact., April 30th, 1849, p. 59.

<sup>8</sup> I.c., p. 60. Factory Inspector Stuart, himself a Scotchman, and in contrast to the English Factory Inspectors, quite taken captive by the capitalistic method of thinking, remarks expressly on this letter which he incorporates in his report that it is “the most useful of the communications which any of the factory-owners working with relays have given to those engaged in the same trade, and which is the most calculated to remove the prejudices of such of them as have scruples respecting any change of the arrangement of the hours of work.”