# CHAPTER 3

# THE DETERMINATION OF CONSTANT CAPITAL AND VARIABLE CAPITAL

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## CHAPTER 3

## THE DETERMINATION OF CONSTANT CAPITAL AND VARIABLE CAPITAL

We have seen in the previous chapter that the general analytical framework of Marx's theory of surplus-value is the circulation of capital: **M - C ... P ... C' - (M + ΔM)**. The circulation of capital begins with **M**, a definite quantity of money advanced to purchase means of production and labor-power in the first phase of the circulation of capital. This initial money-capital **M** consists of two components: constant capital and variable capital; i.e. **M = C + V**. Constant capital is the money-capital advanced to purchase means of production, and variable capital is the money-capital advanced to purchase labor-power.

The main question addressed in this chapter is the following: *how is the initial quantity of money **M** determined*, both in the theory of surplus-value in Volume 1 and in the theory of prices of production in Volume 3? The long-standing criticism of Marx's theory of prices of production in Volume 3, from Bortkiewitz on, is of course that Marx "failed to transform the inputs" of constant capital and variable capital from values into prices of production. The validity of this criticism depends on how the magnitudes of constant capital and variable capital are determined in both Volume 1 and Volume 3, and, given this method of determination, whether or not the magnitudes of constant capital and variable capital *should be transformed* from values into prices of production in Volume 3.

I argue that the magnitudes of constant capital and variable capital are *taken as given*, both in the theory of surplus-value in Volume 1 and in the theory of prices of production in Volume 3. And the crucial point is that the *same quantities* of constant capital and variable capital are taken as given in both Volume 1 and in Volume 3 - the actual quantities of money capital advanced to purchase means of production and labor-power in the first phase of the circulation of capital. For this reason, the quantities of constant capital and variable capital *do not change* and *do not have to be transformed* from values to prices of production in Volume 3. Therefore, Marx did not fail to make such an unnecessary transformation. (Similar

interpretations of the determination of constant capital and variable capital have been presented by Yaffe 1976, Carchedi 1991, Mattick Jr. 1981, Ramos 1996, Wolff, Roberts, and Callari 1984, and Mage 1963, Appendix A).

This chapter will present arguments and textual evidence to support this interpretation of the determination of constant capital and variable capital, first in the theory of surplus-value in Volume 1, and then in the theory of prices production in Volume 3.

## 3.1 The determination of constant capital and variable capital in Volume 1

### 3.1.1 The circulation of capital

We have seen above that the logical framework for Marx's theory of surplus-value is the circulation of capital, expressed symbolically as:

**M - C ... P ... C' - M'**

where **M' = M + ΔM**. We can see that the full the circulation of capital consists of three phases: (1) the purchase of means of production and labor-power, (2) the production process, and (3) the sale of commodities. The first and third phases take place in the "sphere of circulation", i.e. on the market. The aim of Marx's theory of surplus-value in Volume 1 is to explain how the initial **M** is converted into final **(M + ΔM)**.

Surplus-value is defined as **ΔM**, the difference between **M'** and **M**. The initial money-capital **M** is divided into constant capital and variable capital; i.e. **M = C + V**. The issue to be discussed is the following: how are the initial quantities of constant capital and variable capital determined in Marx's theory of surplus-value in Volume 1, and what role do these quantities play in the determination of the magnitude of surplus-value?

I argue, first of all, that the structure of the circulation of capital itself suggests that the initial **M** in the circulation of capital is *taken as given* in Marx's theory of the circulation of capital, or the production of surplus-value. The circulation of capital is the logical framework of Marx's theory of surplus-value, and the circulation of capital *begins with **M***. Therefore, Marx's theory of the circulation of capital also begins with **M**. This starting-point of the circulation of

capital - the actual quantity of money-capital advanced to purchase means of production and labor-power at the beginning of the circulation of capital – provides the initial givens of Marx's theory of surplus-value. This initial, given quantity of money-capital is then used to explain how this given quantity of money advanced as capital increases its magnitude.

Marx clearly stated this point - that the initial **M** in the circulation of capital is taken as given and that the aim of his theory is to explain how this given initial **M** increases its magnitude - in the following important passage from the manuscript entitled "The Results of the Immediate Process of Production", written in 1864-65 (and published for the first time in English in the Vintage edition of Volume 1 of *Capital* in 1977):

> In what we may call its first, provisional form of *money* (the point of departure for the formation of capital), capital exists as yet only as money, i.e. as a *sum of exchange-values* embodied in the *self-subsistent form of exchange-value*, in its *expression as money*. But the task of this money is to generate value. The exchange-value must serve to create still more exchange-value. The *quantity of value* must be increased, i.e. the available value must not only be maintained; it must yield an increment, value, a surplus-value, so that the value given, the particular sum of money, can be viewed as a *fluens* and the increment as fluxion...
>
> Here, where we are concerned with money only as the *point of departure* for the *immediate process of production*, we can confine ourselves to the observation: capital exists here as yet only as a *given quantum of value* = M (money), in which all use-value is extinguished, so that nothing but the monetary form remains...
>
> If the original capital is a quantum of value = x, it becomes capital and fulfills its purpose by changing into x + x, into a quantum of money or value = the original sum + a balance over the original sum. In other words, it is transformed into the given amount of money + additional money, into the *given value + surplus-value*.
>
> As a *given sum of money*, x is a constant from the outset and hence its increment = 0. In the course of the process, therefore, it must be changed into another amount which contains a variable element. Our task is to discover this component and at the same time to identify the mediations by means of which a constant magnitude becomes a variable one. (C.I: 976-77; emphasis in the original)

We can see very clearly from this passage that the "point of departure" of the circulation of capital, and of Marx's theory of the circulation of capital, is a *given* quantity of money. In

this initial, given quantity of money, "all use-value is extinguished." The starting point of the circulation of capital, and of Marx's theory of the circulation of capital, is not use-values (means of production and means of subsistence), but rather exchange-values in the independent form of money ("nothing but the monetary form remains"). The transformation of money into capital is the transformation of the given initial sum of money into the "*given* amount of money + additional money". The main task of Marx's theory is to explain how the initial given sum of money is transformed into more money i.e. to "identify the mediations by means of which a constant [given] magnitude becomes a variable [larger] one."

Marx also stated that the initial money-capital **M** in the circulation of capital **M-C-M'** is taken as given in the following methodological comments from second draft of Volume 1 in the *Manuscript of 1861-63* (published in English for the first time in 1988):

> In the process M-C-M, the value (a *given* sum of value) should be maintained and increased while it enters into circulation. (MECW.30: 33; emphasis added)
>
> Money and the commodity are the *presuppositions from which we must proceed* in considering the bourgeois economy. (MECW.30: 68-69; emphasis added)
>
> ... the *preposited* value or the sum of money cast the buyer case into circulation, has not only been reproduced but valorised itself, grown in a definite proportion, that a surplus value has been added to the value ... (MECW.30: 111; emphasis added)

In a later part of the *Manuscript of 1861-63*, in the context of a critique of Ricardo's failure to understand the necessity of money, Marx states that the "all-embracing and decisive factor" of capitalist production is the monetary relation between the initial money-capital **M** advanced at the beginning of the circulation of capital and the final money-capital **M'** recovered at the end of the circulation of capital. And Marx states again in this passage that the initial **M** is "*preposited*" to production, i.e. taken as given, as the actual quantity of money-capital advanced, in the theory of how this given initial **M** becomes **M'** as a result of production.

> For its part, the development of capital already presupposes the full development of the exchange value of commodities and consequently its *independent existence as money*. The point of departure in the process of the production and circulation of

> capital, is the independent form of value which maintains itself, increases, measures the increase against its original amount ... The relation between the value *preposited* to production and the value which results from it - capital as *preposited* value is capital in contrast to profit - constitutes the *all-embracing and decisive factor* in the whole process of capitalist production. (MECW.32: 318; TSV.III: 131; italicized emphasis added)

The key word "preposited" ("vorausgesezter") in the lase sentence of this passage is unfortunately mistranslated in *Theories of Surplus-value* as "antecedent". The word "antecedent" suggests that the money-capital **M** *existed prior* to production, which is true, but it does not capture the further important meaning that this previously existing **M** is *taken as given* ("preposited") in Marx's theory of the "all-embracing and decisive factor" of capitalist production - of how this previously existing, preposited **M** becomes **M'** as a result of capitalist production.

The structure of the circulation of capital also suggests in another way that the initial **M** is taken as given - because the *first phase* of the circulation of capital is the *advance of money-capital* to purchase means of production and labor-power (**M - C**), which takes place in the "*sphere of circulation*", prior to the second phase of production. Marx's theory of surplus-value begins in the sphere of circulation, with the advance of definite quantities of constant capital and variable capital to purchase means of production and labor-power. Thus, when the second phase of the production of value and surplus-value begins, the quantities of constant capital and variable capital have *already been advanced* in the sphere of circulation to purchase means of production and labor-power. Therefore, these already advanced quantities of constant capital and variable capital are in principle *known* quantities, which *can be taken as given* in the theory of how this known, given quantity of money-capital becomes more money in subsequent phases of the circulation of capital. In other words, the presuppositions of the theory of surplus-value in production come from the sphere of circulation, from the purchases made by capital in the sphere of circulation, prior to production.

Marx emphasized this important point in the following passages from the *Grundrisse*:

> *Capital comes initially from circulation*, and, moreover, *its point of departure is money.* ... Money is the first form in which capital as such appears. (G. 253; emphasis added)
>
> Circulation, and exchange value deriving from circulation, the *presupposition* of capital. (G. 259; emphasis added to this section title)
>
> To develop the concept of capital it is necessary to begin not with labour but with value, and, precisely, with exchange value in an *already developed movement* of *circulation* [i.e. with *money*]. (G. 259; emphasis added)
>
> We have so far examined only one side [of capital], that of its self-preservation in and through circulation. The other equally important side is that exchange value is *presupposed* ... as money. (G. 262; emphasis in the original).
>
> [W]e theoretically presuppose the existence of circulation before the formation of capital, and therefore proceed from money. (MECW.30: 69)

This logical sequence of first the advance of money-capital to in the first phase of the circulation of capital, and then the subsequent production of value and surplus-value in the second phase of production, is reflected in the logical structure of the Parts 1, 2, and 3 of Volume 1 of *Capital*. Parts 1 and 2 are concerned with the sphere of circulation and Part 3 begins Marx's analysis of the sphere of production (with the famous passage at the end of Part 2 about moving from the "noisy sphere of circulation" to the "hidden abode of production" marking the dramatic transition between these two stages of the theory). In Marx's theory of the circulation of capital, the analysis of the sphere of circulation is a necessary prelude to the analysis of production because *capital appears first in the sphere of circulation*. Capitalist production is preceded by the advance of a definite quantity of money-capital to purchase means of production and labor-power in the sphere of circulation. This advance of money-capital (constant capital and variable capital) in the sphere of circulation, as analyzed in Part 2, provides the quantitative givens (or presuppositions) for the theory of surplus-value in the sphere of production, as analyzed in Part 3 and beyond.

### 3.1.2 Actual quantities of money-capital presupposed

Another important argument to support the interpretation presented here - that constant capital and variable capital are taken as given in Marx's theory of value and surplus-value in Volume 1 - follows from the key aspect of Marx's logical method discussed in Chapter 2 - that the total surplus-value is determined in Volume 1 and then taken as given in the Volume 3 theory of the distribution of surplus-value, and the total surplus-value does not change as a result of the distribution of surplus-value in Volume 3. If the total surplus-value is determined in Volume 1 and then taken as given and does not change in Volume 3, then the total surplus-value that is determined in Volume 1 is by assumption equal to the total surplus-value that is distributed in Volume 3.

Furthermore, the total surplus-value that is distributed in Volume 3 is the *actual* total surplus-value, in the sense that it is in principle observable on the "surface of capitalist society" - the sum of industrial profit, merchant profit, interest, and rent. Therefore, the total surplus-value that is determined in Volume 1 must be equal to the *actual* total surplus-value that is distributed in Volume 3. If, instead, the total surplus-value that is determined in Volume 1 were proportional to the labor-time embodied in surplus goods (as in the standard interpretation), then the total surplus-value determined in Volume 1 would *not* be equal to the actual total surplus-value that is distributed in Volume 3, which would contradict this key aspect of Marx's logical method.

Since the total surplus-value determined in Volume 1 is the actual total surplus-value that is distributed in Volume 3, it follows that the magnitudes of constant capital and variable capital, that are the determinants of the actual total surplus-value in Volume 1, must themselves also be the *actual* quantities of constant capital and variable capital advanced to purchase means of production and labor-power in the real capitalist economy, not hypothetical quantities that are proportional to the labor-times embodied in the means of production and the means of subsistence. If the **M'** at the end of the circulation of capital is the actual money-capital

recovered in the real capitalist economy, then the initial **M** at the beginning of the circulation of capital must also be the actual money-capital advanced.

Marx indicated at the end of Chapter 4 of Volume 1 that the quantities of money-capital in the general formula for capital refer to actual quantities that "appear directly in the sphere of circulation":

> M-C-M' is in fact therefore the general formula for capital, in the form in which it *appears directly in the sphere of circulation*. (C.I: 257)

In an earlier draft of this chapter in the *Manuscript of 1861-63*, Marx expressed this same point as follows:

> We first examine the form of capital in which it is *directly presented or appears for observation*. (MECW.30: 20).

This interpretation of the circulation of capital, as referring to actual quantities of money-capital observable in the real capitalist economy, is similar to that presented by the Russian Marxist philosopher E. V. Ilyenkov. Ilyenkov argues that Marx's general philosophical method is what he calls "materialist dialectics" , according to which Marx's theory is based on "real" or "concrete" abstractions, rather than purely logical or mental abstractions. The concepts in Marx's theory, including the key concepts of capital and the circulation of capital, are abstracted from the real capitalist economy, and therefore refer to actual quantities of money-capital in the real capitalist economy. They are not purely theoretical concepts that have been invented out of our heads.

Ilyenkov argues that the circulation of capital refers to "a real fact" - the fact that "money put in capitalist circulation, passing through all its metamorphoses, brings a return - surplus-value. Then one has to go back to establish the conditions which make this fact possible." (Ilyenkov 1982, p. 282) This "real fact" - the production of surplus-value - is the single most important characteristic of capitalist economies. Marx's theory of surplus-value in Volume 1 is intended to explain this "real fact", i.e. the actual magnitude of surplus-value in the real capitalist

economy as a whole. Marx's theory of surplus-value in Volume 1 is not intended to explain a different hypothetical magnitude of surplus-value that follows from a theoretical model, and that later must be transformed into the actual profit.[1]

The actual quantities of constant capital and variable capital advanced to purchase means of production and labor-power are identically equal to the *prices of production* of the means of production and means of subsistence. However, the prices of production of the means of production and means of subsistence cannot yet be determined in Volume 1, because the price of production of *individual* commodities, including of groups of individual commodities like the means of production and the means of subsistence, depend in part on the equalization of profit rates across industries. According to Marx's logical method, as discussed in the previous chapter, the equalization of profit rates cannot be explained until after the total amount of surplus-value has been determined, and that is the task of Volume 1. Therefore, the actual quantities of constant capital and variable capital advanced, that are equal to the prices of production of the means of production and means of subsistence, cannot be determined in Volume 1. Instead, these actual quantities of constant capital and variable capital advanced are *taken as given* in the theory of the actual total surplus-value in Volume 1. We shall see below that these actual quantities of constant capital and variable capital are first partially explained in Volume 1, and then more fully explained in Volume 3, after prices of production have been determined.

### 3.1.3 Partial explanation of constant capital and variable capital in Volume 1

In order to provide a partial explanation of the actual, given quantities of constant capital and variable capital in Volume 1, Marx provisionally assumed 1 that these actual quantities of constant capital and variable capital are equal to the *values* of the means of production and means of subsistence, respectively. In other words, Marx assumed that the main determinant – but not the only determinant! – of these actual quantities of constant capital and variable capital are the

labor-times required to produce the means of production and means of subsistence. As explained above, Marx made this provisional assumption in Volume 1 because the prices of the means of production and means of subsistence have not yet been determined by the macroeconomic theory of the total surplus-value in Volume 1. The provisional microeconomic assumption that constant capital and variable capital are equal to the values of the means of production and means of subsistence is the only assumption that is consistent with the macroeconomic theory of value and surplus-value in Volume 1, at this high level of abstraction.

However, the important point is that this provisional assumption about the actual magnitudes of constant capital and variable capital *does not determine* the magnitudes of constant capital and variable capital, and hence plays no role in the determination of the total price and the total surplus-value in Volume 1. Instead, the quantities of constant capital and variable capital are *taken as given*, as the actual quantities of money-capital advanced to purchase means of production and labor-power in the real capitalist economy. These actual given quantities of constant capital and variable capital then become *determining factors* in the value and surplus-value of commodities. If the quantities of constant capital and variable capital were determined by this provisional assumption, then constant capital and variable capital would be hypothetical magnitudes, rather than the actual magnitudes advanced, and the total price and surplus-value derived from these hypothetical quantities of constant capital and variable capital would also be hypothetical magnitudes, not the actual magnitudes of total price and surplus-value produced. But the purpose of Volume 1 is not to explain a hypothetical surplus-value, but is rather to explain the actual total surplus-value, whose distribution is then analyzed in Volume 3. In order to explain the actual total surplus-value, constant capital and variable capital must be the actual constant capital and variable capital advanced in the real capitalist economy. And since the actual magnitudes of constant capital and variable capital cannot yet be explained in Volume 1, their magnitudes are taken as given.

Therefore, I conclude that the initial quantities of constant capital and variable capital are taken as given in Marx's theory of value and surplus-value in Volume 1, as the actual quantities

of money-capital advanced in the first phase of the circulation of capital in the real capitalist economy. The aim of Marx's theory is to explain how this actual, given, initial quantity of money becomes an actual greater quantity of money. In the next section, we examine in detail the role played by these given quantities of constant capital and variable capital in the determination of value and surplus-value in Volume 1.

### 3.1.4 Theory of surplus-value

As we have seen above, the analytical framework for Marx's theory of surplus-value in Volume 1 is the circulation of capital: **M - C ... P ... C' - M'**. The goal of Marx's theory of surplus-value is to explain how the initial quantity of money **M** becomes a larger quantity of money **M'**. The initial quantity of money **M** is *taken as given*, and then becomes a determining factor of **M'**, the price of the commodities produced.

Surplus-value is defined as **ΔM**, the excess of **M'** over **M**. Translating **M** and **M'** into the more familiar terms of price (**P**) and cost of production (**K**) (ignoring for simplicity the distinction between the stock of capital advanced and the flow of capital consumed), we have:

(3.1) $$\mathbf{S = P - K}$$

All these variables refer to the total capitalist economy as a whole.

The cost of production is divided into constant capital and variable capital, the cost respectively of the means of production and labor-power consumed in the production of these commodities:

(3.2) $$\mathbf{K = C + V}$$

We have seen above that constant capital and variable capital are *taken as given*, as the actual quantities of money-capital advanced to purchase means of production and labor-power and consumed in the production of commodities. The given quantities of constant capital and variable capital then become determining factors of the price of commodities and the surplus-value contained in the price, as follows.

According to Marx's theory, the total price of commodities is determined by the sum of two components: the money value transferred from the constant capital (**C** ) and the money new-value produced by current labor (**N**). Marx summarized his theory of the price of commodities in the following passage from Chapter 9 of Volume 1:

> The product of a working day of 12 hours is 20 lb. of yarn, having a value of 30s. No less than eight-tenths of this value, or 24s., is formed by the mere re-appearance in it of the value of the means of production (20 lb. of cotton, value 20s., and the worn part of the spindle, 4s.). In other words, *this part consists of the constant capital*. The remaining two-tenths, or 6s., is the *new value created during the spinning process*; one half of this replaces the value of the day's labor-power, or the variable capital, the remaining half constitutes a surplus-value of 3s. (C.I. 329; emphasis added)

As we can see from this passage, and many like it, what Marx means by the "value" of commodities is a *price*, denominated in money (shillings in this passage). The "value" of commodities is the price that is determined by adding together the two components of constant capital and the new-value produced. Furthermore, I argued in the previous chapter that individual prices in Volume 1 really stand for the total price of the total commodity product. Therefore, the "value" of commodities in Volume 1 really means the total price of all commodities together, which is determined by the sum of the total constant capital consumed and the total new-vale produced.

Algebraically, the total price of commodities is determined by the following equation:

(3.3) $$\mathbf{P} = \mathbf{C} + \mathbf{N}$$

**N** in this equation is in turn determined by the product of the quantity of current labor (**L**) and the (money) new-value produced per hour of labor (**m**) (e.g. 0.5 shillings per hour in many of Marx's examples):[2]

(3.4) $$\mathbf{N} = \mathbf{m\,L}$$

As already discussed, the constant capital (**C** ) in equation (3.3) is *taken as given*, as the *actual* constant capital advanced and consumed in the production of the commodities. The constant capital that is taken as given as a cost (in equation 3.2) then becomes the first

component of the price of the output (in equation 3.3), i.e. is "transferred" to the price of the output. Because the means of production have already been purchased by the actual quantity of constant capital, the labor-time embodied in the means of production *has already acquired an objective form of appearance*, as this actual quantity of money constant capital, even though this quantity of constant capital may not be proportional to the labor-time embodied in the means of production. It is this already existing money-form of constant capital, this already existing form of appearance of the labor-time embodied in the means of production, that becomes the transferred value component of the price of commodities.

> This value [of the raw material] is however already expressed in the price at which the material of labour was bought, say e.g. a price of 100 thalers. *The value of this part of the produce enters into it already determined as price*... [The means of labour] are equally purchased. Hence the labour time contained in it, say of 16 working days, *is expressed in its price of 16 thalers.* (MECW.30: 70; emphasis added)

> The values of the material and means of labour therefore appear again in the product as constituents of its value. This value is presupposed, since *the labour time contained in the material and means of labour was expressed in their prices in its general form, as social labour; these are the prices at which the money owner bought them as commodities before he began the labour process*. (MECW.30: 73-74; italicized emphasis added)

> Since ... the elements of capitalist production already enter the process of production as commodities, i.e. with specific prices, it follows that *the value added by the constant capital is already given in terms of a price*. For example, in the present case it is £80 for flax, machinery, etc. (C.I. 957; emphasis added)

> If we take society at any one moment, there exists simultaneously in all spheres of production, even though in very different proportions, a *definite constant capital* - *presupposed* as a condition of production - that once and for all belongs to production and must be given back to it, as seed must be given back to the land. It is true that the value of this constant part can fall or rise, depending on whether the commodities of which it is composed have to be reproduced at less or greater cost. This change in value, however, never alters the fact that in the process of production, into which it enters as a condition of production, it is a *postulated* value which must reappear in the value of the product. (MECW.30. 413; TSV.I. 109; emphasis added)

Please note especially the last passage above. It clearly suggests that Marx's logical method is to analyze actually existing capitalist society, and to "*presuppose*, as a necessary condition to production" (i.e. as a necessary condition to the valorization process, or the production of surplus-value) a "*definite constant capital*" - the actual money-capital invested in the means of production in the actually existing capitalist society under investigation. This presupposed constant capital then "*reappears*" in (i.e. is one component of the value of the output.

As we have seen above, in order to provide a partial explanation of this actual given quantity of constant capital, Marx provisionally assumed in Volume 1 that constant capital is equal to the value of the means of production. However, it is important to emphasize again that the magnitude of constant capital is *not determined by* this provisional assumption. Rather, the magnitude of constant capital is *taken as given*, as the actual quantity of money-capital advanced to purchase the means of production in the real capitalist economy. If the magnitude of constant capital *were* determined by the value of the means of production, it would be a hypothetical magnitude, not equal to the actual quantity of constant capital advanced, and therefore could not be used to determine the actual total price in Volume 1. Algebraically, if constant capital were a hypothetical magnitude (**C***) determined by the value of the means of production, then the price of commodities determined would also be a hypothetical magnitude (**P***), and equation (3.3) for the determination of the price of commodities would become:

(3.3*) $$\mathbf{P^* = C^* + N}$$

From this theory of the total price of commodities, Marx derived the total surplus-value, as the difference between the price and the cost of production of commodities. This derivation may be briefly summarized algebraically by substituting equations (3.2) and (3.3) into equation (3.1):

(3.5) $$\begin{aligned} \mathbf{S} &= \mathbf{P - K} \\ &= \mathbf{(C + N) - (C + V)} \end{aligned}$$

Since constant capital is a component of both the price and the cost of commodities, it cancels out in the determination of surplus-value, and thus equation (3.5) simplifies to:

(3.6) $$\mathbf{S = N - V}$$

In other words, the magnitude of surplus-value is *independent* of the magnitude of constant capital. For the determination of surplus-value, it does not matter whether the magnitude of constant capital is, for example, $1 trillion or $100 trillion. (The amount of constant capital does of course matter for the *rate* of profit, but not for the amount of profit.)

In this derivation of surplus-value, the magnitude of variable capital is *taken as given*, as the actual quantity of money-capital advanced to purchase labor-power. Because labor-power has already been sold for an actual quantity of money variable capital, the labor-time embodied in the means of subsistence *has already acquired an objective form of appearance* in the form of this money variable capital, even though this actual quantity of money variable capital is in general not proportional to the labor-time embodied in the means of subsistence. It is this already existing money variable capital, this already existing form of appearance of the labor-time embodied in the means of subsistence, that is subtracted from the actual new-value in order to determine the actual surplus-value produced in the economy as a whole.

> The characteristic feature of variable capital is that a *definite, given* (i.e. in this sense constant) part of capital, a *given* sum of value (assumed to be equal to the value of the labour-power, although it is immaterial here whether the wage is the same as, or more or less than, the value of the labour-power) is exchanged for a force that valorizes itself and creates value - labour-power, which not only reproduces the value paid to it by the capitalist, but also produces a surplus-value, a value that did not previously exist and is not bought for an equivalent. (C.II. 295-96)

> The variable capital first exists in the hands of the capitalist as money capital; it functions as money capital in so far as he buys labour-power with it. As long as it persists in his hands in the money form, it is nothing more than *given* value existing in that form, i.e. a constant and not a variable magnitude. It is only potentially variable capital, and it is that precisely because it is capable of being converted into labour-power. It only becomes actual variable capital after shedding its money form, after it has been converted into labour-power and when this begins to function as a

component of productive capital in the capitalist process. (C.II. 515; italicized emphasis added)

A further difficulty is caused by the original form of the variable capital. In our example, C' = £410 constant + £90 variable + £90 surplus; but *£90 is a given* and therefore a constant quantity and hence it appears absurd to treat it as variable. In fact, however, the £90 variable is here a symbol for the process undergone by this value. The portion of the capital invested in the purchase of labour-power is a definite quantity of objectified 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 labour-power which sets itself in motion, 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. (C.I. 322; emphasis added)

As in the case of constant capital, in order to provide a partial explanation of this actual given quantity of variable capital, Marx provisionally assumed in Volume 1 that variable capital is equal to the value of the means of subsistence. But the magnitude of variable capital is *not determined by* this provisional assumption. Rather, the magnitude of variable capital is *taken as given*, as the actual quantity of money-capital advanced to purchase labor-power. If the magnitude of variable capital *were* determined by the value of the means of subsistence, it would be a hypothetical magnitude, not equal to the actual quantity of variable capital, and therefore could not be used to determine the actual total surplus-value in Volume 1. Algebraically, if variable capital were a hypothetical magnitude (**V***), then the surplus-value determined would also be a hypothetical magnitude (**S***), and equation (3.6) would become:

(3.6*) $$\mathbf{S^* = N - V^*}$$

Marx's method of the determination of constant capital and variable capital is not obvious in Volume 1, because under the provisional assumption that prices are equal to values, there is no difference between the actual quantities of constant capital and variable capital and the values of the means of production and means of subsistence, respectively. However, in Volume 3, after the determination of prices of production, the actual given quantities of constant capital and variable capital are more fully explained, as equal to the *prices of production* of the means of production and means of subsistence, which are in general not equal to their values. In this case,

it makes a difference whether constant capital and variable capital in Volume 1, in the determination of the value and surplus-value of commodities, are equal to the actual quantities of money-capital advanced and consumed, *or* are hypothetical magnitudes equal to the values of the means of production and means of subsistence. We will see later in this chapter that, after prices of production have been determined in Volume 3, Marx makes it clear that the constant capital and variable capital that are determinants of value and surplus-value in Volume 1 are equal to the *actual* quantities of money-capital advanced to purchase means of production and labor-power, which in turn are equal to the *prices of production* of these inputs, not the values of these inputs. Constant capital and variable capital in Volume 1 are not hypothetical quantities that must be "transformed" into actual quantities in Volume 3. Constant capital and variable capital are actual quantities of money-capital from the very beginning of Marx's theory.

From the given quantity of variable capital, Marx derived "necessary labor-time" ($\mathbf{L_n}$), as the labor-time necessary for workers to produce money new-value, at the rate of **m** per hour, that *is equivalent to the given money variable capital*, or to the given money-wages that is paid to workers. In Chapter 9 of Volume 1, Marx defined necessary labor-time as follows:

> But as we have seen, during that part of his day's labour in which he produces the value of his labour-power, say 3 shillings, he produces only an equivalent for the value of his labour-power already advanced 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 3 shillings has the appearance of a mere reproduction. *I call the portion of the working day during which this reproduction takes place necessary labour-time ...* (C.I. 324-35; emphasis added)

To emphasize again the key phrase: necessary labor-time is the part of the working day during which "the new value created only replaces the [money] variable capital advanced".

Algebraically:

(3.7) $$\mathbf{L_n = V / m}$$

In Marx's example in Chapter 9, **V** = 3 shillings, **m** = 0.5 shillings per hour, and thus $\mathbf{L_n}$ = 6 hours.

According to Marx's theory of surplus-value, only a part of the workers' total labor-time is required to produce a money value equivalent to the money variable capital (the "necessary labor-time"). In the remainder of the working day (the "surplus labor-time"), the workers' labor-time continues to produce new-value at the rate of **m** per hour, which becomes the surplus-value for capitalists. Substituting (3.2) and (3.7) into (3.6), we obtain:

$$
\begin{aligned}
(3.8)\qquad \mathbf{S} &= \mathbf{N} - \mathbf{V} \\
&= \mathbf{mL} - \mathbf{mL_n} \\
&= \mathbf{m(L - L_n)} \\
\mathbf{S} &= \mathbf{mL_s}
\end{aligned}
$$

where $\mathbf{L_s = L - L_n}$.

This then is Marx's "surplus labor" theory of surplus-value presented in Volume 1 of *Capital*. It explains the actual total surplus-value produced in the capitalist economy as a whole. It concludes that the actual total surplus-value is proportional to the total surplus labor of workers, with **m** as the factor of proportionality (i.e. each hour of surplus labor produces **m** amount of money surplus-value, or **ΔM)**. Necessary labor-time is the labor-time required for workers to produce a money equivalent to the actual money variable capital paid by capitalists to workers, and surplus labor-time is the remainder of the workers' labor-time.

In this theory, constant capital and variable capital are *taken as given*, as the *actual* quantities of money-capital advanced in the means of production and labor-power, and are then used to determine the actual total price and the actual total surplus-value, as outlined above. The quantities of constant capital and variable capital are not determined by the labor-times embodied in the means of production and means of subsistence, as in the standard interpretation of Volume 1. If the quantities of constant capital and variable capital *were* proportional to these labor-times, then the quantities of constant capital and variable capital would be hypothetical quantities of money-capital, not the actual quantities of money-capital, and these hypothetical

quantities of quantities of constant capital and variable capital could not be used to determined the actual total surplus-value in Volume 1, contrary to Marx's logical method. In order to explain the actual total surplus-value the actual quantities of constant capital and variable capital must be taken as given.

## 3.2 Determination of constant capital and variable capital in Volume 3

We come now to Marx's theory of prices of production in Volume 3 of *Capital*, and to the question of how the inputs of constant capital and variable capital are determined in this theory. Did Marx fail to transform these inputs from values to prices of production, as is commonly alleged?

In Chapter 1 of Volume 3, Marx introduces the key concept of *cost price*, which is equal to the sum of constant capital and variable capital, and which plays an important role in his theory of prices of production. We begin this section with a discussion of this key concept of cost price.[3]

### 3.2.1 Cost price

We have seen above that, according to Marx's theory, the value of commodities (P) is determined by the sum of two main components: the value transferred from the constant capital (**C** ) consumed in the production of the commodities and the new-value (**N**) produced by living labor. Algebraically (to repeat equation 3.3):

(3.3) $$\mathbf{P} = \mathbf{C} + \mathbf{N}$$

Marx began Volume 3 with a brief review of his theory of value presented in Volume 1, referring back to an earlier summary of his theory in Chapter 9 of Volume 1, quoted above:

> We know from Volume 1 (Chapter 9, p. 320) that the value of the product newly formed, in this case £600, is composed of (1) the *reappearing value of the constant capital* of £400 spent on the means of production, and (2) a *newly produced value* of £200. The cost price of the commodity, £500, comprises the reappearing 400c plus a

> half of the newly produced value of £200, two elements of commodity value that are completely different as far as their origins are concerned. (C.III: 119; emphasis added)

Once again we can see that the "value" of commodities is a price, denominated in money (in this case in British pounds). And the "value" of commodities is determined by adding together two components of the money constant capital consumed and the money new-value produced.

In Volume 1, as we saw above, this theory of value is applied primarily to the total commodity product, i.e. to the total price of the total commodity product, and individual commodities represent the total commodity product. In Volume 3, this theory of value is applied to individual commodities, i.e. to the commodities produced by individual industries. The "value" of individual commodities is determined by the sum of the constant capital consumed and the new-value produced *in each industry*. Equation (3.3) can be rewritten in terms of individual industries:

(3.9) $\mathbf{P_i = C_i + N_i}$

Marx goes on to explain in the following paragraphs the different roles played by the constant capital and the variable capital in the determination of the commodity's value. The constant capital is transferred to the value of the product and thus becomes one component of this value. Thus, constant capital thus has a "dual significance"; it is both a component of the cost price and it is also a component of the value of commodities. Indeed, it is a component of the value of commodities *because* it existed previously as a component of the cost price, i.e. of the capital advanced to purchase the means of production that are consumed in production.

> [T]he value of the means of production consumed, a total of £400, is transferred from the means of production to the product. This old value reappears therefore as a component of the product's value, though it does not originate in the production process of <u>this</u> commodity. It exists only as a component of the commodity's value *because it existed previously as a component of the capital advanced. The constant capital that was spent is thus replaced by the portion of commodity value that it itself added to this commodity value*. This element of the cost price has therefore a *dual significance*. (C.III. 119-20; italicized emphasis added)

However, variable capital plays a different role in the determination of the value of commodities. Variable capital is not transferred to the value of the product and thus does not

become one component of this value. Instead, the given money variable capital is replaced by living labor, and this living labor produces new-value, the second component of the value of commodities. Thus, variable capital does *not* have the "dual significance" of constant capital; it is a component of the cost price, but it is not a component of the value of commodities.

> It is quite the reverse with the other component of cost price [variable capital]... This advance of [variable] capital value does not in any way go into the formation of the new value. (C.III: 120)

According to Marx's theory of surplus-value discussed above, the surplus-value produced is equal to the difference between the new-value produced by current labor and the given variable capital, and equation (3.6) can be rewritten in terms of individual industries:

(3.10) $$\mathbf{S_i = N_i - V_i}$$

In other words, the new-value component of the value of commodities is divided into two parts: the given variable capital plus the surplus-value produced:

(3.11) $$\mathbf{N_i = V_i + S_i}$$

Substituting equation (3.11) into equation (3.9), we obtain the familiar equation for the value of commodities:

(3.12) $$\mathbf{P_i = C_i + V_i + S_i}$$

However, this is not the way things appear to capitalists and to bourgeois economists. These latter make no distinction between constant capital and variable capital, and instead see surplus-value as somehow arising from both constant capital and variable together and equally. To express this point of view, Marx defined the important new concept of the *cost price* of commodities - the sum of constant capital and variable capital, with no distinction between them.

> After deducting the surplus-value of £100, there remains a commodity value of £500, and this simply replaces the capital expenditure of £500. This part of the value of the commodity, which replaces the price of the means of production consumed and the labor-power employed, *simply replaces what the commodity cost the capitalist* himself and is therefore the *cost price* of the commodity, as far as he is concerned. (C.III: 118; emphasis added)

From this point of view, the value of commodities now *appears* to be determined by the sum of the cost price and the surplus-value, and surplus-value appears to arise somehow from the total cost price. Algebraically:

(3.13) $$\mathbf{P_i = K_i + S_i}$$

Marx expressed the transformation of equation (3.11) into equation (3.12) as follows:

> If we call the cost price *k*, the formula $C = c + v + s$ is transformed into the formula $C = k + s$, or commodity value = cost price + surplus-value. (C.III: 118)

Equation (3.13) does not express the actual determination of the value of commodities, according to Marx's theory. Rather it expresses the capitalist's view of the determination of the value. However, equation (3.13) is derived from equation (3.9) which does express the determination of the value of commodities, according to Marx's theory, and the *magnitudes* in equation (3.13) are *the same* as the magnitudes in equation (3.9). $\mathbf{K_i}$ in equation (3.13) is the sum of $\mathbf{(C_i + V_i)}$ in equation (3.12), $\mathbf{S_i}$ is the same in both equations as already determined in Volume 1, and therefore $\mathbf{P_i}$ is the same in both equations:

$$\mathbf{P_i = C_i + V_i + S_i = K_i + S_i}$$

Equation (3.13) is a "mystified form" of the magnitudes in equation (3.12). But the magnitudes in the two equations are exactly the same.

Marx then defined the related concept of *profit,* as the *same magnitude* as the surplus-value in equation (3.12), but now seen from the point of view of capitalists, i.e. in relation to the total capital advanced or the total cost price, rather than in relation just to the variable capital alone, as in Marx's theory of surplus-value.

> *Profit*, as we are originally faced with it, *is thus the same thing as surplus-value*, save in a mystified form, though one that necessarily arises from the capitalist mode of production. Because no distinction between constant and variable capital can be recognized in the apparent formation of the cost price, the origin of the change in value that occurs in the course of the production process is shifted from the variable capital to the capital as a whole. (C.III: 127; emphasis added)

From this point of view, equation (3.13) for the value of commodities is converted into:

(3.14) $\mathbf{P_i} = \mathbf{K_i} + \mathbf{\Pi_i}$

where $\mathbf{\Pi_i}$ stands for profit, as just defined. Marx expressed this conversion of (3.12) into (3.13) as follows:

> If we call profit *p*, the formula $C = c + v + s = k + s$ is converted into the formula $C = k + p$, or *commodity value = cost price + profit*. (C.III: 127)

Again, the magnitudes in equation (3.14) are the same as the magnitudes in equation (3.13). The only difference between the two equations is that the given, predetermined magnitude of surplus-value is *given another name* - profit - as the surplus-value seen in relation to the total capital, rather than just to the variable capital alone. The profit ($\mathbf{\Pi_i}$) in equation (3.14) is the same magnitude as the ($\mathbf{S_i}$) in equation (3.13), the cost price ($\mathbf{K_i}$) is obviously the same in both equations, and therefore so is the value ($\mathbf{P_i}$).

### 3.2.2 Price of production

In Part 2 of Volume 3, Marx presented his theory of the determination of the *prices of production* of individual commodities, on the basis of the theory and key concepts already presented. The price of production of commodities is determined by the sum of two components - the *cost price* ($\mathbf{K}_i$), as just defined, and the *average profit* ($\mathbf{A\Pi}_i$). Therefore, the equation for the determination of the price of production of commodities is:

(3.15) $\mathbf{PP}_i = \mathbf{K}_i + \mathbf{A\Pi}_i$

The average profit ($\mathbf{A\Pi}_i$) in this equation is the product of the general rate of profit ($\mathbf{r}$) and the capital advanced in each industry. Ignoring the distinction between capital advanced and capital consumed (for the sake of simplicity): $\mathrm{A}\mathbf{\Pi}_i = \mathbf{r}\,\mathbf{K}_i$. The general rate of profit is determined as the ratio of the total surplus-value ($\mathbf{S}$), determined in Volume 1, to the total capital advanced ($\mathbf{K}$): i.e. $\mathbf{r = S / K}$.

Marx's algebraic expression for the determination of prices of production is as follows:

> The formula that the price of production of a commodity = $k + p$, cost price plus profit, can now be stated more exactly; since $p = k\,p'$ (where $p'$ is the general rate of

> profit), the price of production = $k + kp'$. If $k = 300$ and $p' = 15$ per cent, the price of production $k + k\,p' = 300 + 300 \times 15/100 = 345$.

As in Marx's theory of value and surplus-value in Volume 1, the $\mathbf{K}_i$ in equation (3.15), the sum of constant capital and variable capital, is *taken as given*, as the actual quantities of money-capital advanced to purchase means of production and labor-power in each industry. Marx described the cost of price of commodities as the "capital advanced" or the "capital expended" or the "money-capital thrown into circulation" or "what the capitalist has paid for", etc.. These are of course the same terms he used in Volume 1 to describe the initial money-capital **M** that begins the circulation of capital. We have seen above that this initial money-capital is taken as given in Marx's theory of surplus-value in Volume 1, because this initial money-capital has already been advanced in the sphere of circulation, prior to production. The same logic applies to the cost price of commodities in Marx's theory of prices of production in Volume 3. The cost price is taken as given, because the cost price has already been expended by capitalists to purchase means of production and labor-power in the sphere of circulation, prior to production.

Marx stated this key assumption in the following passages from Chapter 9:

> [T]he cost price is completely *governed by the outlay* within each sphere of production ... (C.III: 258; emphasis added)

> The cost price of the commodity is a *given precondition* independent of the capitalist's production. (C.III: 265; emphasis added)

Furthermore, the crucial point for our purposes is that the cost price that is taken as given in Marx's theory of prices of production in Volume 3 is *identically the same* as the sum of the constant capital and variable capital that are taken as given in Marx's theory of value and surplus-value in Volume 1. In both theories, the given $\mathbf{K_i}$ and the given $\mathbf{(C_i + V_i)}$ are the actual quantities of money-capital advanced in the real capitalist economy to purchase means of production and labor-power in the first phase of the circulation of capital and consumed in the second phase of production. In a givencircuit of capital, there is only one such actual quantity of money-capital advanced or expended. Therefore, the quantity of money-capital taken as given in

both Volume 1 and in Volume 3 must be the same. The only difference is that, in Volume 3, not only are the *total* quantities of constant capital and variable capital taken as given, but also the *individual* quantities of these two components of money-capital for each industry. The sums of the individual quantities of constant capital and variable capital are by definition equal to the total quantities of these two components of capital.

This is the reason why the quantities of constant capital and variable capital *do not change*, or *do not have to be transformed*, in the transition from the macroeconomic theory of the total surplus-value in Volume 1 to the microeconomic theory of individual prices of production in Volume 3: because *the same quantities* of constant capital and variable capital *are taken as given* in both stages of the theory. In other words, these given quantities of money constant capital and variable capital advanced in the first phase of the circulation of capital "remain invariant" in the transition from the macro theory in Volume 1 to the micro theory in Volume 3. The distribution of surplus-value in Volume 3 does not affect the quantities of money-capital advanced. These quantities of money-capital are advanced prior to the production of surplus-value, and certainly prior to the distribution of surplus-value, and therefore cannot be affected by the distribution of surplus-value. These actual quantities of money-capital advanced are taken as given, both in the theory of the production of surplus-value in Volume 1 and in the theory of the distribution of surplus-value in Volume 3.

It is for this reason that Marx did *not* "fail to transform these inputs" - because the inputs do not have to be transformed, but instead remain invariant, as the actual given quantities of money-capital advanced and consumed. The quantities of constant capital and variable capital are not first determined as hypothetical quantities equal to the values of the means of production and means of subsistence in Volume 1, which then have to be transformed into the actual prices of production in Volume 3, as in the standard interpretation. Instead, the *same quantities* of constant capital and variable capital are taken as given in both the theory of surplus-value in Volume 1 and the theory of prices of production in Volume 3 - the actual quantities of money-capital advanced and consumed in the real capitalist economy.[4]

Considerable textual evidence from Part 2 will be presented below to demonstrate this identity in Marx's theory between the cost price in equation (3.15) for the price of production of commodities and the cost price in equation (3.13) for the value of commodities, the latter of which is derived from equation (3.9) which expresses Marx's theory of the determination of the value of individual commodities.

Since the cost price is the same in equations (3.13) and (3.15), the *only possible difference* between the value and the price of production of commodities is the difference between surplus-value ($\mathbf{S_i}$) produced in a given industry and the average profit ($\mathbf{A_i}$) appropriated in that industry.[5] Algebraically:

(3.16) $\mathbf{P_i = K_i + S_i}$

$\mathbf{PP_i = K_i + A_i}$

$\mathbf{P_i - PP_i = (K_i + S_i) - (K_i + A_I)}$

$\mathbf{P_i - PP_i = (S_i - A_i)}$

The standard interpretation of Marx's theory is that the cost price in the determination of the price of production of commodities is *different* from the cost price in the determination of the value of commodities. In other words, *there are two sets of cost prices* - one for the determination of the value of commodities, equal to the values of the means of production and means of subsistence ($\mathbf{K^V_i}$), and the other for the determination of the price of production of commodities, equal to the prices of production of the means of production and means of subsistence ($\mathbf{K^P_i}$). The standard critique of Marx's theory is that he *failed to transform* $\mathbf{K^V_i}$ into $\mathbf{K^P_i}$. I will demonstrate below that Marx repeatedly emphasized that *the cost price is the same* in the determination of both the value and the price of production of commodities; i.e. that there is *only one set of cost prices*, not two, and thus there is *no transformation* of the cost price that has to be done.

### 3.2.3 Cost price is the same

Marx discussed the relation between the cost price and the value and price of production of commodities, in five important paragraphs in Chapter 9 of Volume 3 (pp. 263-65) (including a "missing paragraph" to be discussed below). Of special importance, Marx states repeatedly in these paragraphs, including with clear and unambiguous numerical examples and algebraic equations, that the *cost price is the same* in the determination of both the value and the price of production of commodities. In other words, there is only one cost price, not two.

The first of these five paragraphs introduces the subject:

> In Volumes 1 and 2 we were only concerned with the *value* of commodities. Now a part of this value has split away as *the cost price*, on the one hand, while on the other, the *production price* of the commodity has also developed, as a transformed form of value. (emphasis in the original)

Notice that in this introductory passage, there is no mention of *two* cost prices. Rather, there is only *one* cost price mentioned - "*the* cost price". This single cost price is described as having "split away" from the *value* of commodities. In other words, as we have seen above, the single cost price is a component of the *value* of commodities ($\mathbf{P_i = K_i + S_i}$, as in equation 3.13 above). The price of production, on the other hand, is a developed form of value (i.e. of the price of the output). We have also seen above that the single cost price is also a component of the price of production of commodities ($\mathbf{PP_i = K_i + A_i}$, as in equation (3.15) above). Therefore, the same single cost price is a component of both the value and the price of production of commodities.

The next paragraph is a bit of a mystery. In Marx's *Manuscript of 1864-65*, from which Engels edited what we know as Volume 3, the next paragraph is an extremely important one, in which Marx defined again the value of commodities and described the relation between the value, the cost price, and the price of production of commodities in clear, unambiguous, algebraic terms (Marx's original manuscript has recently been published in full in German for the first time, but unfortunately will not be included in the new 50-volume set of the *Marx-Engels Collected Works*. However, for some inexplicable reason, Engels *left out this crucial paragraph* in his edition of

Volume 3. This "missing paragraph" has recently been discovered by Alejandro Ramos (1998). This crucial paragraph is as follows (translated by Jens Christiansen):

> *The* cost price is, as we see, always smaller than the value of the commodity. The price of production can be smaller, bigger, or equal to the value of the commodity. *The value of the commodity = the value of the capital consumed in the production of the commodity plus the surplus-value*. If we take, as in the original development of the cost price (Chapter 1), *cost price = value of the capital advanced* in the production of the commodities, we have the following equations:
>
> *value = cost price + surplus-value* $\mathbf{V = K + s}$
> or profit as identical with surplus-value or $\mathbf{= K + p}$
> cost price = value - surplus-value or $\mathbf{K = V - s}$
> price of production = cost price + profit $\mathbf{P = K + p'}$
> calculated according to the general rate of profit = $\mathbf{p'}$.
>
> Because $\mathbf{K = V - s}$ and $\mathbf{V = K + s}$, the value of the commodity is always $>$ than the cost price. Depending on whether $\mathbf{s}$ or $\mathbf{p'}$ of each special production sphere is bigger or smaller or equal, $> <$ or $=$ to the average profit determined by the general rate of profit, then $\mathbf{P > <}$ **or** $\mathbf{= V}$. Because $\mathbf{V = K + s}$ **or** $\mathbf{p}$, and $\mathbf{P = K = p'}$, $\mathbf{V = P}$ when $\mathbf{s = p'}$, $\mathbf{> P}$ when $\mathbf{p' < s}$, and $\mathbf{< P}$ when $\mathbf{p' > s}$." (emphasis added)

Notice in this extremely interesting and important paragraph that *there is only one cost price* mentioned (**K**) throughout. There are not two cost prices, one a component of value and the other a component of price of production. The paragraph begins with "*The* cost price ..." The same cost price is a component of both the value and the price of production of the commodity. The value of the commodity is defined as equal to the cost price plus surplus-value ($\mathbf{V = K + s}$), and the price of production is equal to the *same cost price* plus the average profit ($\mathbf{P = K + p'}$). The **K** is the same quantity in all the equations. Since **K** is the same, whether the price of production is equal to, greater than, or less than, the value depends solely on whether the average profit is equal to, greater than, or less than the surplus-value, as we saw at the end of the last subsection (equation (3.16)). All this is clearly and unambiguously stated, and all this assumes that there is only one cost price.

Marx continued in the next paragraph to repeat and elaborate these same points, again with algebraic formulations and numerical examples.

> If we take it that the composition of the average social capital is 80c + 20v, and the annual rate of surplus-value s' = 100 per cent, the average annual profit for a capital of 100 is 20 and the average annual rate of profit is 20 per cent. For any cost price k of the commodities annually produced by a capital of 100, their price of production will be k + 20. In those spheres of production where the composition of capital is (80-x)c + (20+x)v, the surplus-value actually created within this sphere, or the annual profit produced, is 20+x, i.e. more than 20, and the commodity value produced is k + 20 + x, more than k + 20, or more than the price of production. In those spheres of production where the composition of capital is (80+x)c + (20-x)v, the surplus-value or profit annually created is 20-x, i.e. less than 20, and the commodity value therefore is k + 20 - x, more than k + 20, or more than the price of production. Leaving aside any variation in turnover times, *the production prices of commodities would be equal to their values only in cases where the composition of capital was by chance precisely 80c+ 20v*. (emphasis added)

This paragraph is another very clear statement that the *cost price is the same* in the determination of both the value and the price of production of commodities. In these examples, the cost price **k** is always equal to 100, both in the determination of value and in the determination of price of production of the different commodities. The value of commodities is equal to the given cost price plus surplus-value (k + 20). The price of production of commodities is equal to the cost price plus the average profit (k + 20 +/- x). The cost price k *does not change* from one magnitude in the determination of value to another magnitude in the determination of price of production. The only difference between values and prices of production is whether surplus-value or average profit is added to the same identical cost price.

Especially interesting is the case of *commodities produced with capital of average composition*, in which case the prices of production of these commodities are equal to their values. Since the cost price k is the same for both value and price of production, and since for these average commodities average profit = surplus-value ($\mathbf{A\Pi_i = S_i}$), it follows that the prices of production of these average commodities are equal to their values (see equation (3.16) above). This conclusion of the equality between the price of production and the value of average commodities, which is emphasized by Marx, is valid *if and only if the cost price is the same* in the determination of both the price of production and the value of these commodities. If the cost

prices were different, then the prices of production of average commodities would *not* be equal to the values of average commodities, even though the average profit is equal to the surplus-value produced in these industries. Therefore, Marx's argument that the prices of production of average commodities is equal to their values is further evidence that he assumed that the cost price is the same for the determination of both values and prices of production.

It should be noted that the very concept of *the* average composition of capital makes sense *only if the cost price is the same* for the determination of both values and prices of production; i.e only if the constant capital and variable capital are the same. If the cost prices were different for values and prices of production, then constant capital and variable capital would be different, in which case the composition of all (or most) capitals would change, and thus the average composition of capital would also in general change. Thus, according to this interpretation, there would be no such thing as *the* average composition of capital, as Marx repeatedly discussed it. Instead, there would be *two* average compositions of capital, one for the values of commodities and the other for prices of production. But Marx never said or even hinted that there might be *two* average compositions of capital. Either Marx is talking nonsense in these discussions of *the* average composition of capital, or the cost price is the same in the determination of both value and price of production. In light of Marx's repeated, explicit statements that the cost price is the same for the determination of both values and prices of production, it would seem that the only fair (to Marx) and reasonable interpretation is that Marx intended for the cost price to be the same, and thus there is only one average composition of capital.

In the next paragraph, Marx again divides the total social capital into three groups of average, higher than average, and lower than average composition of capital. In Marx's original manuscript, this paragraph does not include any further calculation of values and prices of production. According to Ramos (p. 63-64), the last half of this paragraph in the Engels edition of Volume 3 was completed by Engels. The part of this paragraph completed by Engels is as follows:

> How these capitals function after the average rate of profit is established, on the assumption of one turnover in the year, is shown by the following table, in which capital I represents the average composition, with an average rate of profit of 20 per cent.
>
> I. 80c + 20v + 20s. Rate of profit = 20 per cent.
> Price of the product = 120. Value = 120.
>
> II. 90c + 10v + 10s. Rate of profit = 20 per cent.
> Price of the product = 120. Value = 110.
>
> III. 70c + 30v + 30s. Rate of profit = 20 per cent.
> Price of the product = 120. Value = 130.
>
> Commodities produced by capital II thus have a value less than their price of production, and those produced by capital III have a price of production that is less than their value. *Only for capitals such as I, in branches of production whose composition chanced to coincide with the social average would the value and the price of production be the same.* (emphasis added)

Engels' addition seems to be an accurate interpretation of Marx's paragraph immediately preceding. The cost price is the same for both values and prices of production for all three types of commodities. As a result, the price of production of the commodity produced with capital of average composition (and only this average commodity) is equal to its value.

### 3.2.4 More complete explanation of constant capital and variable capital

We come now to the fifth and final paragraph in this discussion of the relation between value, cost price, and price of production. In this important paragraph, Marx discusses "an important modification in the determination of a commodity's cost price." We saw above that, it was originally assumed in Volume 1 that the cost price (the given actual money-capital advanced and consumed) is equal to the *value* of the inputs. After having explained the determination of prices of production, Marx notes in this paragraph that this given actual cost price is now understood to be equal to the *price of production* of the inputs, not their value. However, Marx goes on to say that the cost price is still a "*given precondition*", and that the *value* of commodities is still equal to the sum of this *given cost price* plus surplus-value (i.e. $\mathbf{P_i = K_i + S_i}$ ,

as in equation (3.13) above), just as before this more complete explanation of the given cost price (e.g. in Part 1 of Volume 3).

The first five sentences of this long paragraph is often cited by critics of Marx, who argue that this "modification in the determination of a commodity's cost price" means that the *magnitudes of the cost price are different* in the determination of values and prices of production, and thus that his theory of prices of production presented earlier in Chapter 9 - including the tables illustrating the theory - is *incomplete*, because it assumes that the cost price in the determination of prices of production is equal to the *values* of the means of production and means of subsistence, but it really should be the prices of production of these inputs. In other words, these sentences are interpreted to mean that Marx is acknowledging that he "failed to transform the inputs" and that this mistake needs to be corrected.

These first five sentences of this paragraph are the following:

> The development given above also involves a *modification in the determination of a commodity's cost price.* It was originally assumed that *the* cost price of a commodity equaled the value of the commodities consumed in production. But for the buyer of a commodity, it is the price of production that constitutes *its* cost price and can thus enter into forming the price of another commodity. As the price of production of a commodity can diverge from its value, so *the* cost price of a commodity, in which the price of production of other commodities is involved, can also stand above or below the portion of its total value that is formed by the value of the means of production going into it. It is necessary to bear in mind this *modified significance of the cost price*, and therefore to bear in mind too that if *the* cost price of a commodity is equated with the value of the means of production used up in producing it, it is always *possible to go wrong*. (emphasis added).

The standard interpretation of these sentences is that the "modification in the determination of the cost price" means that there are *two different cost prices*, one equal to the value of the inputs, which is a determinant of the value of the output, and the other equal to the price of production of the inputs, which is a determinant of the price of production of the output. In other words, the *magnitude of the cost price changes* from the determination of value in Volume 1 to the determination of prices of production in Volume 3.

However, this interpretation is not supported by a close examination of these sentences. Marx never says in these sentences that there are two different cost prices, one for the determination of values and the other for the determination of prices of production. To the contrary, Marx repeatedly refers to "the" cost price, suggesting that there is only one cost price. Marx's point in these sentences is not that there are two cost prices, but rather that "the" given cost price is now understood to be equal to the price of production of the inputs, rather than equal to the value of the inputs.

Furthermore, the standard interpretation of these sentences is contradicted by the previous four paragraphs, which we have just reviewed, and in which Marx clearly and repeatedly stated that the *cost price is the same* in the determination of both the value and the price of production of commodities. These earlier paragraphs are generally ignored by the proponents of the standard interpretation. If the five sentences just quoted are to be consistent with these earlier paragraphs, then the standard interpretation of these sentences must be wrong.

Finally, the standard interpretation of these sentences is also contradicted by the rest of the *very same paragraph*, which is also generally ignored by Marx's critics. The rest of this paragraph is as follows:

> Our present investigation does not require us to go into further detail on this point. *The cost price* of a commodity is a *given precondition*, independent of his, the capitalist's, production, while *the result of his production is a commodity that contains surplus-value*, and therefore an excess value over and above *its* cost price. As a general rule, the principle that *the* cost price of a commodity is less than its value has been transformed in practice into the principle that *its* cost price is less than the price of production. For the total social capital, where price of production equals value, this assertion is identical with the earlier one that *the* cost price is less than the value. Even though it has a different meaning for the particular spheres of production, the *basic fact remains* that, taking the social capital as a whole, *the* cost price of the commodities that this produces is less than their value, or than the price of production which is identical with this value for the total mass of commodities. (emphasis added)

We can see that, after stating in the beginning sentences of this paragraph that the cost price is equal to the price of production of the inputs, rather than the value of the inputs, Marx

goes on to say that "the" cost price is still a "given precondition" (in the determination of value and surplus-value), and that surplus-value is still the excess of the value of commodities over *this given cost price*. I think this is a very clear, succinct statement of Marx's overall logical method - *the cost price is a precondition of production, and the result of production is a surplus-value*, the excess of the value produced over the given cost price presupposed to production. In other words, the value of commodities is equal to the sum of *this given cost price* plus the surplus-value (i.e. $\mathbf{P_i = K_i + S_i}$ ), as in the previous paragraphs in Chapter 9, even though this given cost price is now understood to be equal to the price of production of the inputs, rather than the value of the inputs. This "modification in the determination of the cost price" does not change the magnitude of the single, given cost price, nor does not it change the determination of the value of commodities as the sum of this given cost price and surplus-value. The only thing that changes is that the single, given cost price is now understood to be equal to the price of production of the inputs, rather than the value of the inputs.

Marx then goes on to say that for *individual* commodities, the principle that the cost price is less than the value (i.e. $\mathbf{K_i < P_i}$) is transformed into the principle that the cost price is less than the price of production (i.e. $\mathbf{K_i < PP_i}$). Notice that the *cost price is the same* in both of these comparisons. Marx does *not* say that the "cost price in value terms" is less than the value of commodities and the "cost price in price of production terms" is less than the price of production of commodities. Instead, Marx says that *the same cost price* ($\mathbf{K_i}$ ) is less than both the value and the price of production of commodities. Therefore, the same cost price is a component of both the value and the price of production of commodities (i.e. $\mathbf{P_i = K_i + S_i}$ and $\mathbf{PP_i = K_i + A_i}$, as in equations (3.13) and (3.15) above).

For the *total* social capital, Marx goes on to say, there is no change whatsoever, either in the cost price or in the value of commodities. Even though the cost price is now understood to be equal to the price of production of the inputs, and not to the value of the inputs, "the basic fact remains" that surplus-value is the difference between the value of commodities and the given cost price (i.e. $\mathbf{S = P - K}$). The fact that the given cost price diverges from the value of the inputs

makes no difference whatsoever in the total magnitudes of constant capital, variable capital, value or surplus-value.

Therefore, I conclude that the "modification in the determination of the cost price" in the opening sentences of this crucial paragraph does not mean that the magnitude of the cost price changes, or that there are two cost prices, one for the determination of values and another for the determination of prices of production. Rather, it means that the *same cost price,* that is taken as given in the determination of both value and price of production (as discussed in previous paragraphs), *is itself explained more fully than in Volume 1.* Marx originally assumed in Volume 1 that this single, given cost price is equal to the value of the inputs (because no other assumption is possible at that abstract macroeconomic stage of the theory). However, after the determination of prices of production in Volume 3, Marx provides a more complete explanation of the given cost price, as equal to the prices of production of the inputs. *But this more complete explanation of the given cost price does not change the magnitude of the given cost price itself.* The *same* cost price continues to be taken as given in the determination of both the value and the price of production of commodities, as the actual quantities of money-capital advanced to purchase means of production and labor-power and consumed in production.

According to this interpretation, Marx is *not* acknowledging in this passage that he failed to transform the cost prices from values to prices of production earlier in the chapter, and that his earlier presentation needs to be corrected. Marx does not say anything about needing to correct the numbers in his tables earlier in the chapter. Rather, this passage says that we can now understand that the given cost prices (which remain the same for the determination of both values and prices of production) are themselves equal to the prices of production of the inputs, rather than to the values of the inputs. When Marx says that "it is always possible to go wrong" if one assumes that the cost price is equal to the value of commodities, he means that it would be wrong to make this assumption, not only in the determination of the *price of production* of commodities (as in the standard interpretation), but also in the determination of the *value* of commodities.

This interpretation of the meaning of the "modification in the determination of the cost price" in the opening sentences of this paragraph, unlike the standard interpretation, is consistent with the preceeding paragraphs and is also consistent with the rest of the same paragraph, in which Marx clearly stated that the *cost price is the same* in the determination of both the value and the price of production of commodities.[6]

Thus we can see that, in these five crucial paragraphs in Chapter 9, Marx repeatedly stated that the *cost price is the same* in the determination of both value and price of production. The single magnitude of cost price is a "given precondition" in the determination of both the value and the price of production of commodities. This single, given magnitude of cost price is now explained more fully, as equal to the prices of production of the inputs, rather than the value of the inputs, but the magnitude of the given cost price does not change. There are not two cost prices, one for the determination of value and the other for the determination of price of production, such that the former has to be transformed into the latter. No such transformation of the cost price from value to price of production is necessary. Therefore, Marx did not fail to make such a transformation.

### 3.2.5 More complete explanation of the value of commodities

We can also see that this more complete explanation of the given cost price also provides a more complete explanation of the *value* of commodities. The value of commodities continues to be equal to the given cost price plus the surplus-value, as Marx repeatedly emphasized in the paragraphs from Chapter 9 of Volume 3 discussed above (i.e. $\mathbf{P_i = K_i + S_i}$, as in equation 3.13 above). However, the given cost price ($\mathbf{K_i}$) is no longer assumed to be equal to the *value* of the inputs, but is instead now more fully explained as equal to the *price of production* of the inputs. The cost price component of the value of commodities is the actual constant capital and variable capital consumed in production, even though these actual quantities of money-capital are not equal to the values of the inputs.

Similarly, the value of commodities continues to be *determined* by the sum of the given constant capital (one part of the cost price) and the new-value produced by current labor ($\mathbf{P_i = C_i + N_i}$ , as in equation 3.9 above). However, the given constant capital component of the value of commodities is no longer assumed to be equal to the value of the means of production, but is instead now explained more fully to be equal to the price of production of the means of production. The value transferred from the constant capital to the *value* of the output is the actual constant capital consumed in production, even though this actual constant capital is not equal to the value of the means of production.[7]

This more complete explanation of the value of commodities follows from the fact that the commodities being analyzed are not simply commodities, but, more precisely, are the products of *capitalist* production. Capitalist production is preceeded by the advance of definite quantities of money-capital to purchase means of production and labor-power. These actual quantities of money-capital advanced then become *determining factors* of the value and surplus-value of the commodities produced by capitalist production. In particular, the *value* of commodities produced by capitalist production is determined by the sum of the actual constant capital advanced and the new-value produced, and is equal to the sum of the actual cost price (constant capital and variable capital) and the surplus-value produced, even though these actual quantities of money-capital advanced are not equal to the values of the means of production and means of subsistence. And the surplus-value produced is equal to the difference between the new-value produced and the actual variable capital advanced, even though this actual variable capital advanced is not equal to the value of the means of subsistence.

### 3.2.6 Value and price of production for "average" commodities

In Chapters 10, 11, and 12, Marx returned to the subject of the price of production of commodities produced with capital of average composition, already discussed in Chapter 9. At the beginning of Chapter 10, Marx again stated briefly that the prices of production of such average commodities are equal to their values.

> In some branches of production the capital employed has a composition we may describe as 'mean' or 'average', i.e. a composition exactly or approximately the same as the average of the total social capital.
>
> In these spheres, the production prices of the commodities coincide exactly or approximately with their values as expressed in money. (C.III: 273)

Marx repeated the same point in the first sentence of the next paragraph. Again, as discussed above, this equality between the price of production and the value of average commodities can be true *only if the cost price is the same* for both the value and the price of production.

Chapter 11 is about the effects of a change of wages on the prices of production of commodities (i.e. Ricardo's main question). Throughout the chapter, Marx first assumes a given magnitude of money wages (or variable capital), and then assumes a 25% increase or decrease of money wages, and analyzes the effects of these changes of money wages on the prices of production of three types of commodities: (1) commodities produced with the average composition of capital; (2) commodities produced with below average composition of capital; and (3) commodities produced with the above average composition of capital. In both cases of an increase and a decrease of wages, the price of production of commodities produced with average composition *does not change*. This result is possible only if the price of production of average commodities is equal to their value, which in turn is true, as we have seen, only if the cost price is the same for both the value and the price of production of average commodities.

Marx returned again to the subject of the effect of a change of wages on the price of production of average commodities in a short, but important "supplementary remark" in Chapter 12, Section 2, entitled "The Production Price of Commodities of Average Composition". We have just seen that Marx concluded in Chapter 11 that a change of wages would have no effect on the price of production of average commodities. In Chapter 12, Marx returns to this question, with the explicit recognition that the cost price of commodities is *not* equal to the value of the inputs, but is instead equal to the price of production of the inputs, as discussed earlier in Chapter 9. The question addressed in this short section is this: does the fact that the cost price

of commodities is equal to the price of production on the inputs, rather than their value, alter the earlier conclusion that a change of wages would have no effect on the price of production of average commodities?

We will see below that Marx concludes that the answer to this question is *no*, i.e. that this earlier conclusion is not altered by the fact that the cost price of commodities is equal to the price of production on the inputs. Marx's argument once again assumes that the *cost price is the same* in the determination of both the value and the price of production of commodities.

However, in first paragraph of this section, Marx makes a statement that appears to contradict this conclusion reached at the end of the section. This first paragraph is often cited by critics of Marx to support their interpretation that there are two sets of cost prices, not just one, one for the determination of values and one for the determination of prices of production, and that Marx "failed to transform" the cost prices from values to prices of production.

The first paragraph in this section is as follows:

> We have already seen that the divergence of price of production from value arises for the following reasons: (1) because the average profit is added to the cost price of a commodity, rather than the surplus-value contained in it; (2) *because the price of production of a commodity that diverges in this way from its value enters as an element into the cost price of other commodities*, which means that a divergence from the value of the means of production consumed may already be contained in the cost price, quite apart from the divergence that may arise for the commodity itself from the difference between average profit and surplus-value. (emphasis added)

This paragraph does seem to support the standard critique, that there are two sets of cost prices, one for the determination of values and the other for the determination of prices of production, and that Marx "failed to transform" the cost prices from values to prices of production. However, let us examine the remaining two paragraphs in this section.

In the next paragraph, Marx elaborates on the second reason for the divergence of price of production from value - because the cost price diverges from the values of the means of

production and means of subsistence. Marx first discusses constant capital and then discusses variable capital.

> It is quite possible, accordingly, for the cost price to diverge from the value sum of the elements of which this component of the price of production is composed even in the case of commodities that are produced by capitals of average composition. Let us assume that the average composition is 80c + 20v. It is possible not that, for the actual individual capitals that are composed in this way, the 80c may be greater or less than the value of *c*, the constant capital, since this *c* is composed of commodities whose prices are different from their values. The 20c can similarly diverge from its value, if the spending of wages on consumption involves commodities whose prices of production are different from their values. The workers must work for a greater or lesser amount of time in order to buy back these commodities (to replace them) and must therefore perform more or less necessary labour than would be needed if the prices of production of their necessary means of subsistence did coincide with their values. (C.III: 309)

Then in the final paragraph of this section, Marx emphasized the main point he is trying to make in this section - that even though the cost price is not equal to the value of the inputs, this inequality does not affect the "correctness of the principles put forward" in previous chapters concerning the price of production of commodities produced with average composition. These principles are of course (1) that the prices of production of average commodities are equal to their values and (2) that the prices of production of average commodities are not affected by a change of wages. As we have seen above, these two principles about the price of production of average commodities can be true *if and only if the cost price is the same* for both the value and the price of production of average commodities, in other words, only if there is *only one cost price*, not two. Marx once again expresses this identity of the cost price in the value and the price of production of average commodities in terms of the familiar algebraic formulations. This crucial concluding paragraph is:

> *Yet this possibility* [cost price = price of production on inputs] *in no way affects the correctness of the principles put forward for commodities of average composition.* The quantity of profit that falls to the share of these commodities is equal to the quantity of surplus-value contained in them. For the above capital, with its composition of 80c + 20v, for example, *the important thing as far as the determination*

> *of surplus-value is concerned is not whether these figures are the expression of actual values, but rather what their mutual relationship is*, i.e. that *v* is one-fifth of the total capital and *c* is four-fifths. As soon as this is the case, as assumed above, the surplus-value *v* produces is equal to the average profit. On the other hand, because it [the surplus-value *v* produces] is equal to the average profit, the price of production = cost price + profit = *k* + *p* = *k* + *s*, which is equal in practice to the commodity's value. In other words, *an increase or decrease in wages in this case leaves k + p unaffected, just as it would leave the commodity's value unaffected*, and simply brings about a corresponding converse movement, a decrease or increase, on the side of the profit rate. (C.III: 309-10; emphasis added)

Please note the very important clarification - that what really matters ("the important thing") in the determination of surplus-value, and hence also in the determination of value, is *not* whether the quantities of constant capital and variable capital are the equal to the *values* of the inputs, but rather what these quantities actually are and the relation between them, i.e. whether or not the ratio of the actual quantities are equal to the average composition of capital. As long as the actual composition of an individual capital is equal to the actual average composition of capital, then the average profit will be equal to the surplus-value produced, and the price of production of this average commodity will be equal to its value. It follows that the constant capital that is transferred to the *value* of the output is the *actual* constant capital, even though this actual constant capital is not equal to the value of the means of production, and that the variable capital that is subtracted from the new value produced to determine the surplus-value is the *actual* variable capital, even though this actual variable capital is not equal to the value of the means of subsistence.

Therefore, we can see that Marx's statement at the beginning of Section 2 of Chapter 12 - that there are "two reasons for divergence" between value and price of production - is directly contradicted by the conclusions reached at the end of this section - and in previous chapters - about the price of production of average commodities. The prices of production of average commodities are equal to their values, and are not affected by a change of wages, *only if the cost price is the same* in the determination of both the value and the price of production of commodities. And if the cost price is the same in the determination of both value and price of

production, then there can be *only one reason for divergence* between value and price of production - because the average profit is not equal to the surplus-value.

Therefore, in interpreting Section 2 of Chapter 12, we have the following choice: (1) either Marx's arguments about the prices of production of average commodities in this section and in earlier chapters are all completely wrong, **OR** (2) Marx simply misspoke in the first paragraph of this section when he said that there are "two reasons for divergence" between value and price of production.

I think that Marx misspoke in the beginning of Section 2. I think that Marx slipped into using the term "value" in the first paragraph of Section 2 in its earlier simplified meaning, under the Volume 1 assumption that the cost price of commodities is equal to the value of the inputs. With this original meaning of "value", there would be "two reasons" for divergence of price of production from value - because the cost price is different and because the average profit is not equal to the surplus-value produced. However, we saw above that Marx argued in Chapter 9 that, after prices of production are determined, the cost price component of the value of commodities is more fully explained as equal to the *price of production* of the inputs, rather than to the value of the inputs, and, consequently, that the value of commodities is also more fully explained in that the cost price component of the value of commodities is equal to the price of production of the inputs. It follows from this more complete explanation of the cost price and the value of commodities that the *cost price is the same* in the determination of both value and price of production, and thus that there is *only one reason* for divergence between value and price of production - because the average profit is not equal to the surplus-value produced.[8]

### 3.2.7 Cost price is the same for agricultural commodities

This conclusion is further reinforced by Marx's discussion of absolute rent in Chapter 45 of Volume 3, in which it is assumed once again that *the cost price is the same* in the determination of both the value and the price of production of agricultural commodities. Marx argued in this chapter that absolute rent (rent on the least fertile land which is not due to a monopoly price of

the agricultural product, i.e. to a price greater than the value of the product) is possible because the composition of capital in agriculture may be less than the average composition for the total economy (and, in fact, was less in England at the time and tended to be less for all capitalist countries). In this case, the value of agricultural goods is greater than their price of production. Hence the actual price of agricultural goods may rise above their price of production without necessarily being greater than their value. This excess of the actual price over the price of production is the source of absolute rent on the least fertile land. Marx argued that Ricardo had not been able to explain the possibility of absolute rent because he did not clearly distinguish between the value and the price of production of commodities.

The important point for our purposes is that, in Marx's discussions of the value and price of production of agricultural goods in this chapter, he again explicitly stated that the *cost price is the same* ("a given constant") in the determination of both the value and the price of production of these commodities. Since the cost price is the same, the only difference between the value and the price of production of agricultural commodities is the difference between the surplus-value produced in agriculture and the average profit received. The possibility of absolute rent arises from the excess of the surplus-value produced in over and the average profit. One key passage is the following:

> Since one part of the value and the price of production is in fact a *given constant*, i.e. the *cost price, the capital = k consumed* in the course of production, the distinction lies in the other, variable part - the surplus-value, which in the price of production = $p$ is profit, i.e. the total surplus-value reckoned on the social capital and on each individual capital as an aliquot part of this, but which in the value of the commodity is equal to the actual surplus-value which this particular capital has produced, forming an integral part of the commodity value it has created. If the value of a commodity is above its price of production, the price of production = $k + p$, and its value = $k + p + d$, so that $p + d$ = the surplus-value contained in it. *The difference between the value and the price of production is thus d*, the excess of the surplus-value produced by this capital over the surplus-value allotted to it by the general rate of profit. (C.III: 897; emphasis added)

Marx went on to present a numerical example in which the cost price of agricultural goods = 100 = 75c + 25v. Assuming a rate of surplus-value of 100%, the value of agricultural goods is then = $\mathbf{K_i} + \mathbf{S_i}$ = 100 + 25 = 125. And assuming a rate of profit of 15%, the price of production of agricultural goods = $\mathbf{K_i} + \mathbf{P_i}$ = 100 + 15 = 115. Again the cost price $\mathbf{K_i}$ is the same in the determination of both the value and the price of production of these commodities. The only difference between their value and their price of production is the difference between the surplus-value produced and the average profit. There are not "two reasons for divergence" between value and price of production, but only one reason.

## 3.3 Conclusion

### 3.3.1 Constant capital and variable capital taken as given

I conclude from the discussion in this chapter that the magnitudes of constant capital and variable capital are *taken as given*, both in the theory of surplus-value in Volume 1 and in the theory of prices of production in Volume 3. And I conclude further that the *same quantities* of constant capital and variable capital are taken as given in both Volume 1 and Volume 3 - the *actual* quantities of money-capital advanced to purchase means of production and labor-power in the real capitalist economy in the first phase of the circulation of capital.

These given actual quantities of constant capital and variable capital are partially explained in Volume 1, as equal to the *values* of the means of production and means of subsistence. However, this provisional assumption does determine the magnitudes of constant capital and variable capital, which are taken as given. These given actual quantities of constant capital and variable capital are then explained more fully in Volume 3, as equal to the *prices of production* of the means of production and means of subsistence. However, this more complete explanation of the given actual quantities of constant capital and variable capital *does not change* the given quantities themselves. This is the reason why the quantities of constant capital and variable capital *do not have to be transformed* in the transition from the macroeconomic theory of the total surplus-value in Volume 1 to the microeconomic theory of individual prices of

production in Volume 3: because the *same quantities* of constant capital and variable capital are taken as given in both of these stages of Marx's theory. And this is the reason that Marx did not "fail to transform these inputs" - because no such transformation is necessary.

The textual evidence is not completely unambiguous, but I think the evidence to support the interpretation of the determination of constant capital and variable capital presented here is strong, and is stronger than the evidence to support the standard interpretation of the determination of constant capital and variable capital (i.e. that they are derived from given physical quantities of means of production and means of subsistence and that they change from Volume 1 to Volume 3). At the very least, I think the interpretation presented here should be acknowledged as a possible and reasonable interpretation of Marx's texts.

In addition, the interpretation presented here of the determination of constant capital and variable capital is logically consistent with the key methodological premise of Marx's theory discussed in Chapter 2 - that the total amount of surplus-value is determined in Volume 1, prior to its division into individual parts in Volume 3, and remains unchanged in the distribution of surplus-value analyzed in Volume 3. If the *same quantities* of constant capital and variable capital are taken as given in both Volume 1 and Volume 3, then the actual total amount of surplus-value can be determined in Volume 1 and remains unchanged in Volume 3. On the other hand, if the quantities of constant capital and variable capital *change* from Volume 1 to Volume 3, as in the standard interpretation, then it is not possible to determine the actual total surplus-value in Volume 1 and the total surplus-value *will also change* in Volume 3, contrary to Marx's fundamental premise of an unchanging total surplus-value in Volume 3. Therefore, overall logical consistency with this other key aspect of Marx's logical method is another reason in favor of the interpretation presented here of the determination of the magnitudes of constant capital and variable capital.[9]

### 3.5.2 Marx's two aggregate equalities

An important implication of the interpretation presented here is that Marx's two aggregate equalities (total price of production = total value and total profit = total surplus-value) are *both true simultaneously*, as Marx claimed. These two aggregate equalities are not true only for the special case of equal compositions of capital across industries, but are also true for the general case of unequal compositions of capital. These two aggregate equalities follow of necessity from Marx's logical method of determination of the general rate of profit and prices of production, as discussed above. Because the general rate of profit is determined as the ratio of the predetermined total surplus-value to the total capital advanced, and because the cost price is the same in the determination of both profit and surplus-value, the sum of all individual profits must of necessity be equal to the predetermined total surplus-value:

$$\mathbf{A_i = \Sigma R\,K_i = R\ \Sigma K_i = R\,K = (S/K)\,K = S}$$

Furthermore, because the quantities of constant capital and variable capital are the same in the determination of both the total price and the individual prices of production, the sum of all individual prices of production must of necessity be equal to the total price as determined in Volume 1:

$$\begin{aligned} \mathbf{PP_i} &= \mathbf{\Sigma\,[\,(C_i + V_i) + R\,K_i\,]} \\ &= \mathbf{\Sigma C_i + \Sigma V_i + R\ \Sigma K_i} \\ &= \mathbf{C + V + S} \\ &= \mathbf{P} \end{aligned}$$

In other words, one does not have to pick an "invariance condition", i.e. select only one of these two aggregate equalities to be true. All the key total quantities in Marx's theory - constant capital, variable capital, and surplus-value - remain invariant in the transition from the macroeconomic theory in Volume 1 to the microeconomic theory in Volume 3, and thus both aggregate equalities are always true, as Marx argued.

# APPENDIX TO CHAPTER 3

## 1. *Capital*, Volume 3, Chapter 9, p. 261

Another passage cited by critics of Marx's theory, to support their interpretation that there are *two* sets of cost prices, one for the determination of values and the other for the determination of prices of production of commodities, is on p. 261 of Volume 3 of *Capital*, four pages before the five paragraphs from Chapter 9 discussed in the text of Chapter 3 (Sections 3.2.3 and 3.2.4). I will first briefly review the opening pages of Chapter 9 of Volume 3 prior to page 261. The key question once again is: is the cost price the *same* or is it *different* in the determination of values and the determination of prices of production? In other words, is there *one* set of cost prices, or *two*?

As is well known, in the opening pages of Chapter 9 Marx first explained the determination of prices of production, and illustrated this determination with three tables (pp. 254-58). The first table makes no distinction between fixed and circulation capital, but the second and third tables do make this distinction. The second and third tables determines the *value* of each of the five commodities as the sum of the *cost price* (constant capital and variable capital) and the surplus-value produced in each industry. The third table also determines the *prices of production* of the five commodities as the sum of the *same cost prices* and the average profit appropriated in each industry. The point I wish to emphasize is that in these tables the *cost price is the same* for the determination of both values and prices of production. The only difference between the values and the prices of production presented in these tables is the difference between the surplus-value produced and the average profit appropriated in each industry.

On page 258, Marx states that "the cost price is *completely governed by the outlay* within each respective sphere of production." (emphasis added). I interpret "completely governed by" to mean "determined by". As I understand it, Marx is saying here that *the* cost price is determined by the capital outlay (the actual quantity of money-capital advanced to purchase

means of production and labor-power), which is taken as given. There is no mention here of *two* cost prices, one determined by the values of the means of production and the means of subsistence and the other determined by the prices of production of these bundles of goods. There is only one cost price mentioned ("the" cost price) and this one cost price is determined by the capital outlay, which is taken as given. If the cost price is determined by the capital outlay, then there cannot be two cost prices, because *there is only one capital outlay*.

On page 259, Marx states the important aggregate equality that the sum of prices of production is equal to the sum of values:

> And in the same manner, the sum of prices of production for the commodities produced in society as a whole - taking the totality of all branches of production - is equal to the sum of their values.

This aggregate equality follows from the following assumptions in Marx's theory of prices of production: (1) *the cost prices are the same* in the determination of both values and prices of production, and (2) the sum of profits is equal to the sum of surplus-values.

Two pages later, Marx noted that, after the determination of prices of production, the quantities of constant capital and variable capital, that are taken as given ("governed by the outlays"), can now be explained more fully than before. In Volume 1, it was assumed that the given quantities of constant capital and variable capital are equal to the *value* of the means of production and means of subsistence, but now we can understand that these given quantities are really equal to the *prices of production* of these inputs.

This passage is as follows:

> Apart from the fact that the price of the product of capital B, for example, diverges from its value, because the surplus-value realized in B is greater or less than the profit added in the price of the products of B, *the same situation also holds for the commodities that form the constant part of capital B, and indirectly, also, its variable capital, as means of subsistence for the workers*. As far as the constant portion of capital is concerned, it is itself equal to cost price plus surplus-value, i.e. now equal to cost price plus profit, and this profit can again be greater or less than the surplus-value whose place it has taken. As for the variable capital, the average daily wage is certainly always equal to the value product of the number of hours that the worker

> must work in order to produce his necessary means of subsistence; but this number of hours is itself distorted by the fact that the production prices of the necessary means of subsistence diverge from their values. However, this is always reducible to the situation that whenever too much surplus-value goes into one commodity, too little goes into another, and that the divergences from value that obtain in the production prices of commodities therefore cancel each other out. (p. 261; emphasis added)

This passage is sometimes cited by critics of Marx to support their interpretation that the quantities of constant capital and variable capital change from Volume 1 to Volume 3. However, Marx does not state in this passage that the quantities of constant capital and variable capital change in Volume 3. Rather, Marx states that the quantities of constant capital and variable capital (which are taken as given and do not change) can now be explained more fully, to be equal to the *prices of production* of the means of production and means of subsistence, rather than equal to their values. Marx does not say anything in this passage about the need to change the quantities of constant capital and variable capital in his earlier tables. He just says that the explanation of these given quantities is different and more complete than before.

The standard interpretation jumps to the conclusion that, because the quantities of constant capital and variable are now explained to be equal to prices of production, this means that the quantities of constant capital and variable capital must change, and must be different in the determination of prices of production than in the determination of values. But Marx does not say this. Marx discusses only one set of quantities for constant capital and variable capital, which are now seen to be equal to prices of production, rather than to values. The fact that the given quantities of constant capital and variable capital are now understood to be equal to prices of production, rather than to values, does not imply that there must be two sets of quantities of constant capital and variable capital.

Furthermore, at the end of this very same paragraph, Marx states again the conclusion that the divergences between profits and surplus-values for individual commodities cancel each other out, so that the aggregate equality between the sum of prices of production and the sum of values continues to be true. We have seen in the text of Chapter 3 that this conclusion requires as

a logical precondition that the quantities of constant capital and variable capital be the same for the determination of both values and prices of production.

Therefore, I conclude that this passage does not support the standard critique of Marx's theory of prices of production. It is certainly not a clear statement that Marx made a mistake in his earlier presentation and that his tables need to be corrected. Nor is it a clear statement that there are two sets of the inputs of constant capital and variable capital, and that these inputs need to be transformed from values to prices of production. Furthermore, the standard interpretation contradicts the two aggregate equalities that Marx emphasizes in surrounding paragraphs.

On the other hand, this passage can be interpreted in an alternative way (that there is only one set of inputs of constant capital and variable capital, which are now understood to be determined in a different way) which is consistent with the tables presented earlier and also with Marx's two aggregate equalities. This alternative interpretation leads to the conclusion that Marx did not make a mistake in his determination of prices of production, i.e. that Marx did not forget to transform the values of the inputs from values to prices of production, because these inputs do not have to be transformed.[10]

**2. *Manuscript of 1861-63: Theories of Surplus-Value*, Volume 3, p. 167**

Another passage cited by the critics of Marx to support their interpretation that there are *two* sets of cost prices, one for the determination of values and the other for the determination of prices of production of commodities, is from the *Manuscript of 1861-63*, written before the draft of Volume 3 in the *Manuscript of 1864-65.* This passage appears to be Marx's first published discussion of the point that the constant capital component of the *value* of commodities is equal to the *price of production*, not the value, of the means of production. This passage is the following:

> *The difference between the cost-price* [price of production][11] *and the value of the commodity is thus brought about in two ways*: by the difference between the cost-

> price [price of production] and the values of commodities which constitute the pre-conditions of the process of production of the new commodity; and by the difference between the surplus-value which is really added to the conditions of production and the profit which is calculated. (MECW.32: 352; TSV.III: 167; emphasis added)

This passage is similar to the passage discussed in the text of Chapter 3, from Chapter 12 of Volume 3 of *Capital*, about the "two reasons for divergence" between values and prices of production. Again, this passage seems to support the standard critique that the cost price is different in the determination of the values and the prices of production of commodities. However, this interpretation ignores the preceding two paragraphs in Marx's manuscript.

This passage is in the context of a long discussion of Bailey's critique of Ricardo in the chapter on "The Disintegration of the Ricardian School". The discussion of the issue of the value transferred from the means of production to the value of the output began two paragraphs earlier with the comment that "the only new contribution" that Bailey makes is the recognition that one part of the *value* of commodities - the constant capital part that is transferred from the means of production - may be due to monopoly prices. Marx quotes Bailey:

> "*A commodity, therefore, may owe part of its value to monopoly*, and part to those causes which determine the value of unmonopolised products. An article, for instance, may be manufactured amidst the freest competition out of a raw material, which a complete monopoly enables it producer to sell at six times the actual cost." (p. 223)
>
> "In this case it is obvious, that although the value of the article might be correctly said to be determined by the quantity of capital expended upon it by the manufacturer, yet no analysis could possible resolve the value of the capital into quantity of labour." (p. 223-23) (MECW.32: 352; TSV.III: 116; emphasis added)

Marx then comments: "This remark is correct." However, Marx is not concerned with monopoly, but only with the difference between the value and the price of production of the inputs to production. For Marx, the important point is that the constant capital that is transferred to the *value* of commodities is equal to the *price of production* on the means of production, and not equal to the *value* of the means of production. Marx then comments further:

> But monopoly does not concern us here, where we are dealing with two things only, value and cost-price [price of production]. It is clear that the conversion of value into cost-price [price of production] works in two ways. First, the profit which is added to the capital advanced may be either above or below the surplus-value which is contained in the commodity itself, that is, it may represent more or less unpaid labour that the commodity itself contains. This applies to the variable part of capital and its reproduction in the commodity. But apart from this, the cost-price [price of production] of constant capital - or of the commodities which enter the value of the newly produced commodity as raw materials, matières instrumentales and instruments and conditions of - may likewise be either above or below its value. Thus the commodity comprises a portion of the price which differs from value, and this portion is independent of the quantity of labour newly added, or of the labour whereby these conditions of production with given cost-prices [prices of production] are transformed into a new product. It is clear that what applies to the difference between the cost-price [price of production] and the value of the commodity as such - as a result of the production process - likewise applies to the commodity insofar as, in the form of constant capital, it becomes an ingredient, a pre-condition, of the production process. Variable capital, whatever difference between the value and the cost-price [price of production] it may contain, is replaced by a certain quantity of labour which forms a constituent part of the value of the new commodity, irrespective of whether its price expresses its value correctly or stands above or below the value. On the other hand, the difference between the cost-price [price of production] and value, insofar as it enters into the price of the new commodity independently of its own production process, is incorporated into the *value* of the new commodity as a presupposed element. (MECW.32: 351-52; emphasis added; TSV.III: 166-67; italicized emphasis added)

The key word "presupposed" ("vorausgeseztes") at the end of this passage is once again mistranslated as "antecedent" in *Theories of Surplus-value*, as was the same word 36 pages earlier (discussed in Section 3.1.1) in which Marx stated that the "all-embracing and decisive factor" of capitalist production is the relation between the quantity of money-capital *presupposed* to production (**M**) and the greater quantity of money-capital that results from production (**M'**). Again the word "antecedent" suggests that the cost price of the inputs *existed prior* to the value of commodities, which is true, but it does not capture the further important meaning that the previously existing cost price is *presupposed* as a factor in the determination of the *value* of commodities.

We can see that Marx states at the beginning of this paragraph that the conversion of value into price of production "works in two ways", including a difference between the price of production and the value of the inputs. However, he concludes later in this paragraph that the *price of production* of the inputs is "incorporated into the *value* of the output as a *presupposed* element, i.e. that the price of production of the inputs is a "presupposed element" in the determination of the *value* of the output (similar to the comment on Bailey - "this is correct"). Thus, the explanation of the value of commodities is now more complete than before. The presupposed cost price component of the value of commodities is now explained as the *price of production* of the inputs, rather than their value.[12] This conclusion implies that the conversion of values into prices of production *works in only one way* - the difference between the surplus-value produced and the average profit appropriated. Then, in spite of this articulation of this more complete explanation of the value of commodities, Marx went on to repeat that the conversion of value into prices of production "is brought about in two ways", in the passage quoted at the beginning of this section.

Therefore, Marx seems to be unconsciously using the term "value" in two different senses in this paragraph: (1) the original, provisional meaning in Volume 1, in which constant capital and variable capital are assumed to be equal to the *values* of the means of production and means of subsistence (in which case the conversion of values into prices of production "works in two ways"; and (2) the more complete meaning in Volume 3, in which constant capital and variable capital are assumed to be equal to the *prices of production* of the means of production and means of subsistence (in which case the conversion of values into prices of production works in only one way). This inconsistency is perhaps not surprising, since this is the first time Marx discussed this issue in his published manuscripts. Marx's clarity about these two different meanings of "value" was greater in the draft of Volume 3 in the *Manuscript of 1864-65* than in his critique of Bailey and Ricardo in the *Manuscript of 1861-63*, as is evidenced by his repeated emphasis in Volume 3 that "the cost price is the same" in the determination of both values and prices of production. Although, as we have seen, Marx slipped once in Volume 3 (Chapter 12)

into the original Volume 1 meaning of "value" (and this slip was contradicted by the following paragraphs).

**Conclusion**

Therefore, the textual evidence on the issue of whether there is *one* set of cost prices or *two* in Marx's theory may be summarized as follows: On the side of two sets of cost prices, there are two passages stating that there are "two reasons" for the divergence between the value and the price of production of commodities - the one just discussed from the *Manuscript of 1861-63* and the one from Chapter 12 of Volume 3 (discussed in Section 3.2.6 of the text.)

On the other side of the ledger, we have: (1) the two passages just mentioned are contradicted by the rest of the same paragraphs in which they appear and by surrounding paragraphs; (2) Marx's tables in Chapter 9 of Volume 3, in which the cost price is the same for both value and price of production (Section 1 of the Appendix); (3) the five key paragraphs in Chapter 9, in which Marx clearly and repeatedly stated that the "cost price is the same" in the determination of both value and price of production (Section 3.2.3 and 3.2.4); (4) Marx's conclusions in Chapter 9, 10, 11, and 12 that the prices of production of "average" commodities are equal to their values, and are not affected by a change of wages (Section 3.2.6); and (5) the passages in Chapter 45 that state that the cost price is the same in the determination of both the value and the price of production of agricultural commodities (Section 3.2.7).

In addition, the interpretation presented here (that there is only one cost price) is logically consistent with the key methodological premise of Marx's theory discussed in Chapter 2 above - that the total amount of surplus-value is determined in Volume 1, prior to its division into individual parts in Volume 3, and does not change as a result of the distribution of surplus-value analyzed in Volume 3. On the other hand, if there are two sets of cost prices, one for the determination of values in Volume 1 and the other for the determination of prices of production in Volume 3, then it is not possible to determine the total surplus-value in Volume 1 and the total surplus-value will change in Volume 3, contrary to Marx's fundamental premise of an unchanging

total surplus-value in Volume 3. Thus, overall logical consistency with this other key aspect of Marx's logical method is another reason in favor of the interpretation presented here that there is only one set of cost prices (i.e. "the cost price is the same").

Therefore, I think it is reasonable to conclude that Marx simply misspoke in the two statements about "two reasons for divergence" between the value and the price of production of commodities. I think this conclusion is more reasonable than to conclude that all the other clear and important passages and arguments in Chapters 9 through 12 (and Chapter 45) of Volume 3 - in which the relations between the cost price and the value and price of production of commodities are discussed at length - are completely mistaken .

I think that in these two passages Marx simply slipped back into the original meaning of value in Volume 1. I think that what he really meant to say in these passages is that there are two reasons for divergence between value - *as value was originally conceived in Volume 1* - and price of production as determined in Volume 3. Marx then goes on to say in the same paragraphs that the value of commodities has taken on a new meaning, is now more fully explained, in the sense of a more complete explanation of the given quantities of constant capital and variable capital. With this new meaning of value, Marx repeatedly emphasized that "the cost price is the same" in the determination of both values and prices of production, which implies that there is *only one reason for divergence* between this more complete concept of value and price of production - because the average profit is not equal to the surplus-value produced.

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## ENDNOTES

1. Duncan Foley has also emphasized in various works that the concepts in Marx's theory of the circulation of capital – constant capital, variable capital, and surplus-value – refer to actual quantities of money-capital, that are in principle reflected in the income statements and balance sheets of capitalist enterprises. However, Foley is not entirely consistent in this regard. He assumes that variable capital and surplus-value in Volume 1 refer to actual quantities of money-capital, but on the other hand, he assumes that constant capital in Volume 1 refers to a hypothetical quantity, equal to the *value* of the means of production (as in the standard interpretation), which must be transformed in Volume 3 into the actual quantity of constant capital. For further discussion of Foley's interpretation, see Moseley 2000 and Chapter 6.

2. Foley calls the variable **m** the "monetary expression of labor" or the MEL.

3. Ramos (1996) also emphasizes the important of the concept of cost price in Marx's theory.

4. The "new interpretation" of Foley and Dumenil and others is similar to the interpretation presented here in that the same quantity of *variable capital* is the same in the determination of both values and prices of production. But the "new interpretation" is inconsistent in that the quantity of *constant capital* is different in the determination of values than it is in the determination of prices of production (as in the standard interpretation). See Moseley 2000 and Chapter 6 for a further discussion of the "new interpretation".

5. Ramos (1996, pp. 66-67) also emphasizes that, since the cost price is the same in the determination of both values and prices of production, the only possible difference between the value and the price of production of a commodity is the difference between average profit and surplus-value.

6. There is another passage in Chapter 9 of Volume 3 (p. 261) that the critics of Marx sometimes cite as evidence to support their interpretation that the cost prices are different for the determination of values and prices of production. My interpretation of this passage is essentially the same as of the paragraph four pages later on p. 265 discussed in the text - that Marx is not saying in this passage that there are two sets of cost prices, but is instead saying that the single, given set of cost prices, which were initially assumed in Volume 1 to be equal to the values of the inputs, are now (after the determination of prices of production) understood to be equal to the price of production of the inputs. But this more complete explanation of the given cost prices does not change the magnitudes of these given cost prices. For a detailed discussion of this passage, see the Section 1 of the Appendix to this chapter (and also Moseley 2001).

7. Ramos (1996, pp. 65-68) also emphasizes this more complete explanation of the value of commodities, after prices of production have been determined. Wolff, Roberts, and Callari (1982) also present a similar interpretation of the value of commodities, although they define all

the key variables in Marx's theory (value, surplus-value, constant capital, variable capital, cost price, price of production, etc.) in terms of labor-times, rather than in terms of quantities of money-capital.

8. There is one other passage in which Marx made a statement similar to "there are two reasons for divergence" between the value and the price of production of commodities: in the *Manuscript of 1861-63* (MECW.32. 352; TSV.III. 167). I think that the explanation of this other passage is essentially the same as the statement at the beginning of Section 2 of Chapter 12 discussed in the text - that in this passage Marx temporarily slipped back into using the term "value" in the earlier, simplified meaning of Volume 1. In this other passage, as in Chapter 12, this statement is contradicted by the surrounding paragraphs and by the rest of the same paragraph, and also by all of Marx's statements in Chapter 9 of Volume 3 discussed above that "the cost price is the same". See Section 2 of the Appendix to this chapter for a full discussion of this passage in the *Manuscript of 1861-63*.

9. Foley (1982 and 2000) has also emphasized that the "new interpretation" – which takes the same money variable capital as given in both Volume 1 and Volume 3 – is consistent with the all-important conclusion in Marx's theory, that the total profit in Volume 3 is equal to the total surplus-value in Volume 1, and that the standard interpretation of the determination of variable capital, first as the value of the means of subsistence and then as the price of production of the means of subsistence contradicts this all-important conclusion.

10. The fact that Marx had already explicitly stated on p. 261, prior to the five paragraphs on pp. 263-65 (discussed in the text of Chapter 3), that constant capital and variable capital are equal to the *prices of production* of the means of production and means of subsistence, rather than their values, reinforces the conclusion that Marx was not making a mistake when he repeatedly stated in these five paragraphs that "the cost price is the same" in the determination of both values and prices of production, but instead meant exactly what he said.

11. At this point in time, Marx was used the term "cost-price" to mean what he later called "price of production" in Volume 3 of *Capital*. This is potentially confusing, so please take note.

12. Wolff, Roberts, and Callari (1982) emphasize this passage to support their interpretation, similar to mine, that the constant capital component of the *value* of commodities is equal to the *price of production* of the means of production, not the value of the means of production.