TALK GIVEN ON CHAPTER 10 OF VOLUME 3 OF DAS KAPITAL.

This is the introduction I gave to a Capital Reading Group on Chapter 10 which I consider the most consequential chapter in the three volumes because here is found the conceptual means to cost labour time and therefore to embark on conscious planning in a future society. I refer specifically to weighted average labour times. As a result of the discussion there are a few modifications to the original text.

Part A.

What is the significance of Chapter 10? Up until this chapter Marx uses two categories to describe the basic structure of capitalism; abstract value and socially necessary labour time. By abstract labour he is describing the analytical tool whereby unique or specific differences in labour and capital are abstracted away to reveal what is common or general to labour and capital and between labour and capital. This is not a forced abstraction because abstract labour can be arrived at by dividing aggregate production by the total number of hours worked thereby arriving at a simple average or average output per hour.

With regard to socially necessary labour time, Marx was aware that the expenditure of labour is measured by duration multiplied by intensity. Thus socially necessary labour time implies (simple) average intensity. An unadorned example will suffice. Assume two capitalist employers. One employs a worker working at 100% intensity yielding 20 items per working day. The other employs a worker working at only 50% capacity thus producing only 10 items during the same time. Upon sale the first employer is reimbursed for the wages paid equal to 10 items leaving the remaining 10 to represent his or her profit. The second employer once he or she is reimbursed for the wages spent equal to 10, is left with 0 profit. The former capitalist will succeed the while latter will fail. Competition is the whip which drives employers to equalize the intensity of their workers' labour or suffer a loss of profits. Thus competition ends the ridiculous criticism of Marx's labour theory of value which states that more value can be added the longer the worker takes to work. Marx assumes correctly that intensity is averaged out and that this intensity is not set by the individual producer, but collectively or socially, by all the producers gripped by the same competition.

Thus the socially necessary labour time at this juncture which sets value, is based on average intensity.

In Chapter 10 Marx moves from abstract labour towards more concrete labour. This process back to reality is always characterized by the ordered or logical reintroduction of the specific or unique features of capital and labour previously removed. In short having exposed what is general to capital and labour, having thus created the foundational structure, Marx now moves to complicate and modify this structure through the interaction of the general with the specific. Clearly these modifications would generate confusion and flap around aimlessly, had they not been anchored to the general foundation.

Thus in Chapter 10 Marx introduces two specific variables or differences. One where individual producers now have individual productivities, and secondly where their output varies as well. That is all. These two variables are not merely scholastic, they dominate the emergence of market prices in the period of manufacturers prior to the industrial revolution which by revolutionizing the composition of capital, led to the domination of market prices by prices of production. "*The exchange of commodities at their values, or approximately at their values, thus requires a much lower stage than their exchange at their prices of production, which requires a definite level of capitalist development."* (Marx, Chapter 10.)

To maintain our bearings, it is important to note that Chapter 10 tends to deal with the emergence of market value within an industry, unlike Chapter 9, it does not deal with the relation between industries. Another reason it should have come before Chapter 9.

For the first time in Chapter 10 a more concrete form of social value emerges, a much closer to surface reality form of social value. From now on social value means market value and it would be wrong to descend back to abstract labour. Market value therefore modifies socially necessary labour time which is no longer equal to the simple average based on average intensity. That social value is formed, no longer of simple averages, but weighted averages. The latter is weighted for the differences in individual value within an industry and for differences in volume within the same industry. Unless this is understood Chapter 10 is incomprehensible.

This is why I consider Chapter 10 to be the most consequential chapter in all of Das Kapital because it teaches us, on the basis of weighted averages, how to measure labour time in a future society shorn of private property and value relations.

Any questions?

PART B.

I intend to deal with Chapter 10 in a two parts. The first part of my introduction assumes demand equals supply so that the market price is unaffected by market conditions (demand and supply can be ignored). The second part is when demand and supply are not equal and consequently its impact on market prices.

Marx opens the chapter by discussing the role played by average industries. I will not deal with this aspect of the Chapter where Marx describes how in average industries, prices of production tend towards market values, thereby acting as the centre of gravity for the whole economy serving to constrict the limits of the outlying industries. The reason being this involves a discussion between industries rather than within one industry. I will take questions on it, however. I will have raised this issue in the earlier discussion on Chapter 9 using it to demonstrate once again that Marx saw the capitalist system as a complicated system bound by rules or laws which informed both the direction and limits to the movement of capital.

What competition, first in a single sphere, achieves is a single market-value and market-price derived from the various individual values of commodities. And it is competition of capitals in different spheres, which first brings out the price of production equalizing the rates of profit in the different spheres. The latter process requires a higher development of capitalist production that the previous one. Chapter 10

The first point to make is that market values determining market prices precedes historically the emergence of the dominant prices of production.

First, the different individual values must be equalized at one social value, the above-named market value, and this implies competition among producers of the same kind of commodities and, likewise, the existence of a common market in which they offer their articles for sale. For the market-price of identical commodities, each, however, produced under different individual circumstances, to correspond to the market-value and not to deviate from it either by rising above or falling below it, it is necessary that the pressure exerted by different sellers upon one another be sufficient to bring enough commodities to market

to fill the social requirements, i.e., a quantity for which society is capable of paying the market-value. (page 6 of 18)

This period is confined to that stage of capitalist production where the production of commodities has become generalised, competition is endemic, but where commodities continue to circulate as products of labour in terms of prices. It coincides with the period prior to the industrial revolution which William Jefferies referred to as the period of manufacturers where any overproduction was confined to agricultural products.

In Chapter 1 Marx talks of abstract value, value rendered average or ideal, and to ensure that this value is not misunderstood he ties it to average intensity. Thus socially necessary labour time at this juncture is average labour expended under conditions of average intensity. Otherwise labour time would not be commensurate. The whole purpose being to establish equal exchanges where prices do not deviate from values without which it is impossible to reveal the origin of price in value. For example if at this level of abstraction exchanges were unequal it would be impossible to prove value emerges in production rather than exchange itself. Unequal exchange implies more or less money is received compared to the value of the commodities sold.

In Chapter 10 Marx for the first-time renders value concrete. As the underlined sentence in red shows, Marx now refers to social value as market value. From this time on Marx will freely interchange social and market value. Here is another quote with a slightly different translation from the Penguin Edition. *"…the different individual values must be equalized to give a single **social** value, the market value presented above, and this requires competition amongst the producers of the same type of commodity…"* (page 281, Marx's emphasis)

What makes market value concrete? Two variables or inequalities which Marx had removed at a more fundamental level - the differences in individual values and the difference in individual volumes of production - are now reintroduced. By individual values we of course mean individual costs of production which may or may not diverge from the average.

As a result of the inclusion rather than the exclusion of these two differences, average values are now converted into weighted average values. What is the difference? The term weighted, implies the average is now adjusted by the weight of differences with regard to the individual value and volumes of production which are now distinct no longer common. Thus we are not only talking about differences, but the weight of these differences and consequently, the effect of this weighting. The best way to explain this is by means of two tables.

In both Tables we find three producers. B is average in terms of its cost of production with A being more productive, while C is less productive. In addition, as column (3) shows, they enjoy different volumes of production. I will give you a chance to digest Table 1.

Table 1.

Producers	Item cost	Item volume	Total output	
(1)	**(2)**	**(3)**	**(4)**	**(5)**
A	50	200	10,000	
B	75	80	6,000	
C	100	40	4,000	
Simple average Cost	**(225/3) = 75**			
Total Output		**320**	**20,000**	
Weighted Cost				**20,000/320 = 62.5**

The average cost is 75 but the weighted cost is only 62.5 because of the different weights attached to the volume of production. Thus because more of the commodity is produced by the most efficient producer A, than by C the least efficient, the weight of the lower costing commodity drags the weighted average value below the simple average.

The opposite happens in Table 2, where the least efficient producer C dominates the industry through the weight (volume) of their production.

Table 2.

Producers	Item cost	Item volume	Total output	
(1)	**(2)**	**(3)**	**(4)**	**(5)**
A	50	40	2,000	
B	75	80	6,000	
C	100	200	20,000	
Average Cost	**(225/3) = 75**			
Total Output		**320**	**28,000**	
Weighted Cost				**28,000/320 = 87.5**

In this case the weighted average now sits above the simple average. There is another point to consider. The total labour expended in this industry cannot be determined by multiplying the number or volume of production by its simple average cost. In Table 1 this would be 75 x 320 =24,000 compared to the actual value of output of 20,000. Similarly in Table 2, the 24,000 would be below the actual output here of 28,000. It is only when we multiply the volume of output by the weighted average do we arrive at the actual output value, viz 320 x 62.5 = 20,000 while 320 x 87.5 = 28,000 The following sentence is immortal. *Only the weighted average when multiplied by the number of goods produced can equal the total labour expended on producing that item, the average value cannot unless it coincides with the weighted average which is rare.*

These tables conform to Marx's description below. Although Marx does use the term weighty, nowhere does he talk of weighted average labour times.

Suppose, on the contrary, that the total mass of the commodities in question brought to market remains the same, while the value of the commodities produced under less favourable conditions fails to balance out the value of commodities produced under more favourable conditions, so that the part of the mass produced under less favourable conditions forms a relatively weighty quantity as compared with the average mass and with the other extreme. In that case, the mass produced under less favourable conditions regulates the market, or social, value. Suppose, finally, that the mass of commodities produced under better than average conditions considerably exceeds that produced under worse conditions, and is large even compared with that produced under average conditions. In that case, the part produced under the most favourable conditions determines the market-value. (page 7 of 18) (my emphasis)

Any questions?

DEMAND NO LONGER EQUALS SUPPLY.

In the case where demand equals supply the market price will equal market value and all the labour expended in that sector will be consumed by demand that is converted into cash. Marx would consider that sector as an average sector.

We will now consider the cases where demand is over-sufficient to absorb the labour expended in that sector or under-sufficient to absorb the labour expended in that sector, and therefore where exchange is no longer equal, i.e. market value and market price now diverge.

"And the first deviation is that if the supply is too small, the market-value is always regulated by the commodities produced under the least favourable circumstances and, if the supply is too large, always by the commodities produced under the most favourable conditions; that therefore it is one of the extremes which determines the market-value, in spite of the fact that in accordance with the mere proportion of the commodity masses produced under different conditions, a different result should obtain."

What Marx is saying is that when demand is insufficient the market price will tend to align with the more efficient producers and conversely, when demand is in excess it will align with the less efficient producers. Hence his use of the term extremes. In the first instance where demand is insufficient, not all the labour produced, and hence the value produced will be realised. The amount of surplus value realised in that industry will diminish. The least efficient producers will lose the most while even the most efficient will lose some. Conversely where demand exceeds supply the amount of surplus value realised by that sector will increase resulting in the least efficient producers enjoying the greater rise in their profits.

To put it another way. When demand exceeds supply such that the market price rises above the market value, there will be a redistribution of surplus value to that sector, and, where the supply exceeds the demand, forcing market prices below market values causing goods to be sold below their actual cost of production, then surplus value will flow from that sector. Money by representing social value acts as the redistributor. Either more or less money compared to the value given up is received when exchange is unequal.

Now it is important to note that what applies to the relationship between market value and market price applies with the same force to the relationship between individual prices of production in an industry and

their **market price of production**. (Market price of production being synonymous with market price but at a higher level of development of capitalism.) It is not true to assume that within an industry in a developed capitalist economy all the producers share the same prices of production. If their market values differ, i.e. their actual costs differ, this will impact their cost price giving them a larger or smaller profit margin when set against the selling price governed by the average price of production for that sector - its market price of production.

This is consequential. In the second half of this introduction we will be dealing with something that is missing in Volume 3, the conversion of embodied value into reproduced value, which is a process governed by the changing weight of production, rather than the metaphorical flipping of a switch. During recessions and demand falls in general, demand is insufficient in all sectors. Now the market price is governed in all cases by the extreme, by the most productive producers, the lowest cost producers. Thus this is a time when selling prices are driven below cost prices for the least productive producers wiping them out at scale. Under these circumstances, the depressed market price, by wiping out the least productive and therefore higher cost producers, serves to drive down the market value for that sector. It also encourages investment in the latest technologies in order to survive. Industry emerges leaner and fitter so to speak, or in the language of Marx, its weighted average cost of production has been significantly reduced thereby rendering production profitable once more measured by its rate.

Any questions?

Second half. The process investigated.

(This section was not discussed as it was felt to be too far removed from the actual Chapter.)

In the three volumes of Das Kapital there are numerous quotes and examples from Marx and Engels where technological advances, or where climatic conditions, change causing market prices to change abruptly. Thus Marx's examples of cotton and linen prices changing so to speak overnight. This has created a mess of confusion over the relation of embodied (original) and reproduced (current) values. They have been presented as polar opposites. At the level of abstraction prior to Book 3, where simple averages apply, it is clear that prices will respond reflexively to changes in the cost of production, because here there is a rapid change in social value.

This, however, does not apply to market value where the weight of production is now being considered. In this sense market value as we are about to see is the dynamic synthesis of embodied and replacement value. In other words the dialectical movement or process by which the old is converted into the new.

To explain this concretely we will examine the transformation of printing over the last 140 years. But first a quick comment. Marx uses the Bessemer Process to illustrate its effect on the cost of producing steel and hence market prices. But even here it took 6 years before this process was introduced at scale, this was due to a patent dispute and the need to provide technical fixes to the excessive corrosion found in the original process.

What we find when investigating the revolution in printing processes, is the overlap between earlier and later printing processes, often by more than a decade or more. What we also see is a speeding up of the process as technology advances.

The transformation of Printing Processes.

1880s	1890s	1890s	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	today
1886		Hot	Type			Hot	Type		end	1976			
								1950	Cold	Type	1990		
										1976	Digit		
												Laser	

Hot type printing endured for 90 years, from 1876 to 1976. It took 26 years from the emergence of cold press printing in 1950 for it to overwhelm hot type printing. Admittedly Linotype Corp was feeling the pressure from cold typesetting prior to 1976. It was forced to cheapen its last line of machines to remain competitive with disastrous results, because it resulted in an inferior machine with durability issues whose repeated repairing hastened the bankrupting of the company. However, for a further 15 years, the revamped company continued to sell typefaces demonstrating that hot typesetting continued into the late 1980s. It is also worth mentioning that the introduction of Digital printing and particularly WISIWIG also took a number of years before it clubbed cold type printing to death.

Of course there are a number of exceptions. In immaterial production, where redundancy or moral depreciation is more or less absent, the rollover of technologies or innovations is quicker. Less quick is retail, but even here end user products do have a shorter shelf life. For example the life cycle of a smartphone is one year. Apple launches its new lines every September. In the run up to the launch, the price of previous models' tumbles. However this should not be confused with their production costs or market values. The market price of the new model, thanks to marketing and consumer cretinism, exceeds its market value and, conversely the market price of the older models falls closer to its market value.

Returning to the general case, why do prices not fall overnight. Were they to do so, every industry would become insolvent. Only the new and most efficient corporation would make a profit. Clearly if the industry failed, and production tumbled, the insufficiency of supply to demand would drive up market prices allowing more firms to reopen, but this would be disruptive adding chaos to an already chaotic system. This is somewhat different to Marx's view where rapid technological advances bankrupt less productive producers enabling vulture capitalists to buy their assets at vastly reduced prices thus restoring profitability.

What really happens and what is taught in every business school are the three phases for the introduction of a new product or production process. (Sometimes four are described.) Verification, maximising of profit, and the scramble for market share. The phase of verification is the one where the market establishes the use value of the product, either in terms of its qualities and or its cost of production. The phase of maximising profits occurs where the innovator can choose between restricting production in order to increase margin, or to increase production and lose margin. This is a challenging phase, how to

maximise the quanta of profit. The final phase is the scramble for market share. This phase is characterised by competitors introducing similar products or similar production processes. Thus the innovative company no longer has the luxury of restricting production in the face of tumbling market prices.

In all respects these phases are governed by the shift in market value which itself is a function of the changing weight of production. At first the weight of production resides in the traditional area of the industry or sector (embodied value) but in time, because of new investment, the weight of production moves towards the newer more efficient part of the industry or sector (replacement value). Thus at any time the market value is a synthesis between embodied and reproduced value, and being dynamic its direction of change is always towards replacement value. In this way, as a process, embodied value is converted into replacement value.

At a certain stage of course, quantity will give way to quality. When the market value falls sufficiently below the individual values of the least efficient producers bankrupting them and causing their demise, this will in turn accelerate the fall in market value as the weight of production contributed by the least efficient producers is now been eliminated. Or put another way, that tipping point can be defined as the point in which a fall in market value acting on selling prices, pushes these market prices below the cost prices of the least efficient producers in a sector. At all times cost price sets the limit.

Any questions?

Conclusion.

With and through market value the disputes over embodied and replacement value are settled. Why, because in market value we get the resolution of the first transformation problem, that is the conversion of individual values into a single social value, aka market value. As with dialectics at a concrete level, market value is not purely one nor the other but an ever changing both, a synthesis. This synthesis constitutes the most important aspect of my introduction and hopefully discussion will centre on it. It is something not dealt with adequately in Volume 3 which makes the law of value incomplete until done so. Once we arrive at the level of market value it is no longer permissible to talk separately of embodied and reproduced values except by way of analysis. In short, market value replaces embodied and reproduced values.

Should Chapter 9 have come after Chapter 10?

I introduced the hypothesis that only market value can be converted in prices of production. This was contested. If we have time we should discuss this. As I pointed out in one of the email exchanges, when looking at the human body we can distinguish three stages of development. The child, the teenager, and the adult. This corresponds to simple value, market value and prices of production. For the purposes of the analogy, we need only record that the teenager phase is often described as the hormonal phase. Now if we were to describe the phase of adulthood by omitting the teenager phase, effectively we would be describing adults as grown-up children because we would be assuming an immature endocrine (hormonal) system, which means we could not account for adult behaviour. Similarly with prices of production. If we omit the phase of market value we cannot explain prices of production. We could not

explain how value affects prices of production because that value can only be market value. This is the historico-logical method and Engels' editing of Volume 3 does not conform to this.

Brian Green for the Zoom Meeting on the 3rd of July 2022.