



# SUMMARY OF MARX'S POLITICAL ECONOMY

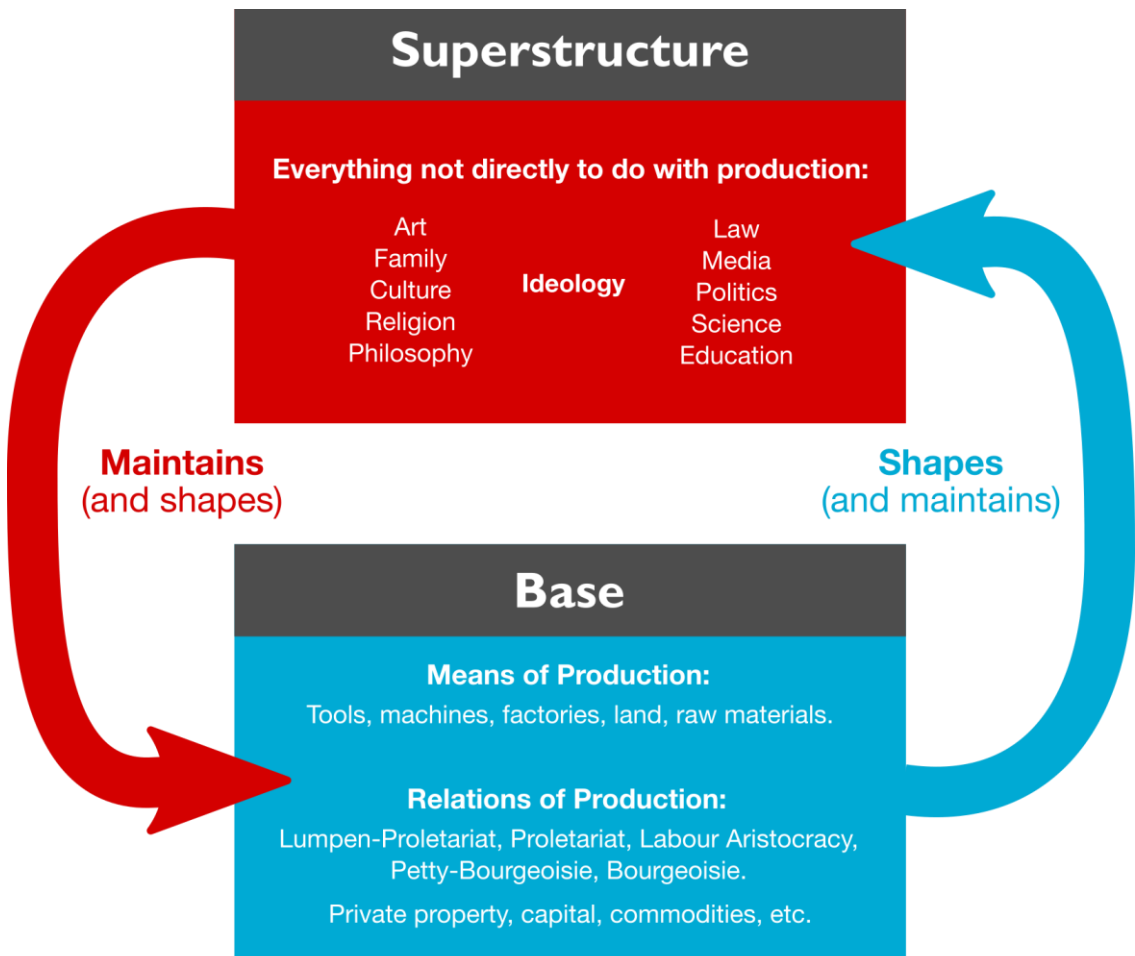
# Stability

- We begin with a passage from Richard Dawkins' book *The Selfish Gene*:
  - 'Darwin's 'survival of the fittest' is really a special case of a more general law of survival of the stable. The universe is populated by stable things. A stable thing is a collection of atoms that is permanent enough or common enough to deserve a name. It may be a unique collection of atoms, such as the Matterhorn, that lasts long enough to be worth naming. Or it may be a class of entities, such as rain drops, that come into existence at a sufficiently high rate to deserve a collective name, even if any one of them is short-lived. The things that we see around us, and which we think of as needing explanation-rocks, galaxies, ocean waves-are all, to a greater or lesser extent, stable patterns of atoms. Soap bubbles tend to be spherical because this is a stable configuration for thin films filled with gas. In a spacecraft, water is also stable in spherical globules, but on earth, where there is gravity, the stable surface for standing water is flat and horizontal. Salt crystals tend to be cubes because this is a stable way of packing sodium and chloride ions together. In the sun the simplest atoms of all, hydrogen atoms, are fusing to form helium atoms, because in the conditions that prevail there the helium configuration is more stable. Other even more complex atoms are being formed in stars all over the universe, ever since soon after the 'big bang' which, according to the prevailing theory, initiated the universe.'
- What we have in common with other organic life on this planet is our particular mode of stability: replication. Our stability is achieved by continually recreating copies of ourselves. But the search for stability presents itself in every facet of existence. Dawkins here is pointing this out, and Marx and Engels also understood this.
- Like all other species of life on this planet, humans have to work to survive and reproduce ourselves. For all animals, stability is achieved by expending physical work on the environment with the intent of manufacturing copies of our genes.

# What do we mean by “economy”?

- What makes us different from other animals? To reframe the question: what are the fundamental ways in which humans pursue stability which differs from other species?
- Two key things to note. Firstly, human labor is **social**. This alone does not make us unique. Termites also labor socially.
- What then separates humans from termites?
- Answer: The division of labor for humans is, for the most part, determined **socially** rather than **biologically**. That is to say, we are born into a human society which trains us to assume whatever role is necessary to sustain society as it currently exists.
- Why would a species evolve like this?
- Only answer I can think of: We needed a mode of social organization that was able to *adapt and change to external conditions which, for whatever reasons, were themselves changing faster than natural selection could on its own account for. In other words, climate change.*





**This moves in a spiral pattern.  
The base is generally dominant.**

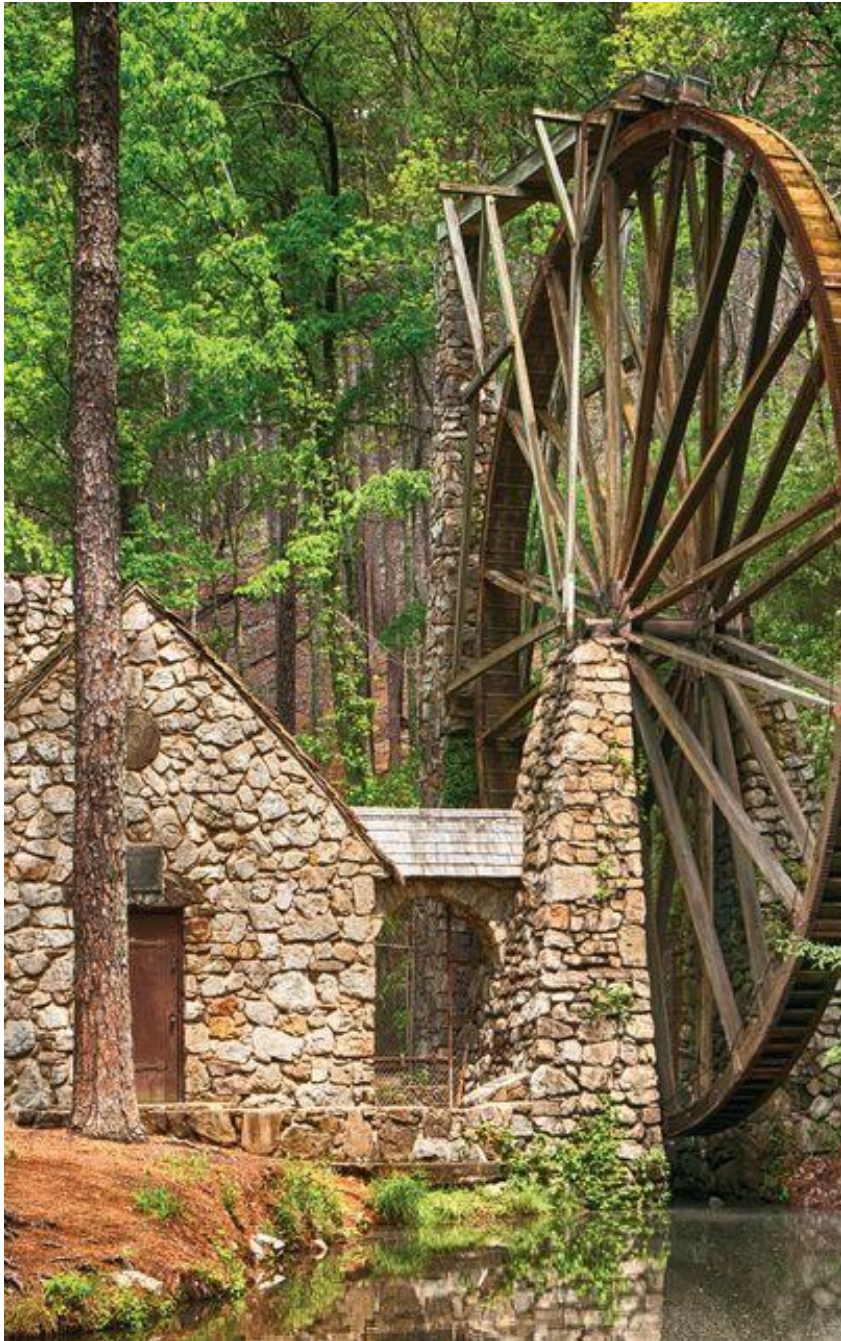
# Intellectual Labor

- Termites don't have to think or reflect on their society. Biology does that for them. Humans on the other hand, do. That's the point.
- A new kind of labor exists then for humans and not termites: intellectual labor. We all participate in this process, to some extent.
- We invented language to communicate and facilitate a societal dialogue, and taught it to each other.
- We gave each other a vocabulary of ourselves as autonomous individuals, (words like 'me', 'I' etc.) so that we could conceive of ourselves *within* our society and contemplate it. These are the beginnings of **ideology**. A cultural superstructure is created atop the material economic base.
- The conscious understanding of our society allows us to change it, facilitating a process of social evolution which can occur on a much timescale than its biological analog.

# Modes of Production

- To study “the economy” then, is to study the particular **mode of organization that humans are currently engaged in.**
- The primary objective of humans as a species is stability – achieved via surviving and reproducing. The mode of organization is no different. It is its own entity, and it seeks *its own stability*. It must *itself* be able to survive and reproduce.
- A **mode of production** is a semi-stable organization of human society which can do just this. It needs to be able to:
  1. Allow the species to reproduce itself.
  2. Reproduce it’s own organizational structure. This means that each ‘cycle’ it needs to reproduce/maintain
    - a) The forces of production. (The tools, factories, raw materials)
    - b) The relations of production. (The social organization which ‘acts out the process’)



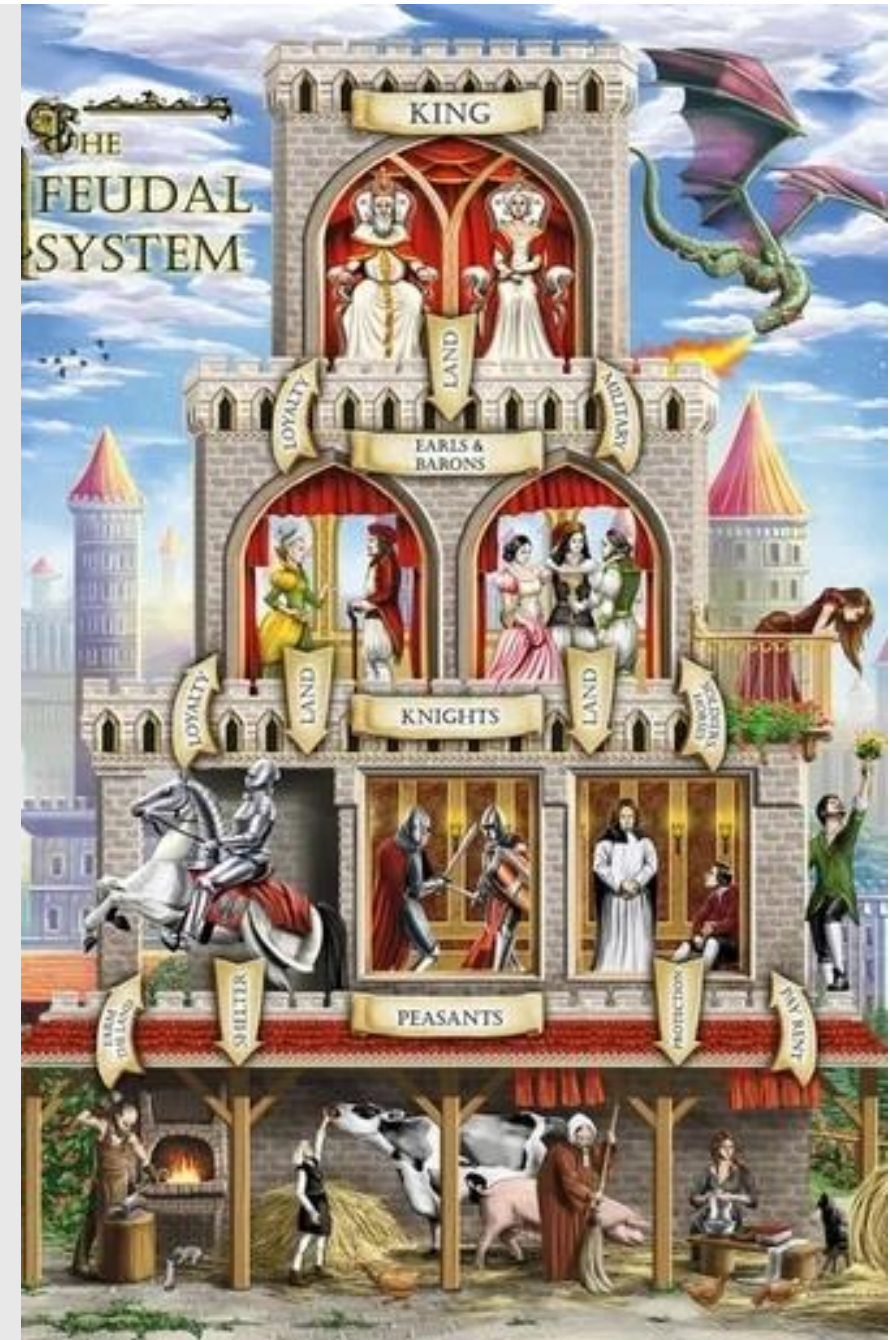


# Surplus and Inequality

- Since the dawn of agriculture, humans began congregating in very large groups. Additionally, the groups began accumulating a *surplus*.
- Each cycle of production left the society with more than it had before. (Grain, domesticated animals, pottery, jewelry, luxury produce). This surplus was not distributed equitably, due to the asymmetric nature of the social division of labor. Some groups, probably without even realizing it, had more political power than others, and this translated to disparity in the distribution of the surplus.
- Modes of production are not static, nor are they meant to be. Their stability serves our own, and that means that they must adapt to changing conditions. They thus have their own internal dynamics from which they develop over time.
- In particular, the **forces of production** have a tendency to develop and advance. Humans become better at what they do, invent newer and more efficient ways to labor and reproduce themselves.
- This constantly changing nature of the mode of production exacerbates inequality. Unequal distribution of surplus gives way to making life intolerable for groups of people whose social role places them farther down the ladder, as that surplus itself is fed back into production and converted into necessity.
- Further exacerbating this is external changes: Encroachment/competition from rival societies and, more importantly, the changing climate.

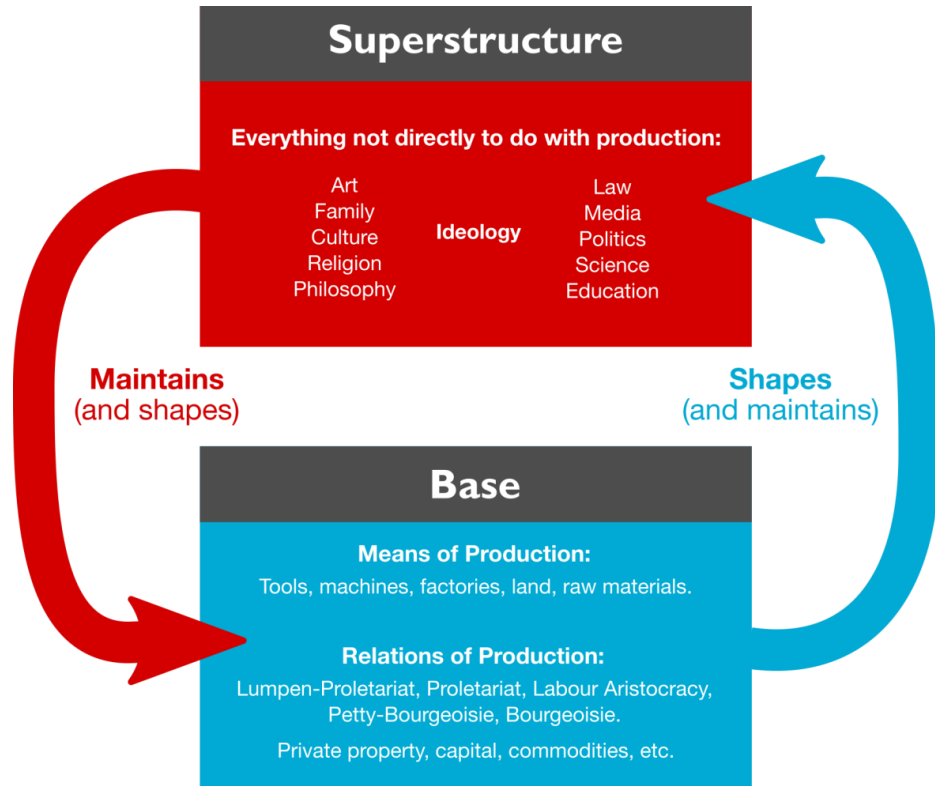
# Emergence of classes

- The social division of labor on its own does not initially produce classes.
- However, through a combination of internal contradictions within the system and external shocks to it, the division of labor gives way to permanent disparities in both real wealth and political power (the latter of which mirrors the former).
- Classes emerge precisely when preservation of the mode of production requires an emergent ruling class to employ force and violently subdue the other classes, to keep them in the less desirable role. This moment, when violence is monopolized by a ruling class to enforce the system, also marks the birth of the modern state.
- **It is essential that we understand class as more than simple numerical income brackets. When we talk about class as Marxists, we are talking about basic societal roles, and the qualitative social experience of shared material interests (interests which are directly adversarial to other classes).**
- Class consciousness



- 'Class is not a simple designator for those who have authority and those who don't, nor is it a sociological tool for cutting a population into brackets of income or education. Class is an immanent polarity generated by the social character of production. It is an emergent property of the way that things are made and basic human needs are met within a given mode of production. Constantly maintained and continually reproduced by this process, the power of a ruling class is largely power over the means of production and the force guaranteeing that production continue, but it is rarely a power over the nature of the mode of production itself.' (Chuang, Red Dust, P. 236)

# Inertia, Revolution, Alignment.



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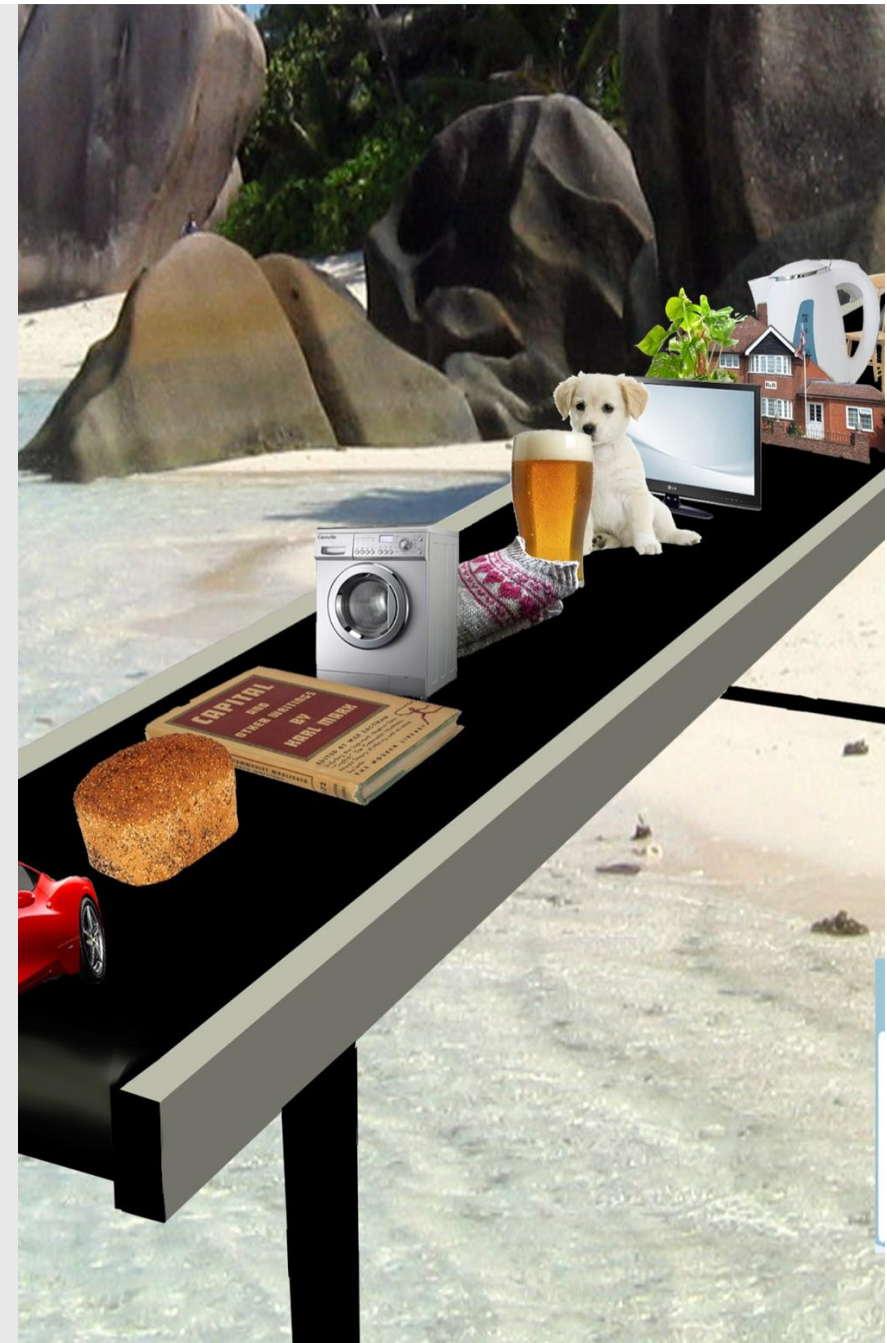
- From here, societal development itself takes on a somewhat stable outer form. Classes come into conflict with one another. The lower classes wish to change the relations of production, while the ruling class wish to preserve them. These groups battle over control of the state (both it's repressive and ideological departments).
- Class society serves to *discretize* the until then fluid computation of societal development. A section of society becomes resistant to any change, out of desire to keep their material privileges. This creates a kind of inertia - a dam preventing the dynamic elements of the superstructure from properly feeding back and influence the base.
- The forces of production continue to develop, but the relations of production stubbornly refuse to conform to the new reality.
- Fluid change is replaced by build-ups of tension into violent explosions of societal change called **revolutions**. When the dam can no longer hold, it bursts. The old relations are swept aside, surplus is redistributed, and new relations are established which are more aligned with the forces of production.
- Class struggle becomes the motor of history, and revolution the locomotive.

# Economics: A neutral science?

- We can now state what economics is. It is the intellectual labor most directly related to the material base of society. Economic theory is our reflection on the mode of production. It is thus *distorted by the class doing the reflecting*. Why do we *think the way we do about it*?
- Different classes have their own internal ideologies. The ruling class does intellectual labor among itself, and comes to conclusions which are expressions of *their* class interests.
- The ruling class obviously has a unique advantage in putting forward *their* ideology. An ideological state apparatus begins to form, side by side with the more primitive repressive state apparatus. As long as classes exist, the ruling class will always have their thumbs on the scale of the discourse, and we will see this for ourselves momentarily.
- Every economic theory comes to conclusions, and these conclusions always boil down to devolving power to a particular class. We must acknowledge that there is no neutral economic theory as long as we have class society.
- Marx's project, fundamentally, was to create a counter-hegemonic ideology for the working class.
- Capital volumes 1 through 3 were Marx's attempt to give the working class an economic theory *by which they could express their class interests*. We must understand and acknowledge this as. We must make sure we are playing the same game Marx was playing: **To arm the proletariat.** we look at what he did, what conclusions he came to, and attempt to adapt his theories to the 21<sup>st</sup> century.
- With this acknowledged, we can proceed to our analysis of capitalism.

# Commodities and Money.

- Our economy appears encoded by numbers equating everything to everything else - a vast system of hieroglyphics that we call prices. To quote Ian Wright from his amazing article *Capital as a Real God*:
- 'Only dedicated occultists would dare claim that everything we see around us, all the things and activities in the world, are – despite all appearances – really the same. That 1 kg of caviar is “the same as” 1000 different people clicking on the same internet advert. Or clowning at a children’s party is actually “the same as” 200 rounds of shotgun ammunition. Or that 1 month of computing time on a high-spec machine in the cloud is “the same as” 1 tonne of potatoes. Only highly trained adepts could begin to see the truth of such counter-intuitive and magical affinities.
- But we more than see the truth of it. We openly and regularly achieve it. We manifest these magical affinities on a daily basis. We treat quantities of fish eggs, human attention, clowning performances, bullets, computing time, potatoes, and a bewildering array of other things, as “the same” – because, in the marketplace, they all may be exchanged for one another, via the “alien mediator” we call money.'

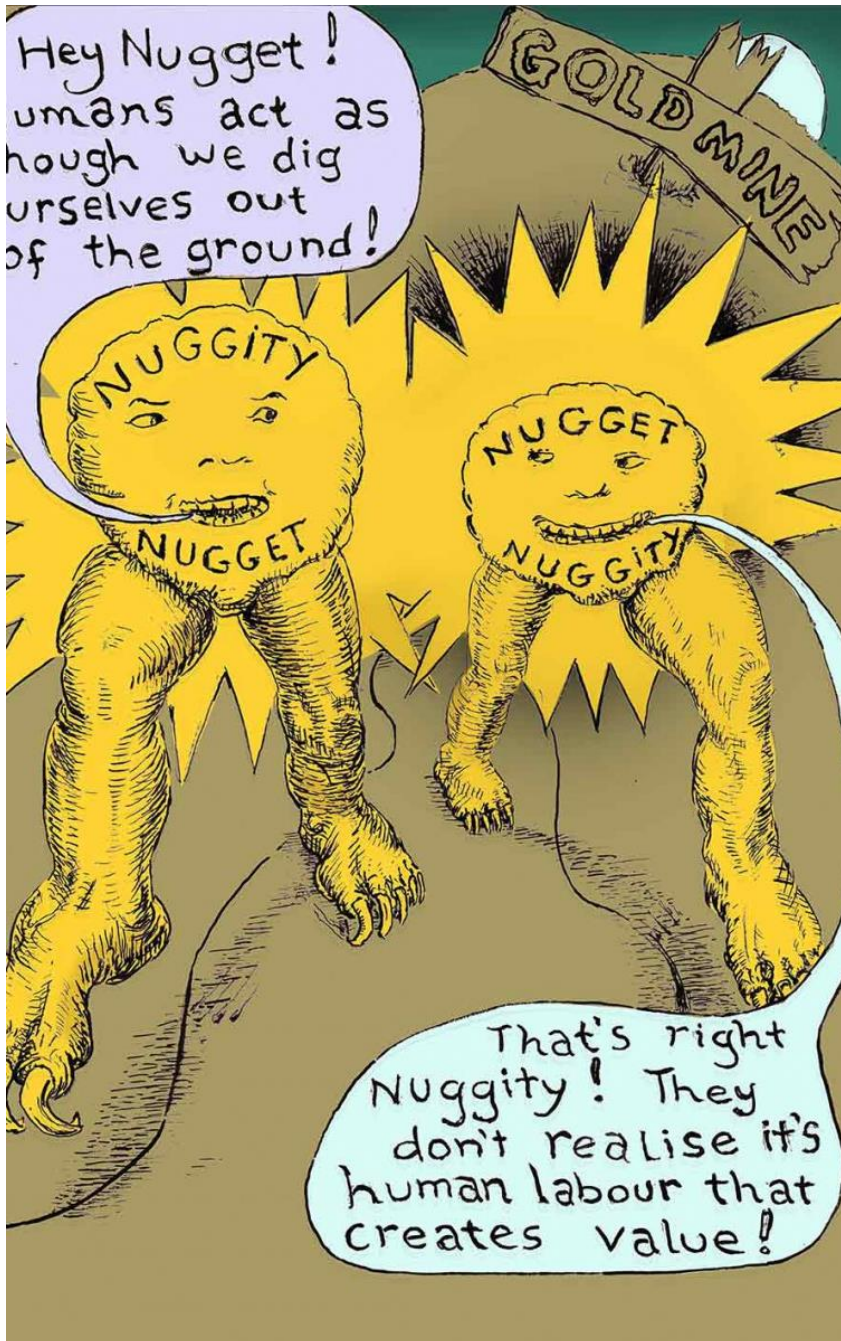




# A theory which empowers labor

- We want a theory of the economy which empowers labor, not disempowers it. We want a theory of value in which value is primarily created by people's labor.
- The economy depends on the labor of those running it. It only makes sense that these hieroglyphics are deeply connected to the labor itself, and we already know this. Everyone realizes this at some point.
- Grocery store thought experiment. Why is a chopped up melon more expensive than an unchopped melon? We know the answer.
- Conclusion: The **form** is money. The **content** of money is labor time.
- 'Economy of time, to this all economy ultimately reduces itself.'





# Time is money

- Marx did not invent the labor theory of value. The most forceful argument for it was made, in my opinion, by Adam Smith:
  - "Labour was the first price, the original purchase - money that was paid for all things. It was not by gold or by silver, but by labour, that all wealth of the world was originally purchased."
- Adam Smith proposed that, *in the beginning of the process which led to capitalism*, prices of commodities were proportional to embodied labor times. In other words, there exists a constant  $\alpha$  such that 1 "dollar" represent  $\alpha$  hours of labor, and therefore if a commodity is 5 dollars, then it takes an accumulated  $5\alpha$  total hours to create the commodity.
- In other words, **money is simply a unit of time.**
- It should be emphasized that Adam Smith did *not* believe that the labor theory of value continued to apply in a developed capitalist society. He believed that as capitalism developed, prices would diverge from labor times.

# But also, money is time.

- We'll return to why he believed this later. For now, let's just summarize a basic "first pass" for the sake of presenting a few of Marx's core arguments.
- The (Naïve) Labor Theory of Value: The equilibrium price of any commodity is proportional (and so can basically be thought as equal) to the amount of socially necessary labor time *embodied* in the commodity. For any commodity there are two kinds of labor embodied in it:

- The time required to produce the *materials*. (*Dead labor*). Call this amount  $C$
- The time required to use the materials to actually make the thing (*Living labor*). Call this amount  $l$

- For any commodity, we can define the **value**  $\lambda$  of that commodity by the equation

$$\lambda = c + l$$

- Value is measured in hours. The commodity also has a **price**  $p$ , measured in dollars:

$$p = c_p + l_p$$

- Where  $c_p$  is the cost of the raw materials in dollars, and  $l_p$  is the wages paid to workers. So then the "naïve" labor theory of value says that there exists a constant  $a$  so that for any commodity,

$$p = a\lambda \leftarrow \text{money is just a unit of time.}$$



## Example: A BLT Sandwich

- Suppose it takes, on average, 15 minutes to assemble a BLT sandwich, given the sliced bread, the lettuce, the tomatoes, and the bacon strips. This is the living labor component  $l$ . In hour,  $l = \frac{1}{4}$
- Let's say that one BLT takes, on average,  $\frac{1}{20}$  of a head of lettuce,  $\frac{1}{8}$  a pound of bacon,  $\frac{1}{5}$  a loaf of bread, and  $\frac{1}{3}$  of a tomato.
- Suppose we've already determined that the value of a head of lettuce  $\lambda_l$  is half an hour, (keeping in mind that a single harvest of lettuce is much, much more than this), that the value of a pound of bacon is  $\lambda_b$  an hour and a half, the value of a loaf of bread is  $\lambda_g = \frac{2}{3}$  an hour, and the value of a tomato is  $\lambda_t = \frac{1}{6}$  an hour.
- The total value of the raw materials for the BLT sandwich (the dead labor) is then  $c = \frac{1}{20}\lambda_l + \frac{1}{8}\lambda_b + \frac{1}{5}\lambda_g + \frac{1}{3}\lambda_t = \frac{1}{20}\left(\frac{1}{2}\right) + \frac{1}{8}\left(\frac{3}{2}\right) + \frac{1}{5}\left(\frac{2}{3}\right) + \frac{1}{3}\left(\frac{1}{6}\right) \approx \frac{2}{5}$  hours
- Finally, we have that the value of the sandwich is

$$\lambda_s = c + l = \frac{1}{4} + \frac{2}{5} = \frac{13}{20} = .65 \text{ hours}$$

- If 1 dollar is equivalent to, say, 20 minutes ( $\frac{1}{3}$  an hour), then 1 hour is worth 3 dollars, so the sandwich would be worth \$1.95

# Some nuances and caveats – Social Necessity

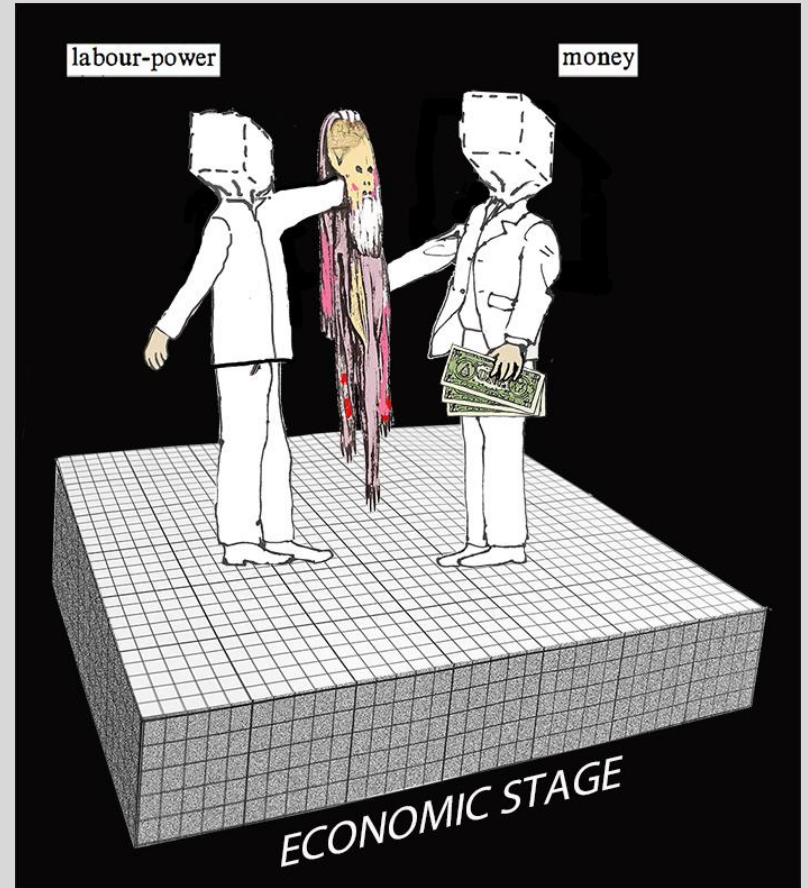
- Firstly, if I spend 6 hours making a BLT sandwich instead of 15 minutes, that doesn't make the sandwich I made worth 6 hours. Values are determined by the *average labor required*, not the actual labor done to make the particular thing.
- Second, prices *will* fluctuate according to supply and demand, but they'll be fluctuating *around* their values. If demand is high and supply is low, the price will be higher than the value. If supply is higher than demand, it will be lower. Values are *equilibrium prices*.
- Third, we have to emphasize the idea that value is *socially necessary* labor time. What is meant by social necessity? This concept isn't entirely uncontroversial. My answer would be that a commodity is socially necessary if it is enough of a staple of society that it is produced every day for mass consumption in predictable amounts. When Atari and Nintendo started making video games, they charged wildly different and often ridiculous prices for their products, and video games were not yet a socially necessary commodity. It was only after video games became an *industry* that they *became* socially necessary, and it's only at that point that one can expect prices to stabilize around their values.
- Fourth, are we *actually* talking about averages? In capitalism specifically, there are always *standard methods* of production, which most if not all capitalists seek to emulate. They are averages, but they are also more than that, because they are in another sense stable and constant. This is true for all commodities except for one, which is very special...

# What is the labor value of labor power?

- Answer: It is, like any other commodity, the total labor time required to produce it. We're talking about a *daily* price. What is required to create an average worker capable of working at a standard level of quality for a single day? To be ready to work, a worker needs
  - Food and shelter, at the quality required to keep their body at the fitness required for a standard quality of performance (whatever that standard might be).
  - At once, we're talking about the labor required to produce the worker, and also to *reproduce* the worker. To account for the value we also thus have to consider the labor required for their family, for the raising of children, for the education of those children, for the medical costs of delivering a pregnancy, for the necessary vaccines, etc.
    - If we're talking about a single day of work, we have to take these costs and divide them out over the average working lifespan of a worker. I.e. if a worker works on average for 12000 days in their life, then we have to take the cost of say, delivering a baby, and divide that labor cost by 12000 and add that to the value.
- **In aggregate, the labor value of the working population as a whole is the total amount of labor that the working class must do each day to maintain and perpetuate itself. On an individual level we can just take this total number and divide it by the total working population.**
- Thus, the value of labor power, i.e. the "real" minimum wage, is precisely the value of the means of subsistence.

# Capitalism - Our Current Mode of Production

- We have a working population, and a population of capitalists. Each day, the capitalists and the workers enter the market. Both appear as buyers and sellers.
  - The workers buy the commodities they need for subsistence, and they sell their labor power to capitalists.
  - The capitalists purchase raw materials for their own production from other capitalists, and labor power from workers.
- They then spend the day "overseeing" the processing of the dead labor via the living labor into commodities, which appear on the market the next day. The process repeats.
- We can define a few numbers characterizing this process.



# Defining Some Variables

- $V$  = the total time required to reproduce the working population as a whole (the overall value of labor power)
- $C$  = the total time required to produce the raw materials processed each day.
- $R$  = total labor value of everything the society is left with at the end of the day (real revenue)
- Note that it is not necessarily the case that  $R = C + V$ . Why?
  - First of all, the capitalist class must consume as well. If  $R = C + V$  then nothing is left for them!
    - This is generally a very small proportion of what gets produced, because the capitalist class is generally very small.
  - Second of all...



# The capitalist *must* seek *increasing* profits.

- The capitalist is at war with all other capitalists for market share. They must be making a surplus, and they must *reinvest* that surplus into their production, to make *more* surplus the next day. They must do this, because if they don't, someone else will, and that person will eventually push them out of the market and ruin them. This is the **coercive law of competition**. More on this later.
- In any case, we know that this is going on in our world, for the simple reason that the economy is always growing. We see in our media every day how obsessed our society is with constant growth. We all know the truth of the following quote from Capital Volume 1:

"Accumulate, accumulate! That is Moses and the prophets! "Industry furnishes the material which saving accumulates." Therefore, save, save, *i.e.*, reconvert the greatest possible portion of surplus-value, or surplus-product into capital! Accumulation for accumulation's sake, production for production's sake: by this formula classical economy expressed the historical mission of the bourgeoisie, and did not for a single instant deceive itself over the birth-throes of wealth. But what avails lamentation in the face of historical necessity?"

- Thus we take as axiom in our model of capitalist society: The economy must grow. Thus in addition to  $C$  and  $V$ , the working class also labors an additional amount of time,  $S$ , so that

$$R = C + V + S$$

# Where does S go?

- Let's first remember that these numbers,  $C$ ,  $V$  and  $S$ , are **amounts of time**. We can also choose to do our societal accounting in terms of money. Let  $C_d$ ,  $V_d$ ,  $S_d$  and  $R_d$  denote the same numbers but measured in dollars, rather than hours. I.e.

- $C_d =$  the total dollar value of the raw materials necessary to repeat today's process the next day.
- $V_d =$  the total dollar value of all goods and services consumed by the working class each day (total wages)
- $R_d =$  total societal revenue
- $S_d =$  total dollar value of the surplus labor

- We are assuming the 'naïve' labor theory of value, i.e. that there exists a conversion factor  $a$  such that 1 dollar equals  $a$  hours of labor. This then means that  $C_d = aC$ ,  $V_d = aV$ , and  $R_d = aR$ . By our equation for  $R$ ,

$$R_d = a(C + V + S) = C_d + V_d + S_d$$

- Let  $P$  denote the total profit of the capitalist class, in dollars. From the perspective of the capitalist class,

$$P = \text{Dollar Revenue} - \text{Dollar Cost} = R_d - (C_d + V_d) = C_d + V_d + S_d - (C_d + V_d) = S_d = aS$$

- Conclusion: Even if workers are paid a completely 'fair wage', the entirety of the surplus labor done by society goes to the capitalist class as profit. Furthermore, surplus labor is the *source of **all** profit*.

# So profit = surplus value

- Each day then, the working population spends a portion of the day reproducing their own existence, and then the rest of the day working for the capitalist “free of charge”. All work done in this part of the day goes directly to the capitalist, either for their own consumption, or for reinvestment into expanding production. We can re-evaluate the variables  $V$  and  $S$  now:
- $V = \text{paid labor time}$ , and  $S = \text{unpaid labor time}$ . The workday itself can be divided this way. The first 3 hours of the day has the working class working for themselves, the next 5 is work done as tribute to the capitalist class, etcetera.
- Consider the number  $K = C_d + V_d$ . From the perspective of the capitalist class, this is the necessary labor required to turn a profit. It is the operating cost of society. Society thus has an aggregate **profit rate**:

$$\pi = \frac{P}{K} = \frac{S_d}{C_d + V_d} = \frac{aS}{a(C + V)} = \frac{S}{C + V}$$

- As we can see, **the profit rate in dollars is exactly the ratio of surplus to necessary labor time**. This makes sense. The more unpaid labor the working class does, the more the capitalist class will be profiting.
- Note also the inclusion of the number  $C$ . The bigger it is, the lower the profit rate. If the work done by society requires large amounts of heavy and expensive machinery, the profit rate suffers. And yet...

# Rate of Exploitation

- They want  $S$  to be as big as possible. Remember what this means. The working day is composed of two parts:
  - In the first  $V$  many hours of the day, the workers are producing their own necessities
  - In the remaining  $S$  hours, the workers are producing for the profit of the capitalists.
- The capitalist class as a whole then, is incentivized to do the following two things:
  - Make the working day as *long* as possible.
  - Make  $V$  as *small* as possible
- The first of these is more straightforward. Within capitalist society, there will always be a perpetual struggle between the capitalist class and the working class over the length of the working day,  $T$ .
- The second is more complicated. There are a several ways to shrink  $V$ :
  - Increase efficiency, so that the necessary goods can be produced *faster*. In other words, automate and innovate the production of consumer goods *without allowing the workers to demand a higher standard of living*.
  - Reduce the standard of living of workers without reducing their productive efficiency. (Perhaps from subcontracting to another country with cheaper labor, or with new types of drugs, or machines that enforce labor efficiency.)
- This leads us to another important ratio:

$$e = \frac{S}{V}$$

- This has a few names. The more innocent sounding one is the **rate of surplus value**. The less innocent sounding one is **the rate of exploitation**. The higher this number is, the more unpaid labor the capitalist class is squeezing out of the working class. In either of the two ways that  $S$  can be increased,  $e$  will be increased in turn.

# The Coercive Laws of Competition

- Why don't the capitalists simply consume their profits? Why do they reinvest it into expanding production? They would say they do it for the betterment of society, but we know better. They do it because they *must*. *The capitalist is compelled to reinvest their surplus.*
- The reasoning is simple: **If they don't, and the other capitalists do, and they will be pushed out of the market.**
- Let's think through this. Suppose I don't reinvest my surplus into expanding production, but others do. Their operating capital increases while mine stays the same. This lack of market share alone is likely to put me out of business but suppose it doesn't.
- A new method of production is created which brings down the cost of my commodity significantly. I can no longer sell my product at a profit. I have to adopt this new method of production, but the initial investment in machinery exceeds the scale of what I can afford. I'm no longer a capitalist.
- Capitalists *must continually reinvest their surplus, and furthermore **must continually pursue methods of increasing productivity and bringing down their operating costs.***
- The coercive laws of competition are thus the engine of technological progress within capitalism.

# What kind of technological change do we get?

- The simple answer is cheaper stuff. Capitalists seek to bring down their operating costs. Lower operating costs means lower priced goods means short term spikes in profit while everyone else scrambles to adopt the new methods.
- We have two categories of operating costs:
  1. The raw materials and machinery - i.e. constant capital spent
  2. The wages and labor employed - i.e. the variable capital spent
- The capitalist class will obviously seek to bring down both categories. However, Marx argued that capitalism had a **bias towards the second of these**. Technological change under capitalism has a labor saving **bias**. Why?
- Answer 1: Labor power is a very special commodity, for many reasons. In this case, what makes it special is that it has agency. *Only one input to production has the capacity to rebel.*
- Answer 2: Compounding accumulation usually incompatible with the actual rate of growth of the population





ПОСЛЕДНИЙ ЧАС!

# In the capitalist's head

- Let's think of this from the perspective of the capitalist class. The capitalist has *no conscious understanding that labor is the sole source of their profit*. They aren't aware of the labor theory of value - they go out of their way not to think about it.
- From their perspective, labor power is just another input to production. And as an input to production it is by far the most volatile, and least manageable. Again, *the raw materials can't go on strike*.
- The solution from the perspective of the capitalist is to replace as much labor as possible with machinery. **This bias is extreme. Capitalists may even be willing to spend more on raw materials just to spend less on labor power.**
- The capitalist doesn't even need to necessarily implement their new labor saving technology at all! Many simply invent the technology and sit on it. The mere knowledge of the new technology's existence puts the thought in workers' minds that they are replaceable, and so they had better stay quiet and servile. *Technological progress becomes a method of disciplining the laborer.*

# Composition of Capital

- The last ratio which we need to look at is the **composition of capital**:  $k = \frac{C}{V}$
- This number in some sense measures labor productivity, either of society or for an individual capitalist firm.
- At the level of the individual capitalist firm, it represents how much in raw materials can be processed per unit of labor power. Note this is NOT the amount of raw materials processed per hour of labor! That would be  $\frac{C}{L} = \frac{C}{V+S}$
- On a daily basis, it is what the capital spends each day on raw materials divided by what they spend in wages.
- Equivalently, if a capitalist is going to invest a certain amount of money/value into production  $\frac{C}{V}$  represents the proportion of how much of it goes towards raw materials vs how much goes towards labor. For example, if  $k = 2$ , then investment in raw materials will generally be twice as much as investment in labor. I.e. an investment of 300 will amount to 200 invested in raw materials, 100 in labor power.
- Question: Let's track the process of innovation. Fix a particular industry and a particular capitalist working in that industry.
- Suppose a capitalist spends some of their surplus on research and development and finds a new method of production which requires half as much labor as before (but the same amount of everything else). By what we've already said, this is what the capitalist likely to innovate is most likely to do.

# Superprofits

- For simplicity assume that 1 dollar = 1 hour, ie the conversion factor between value and price is 1. Then it doesn't matter which we are talking about.
- Upon implementing the new techniques, they are producing their commodity *as if* its value were less than what it actually is. Remember, value is *socially necessary, average* labor time, not that of the *actual* labor time required to make the product.
- By selling his product at the usual price, the capitalist thus be receiving *superprofits*.
- However, if all other capitalists adopt the same method, then the value of the commodity *will* have changed. In particular it will have lowered, and superprofits will turn back into regular profits. Will they do this though?
- From the perspective of the other capitalists: If they don't adopt the new method or create a better one, and if everyone else *does* adopt the new method, then the value of the commodity will actually drop. It's very possible that once this happens, the capitalist will no longer be able to viably operate. Therefore they must.
- However, consider what a day now looks like for this industry...

# Exploitation dampens the savings in wages paid

- With the increase in labor productivity, more of the commodity will be produced in the same amount of time as before. A worker used to be able to produce 20 pairs of shoes per hour, now they can produce the same amount in thirty minutes, i.e. 40 shoes per hour.
- In order to keep a worker working for an hour then, that worker must be provided with a greater mass of raw materials than was previously necessary.
- Per hour then, the capitalist must spend a greater amount on raw materials than they used to. In other words, as  $L$  falls,  $C$  must grow, at an identical rate.  $\Delta C = -\Delta L$
- Remember however, that the amount that the capitalist actually *pays for in wages* is not given by  $L$ , it is given by  $V$ .
- If the rate of exploitation stays the same, i.e. the proportion of  $S$  to  $V$  stays the same, then the saving this provides to the capitalist in wages is *lower than the amount than the additional costs necessitated by the higher demand for raw materials*. In other words,  $V$  decreases, but it decreases *less than*  $C$  increases. The higher the rate of exploitation, the more dramatic the difference.

# The Law of Increasing Composition of Capital

- We thus have the consequence that when a capitalist implements labor saving innovation and that new technique becomes standard in the economy, both the productivity of labor  $\frac{C}{L}$  and the composition of capital  $k = \frac{C}{V}$  have a *tendency* to increase. Two critical properties of the increase are important to note
  1. In the composition,  $V$  is the independent variable and  $C$  is the dependent. Seen as a function of  $V$ , the composition  $k(V)$  increases at a rate  $O(V^2)$ . **That is to say, it doesn't just increase, but it accelerates.** (The same is true of productivity but replacing  $V$  with  $L$ ).
  2. Moreover, as long as exploitation exists,  **$C$  will always increase more than  $V$  decreases**
- According to Marx, this micro phenomenon aggregates to have the same effect on a macro level.
- *Production in general thus becomes more capital intensive over time, and less labor intensive.*

# The Law of the Falling Rate of Profit

- We now have three related numbers characterizing capitalist society on a basic level.

- The rate of profit,  $\pi = \frac{S}{C+V}$

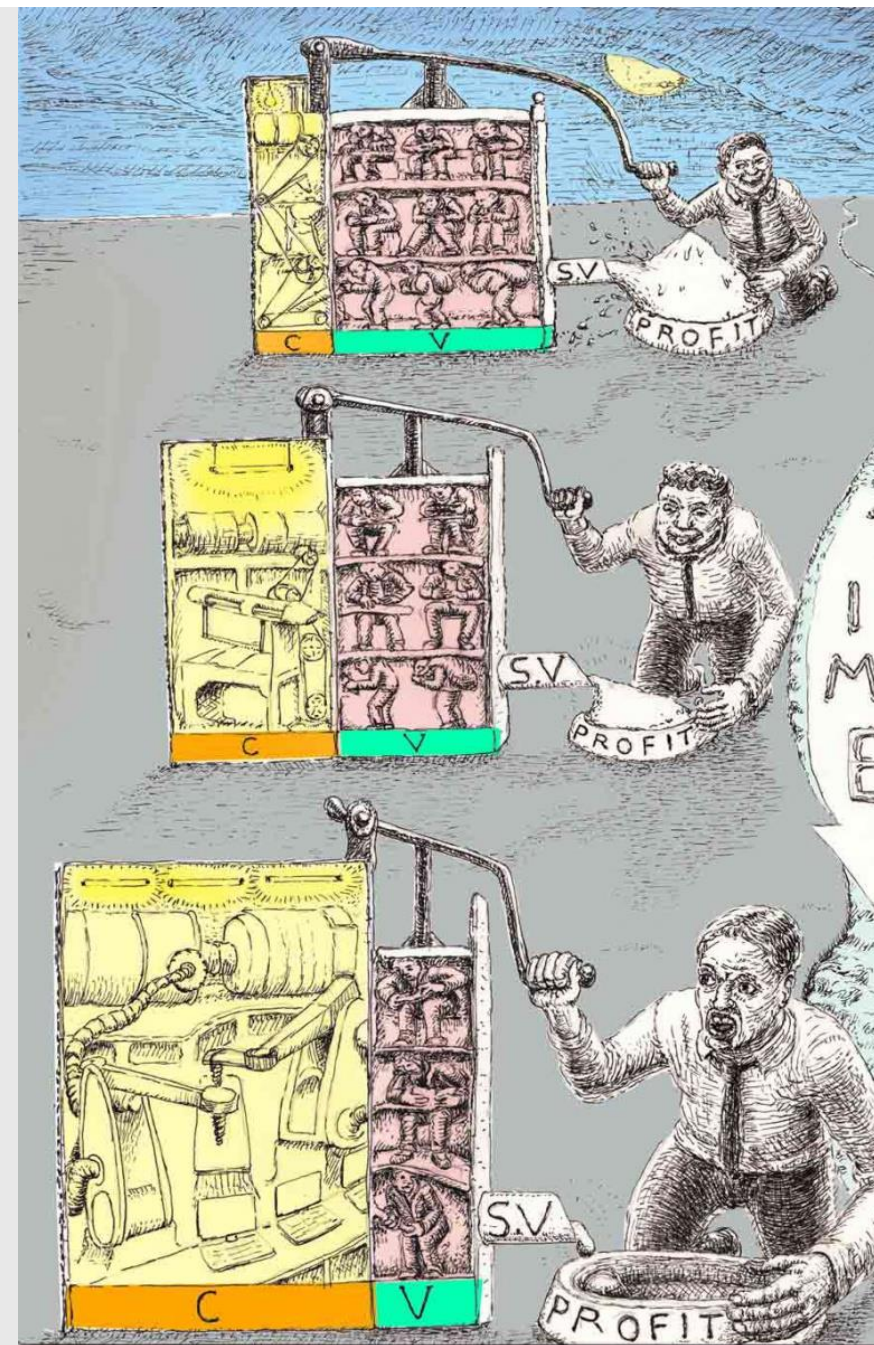
- The rate of exploitation,  $e = \frac{S}{V}$

- The organic composition of capital  $k = \frac{C}{V}$

- We've seen that  $\theta$  has a tendency to increase over time. We can express the rate of profit in terms of  $e$  and  $\theta$ :

$$p = \frac{S}{C+V} = \frac{S}{C+V} \frac{1}{\frac{1}{V}} = \frac{\frac{S}{V}}{\frac{C}{V} + 1} = \frac{e}{k+1}$$

- What happens when  $k$  increases?
  - Unless...

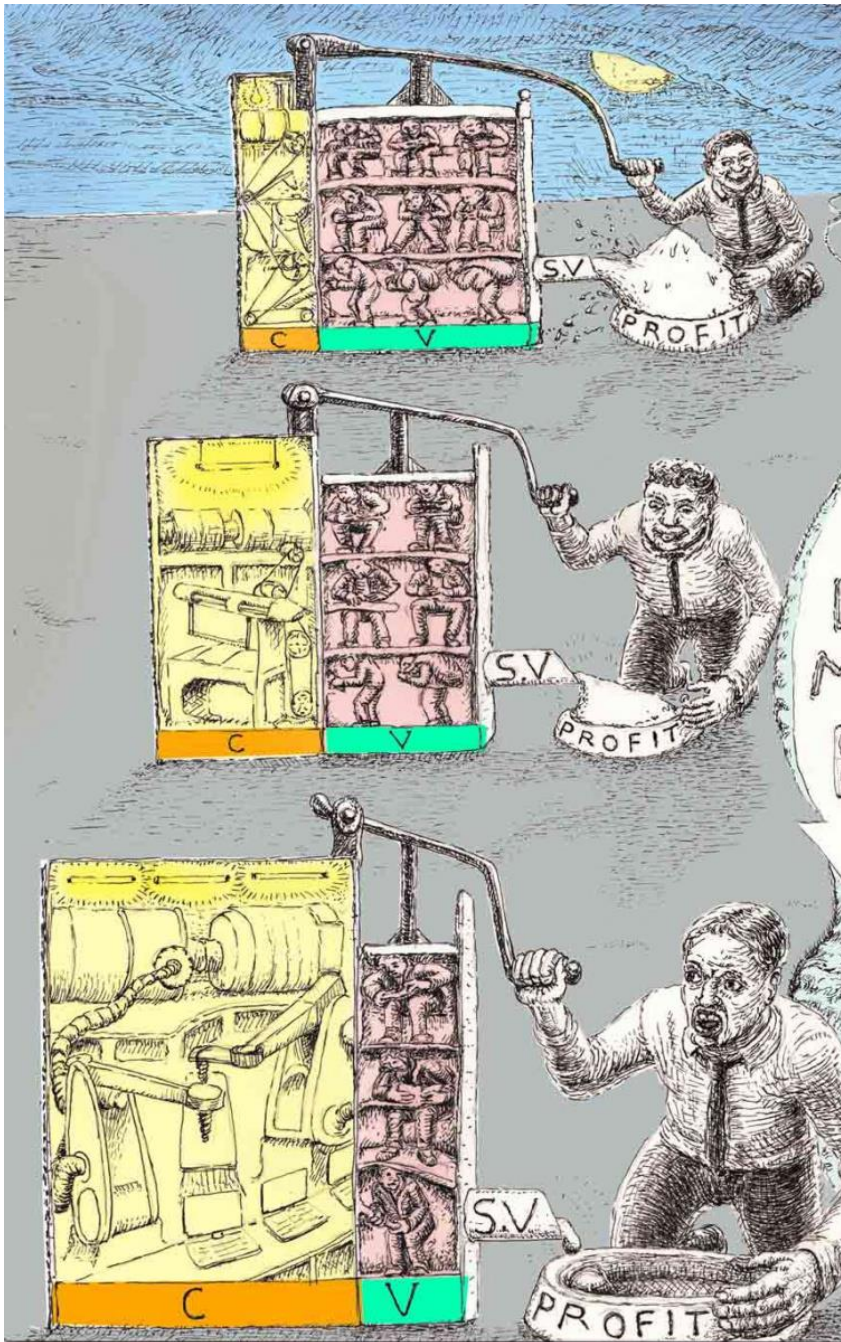


# What will happen?

- What is being predicted about society? Well, in the most overt sense, it means that the dynamism of capitalism is going to gradually slow down over time as capitalists become less incentivized to reinvest. It gradually runs out of its own social fuel. On a more granular level though...
- Over time capitalists become disincentivized to continue investment, and the dynamism of society slows down. One of two things happens next depending on the class with more power.
  - If the capitalists don't have much say in power, there might be talks about nationalizing and producing according to a state plan.
  - The capitalists have power (or seize it i.e. neoliberalism) and hysterically act in desperation to ramp exploitation up to 11.
- With neoliberalism, this latter has happened, and the ramping up of exploitation. It hasn't stopped, and in fact will only get worse as the class becomes more desperate.
- I believe that as a prediction for the death of capitalism, the falling rate of profit has only very recently become relevant.

# Loose threads

- Equilibrium prices mess things up a bit.
- Composition of capital  $\frac{C}{V}$  doesn't have to actually shrink with an increase in productivity.



## The death drive of capitalism.

$$\pi = \frac{S}{C + V} = \frac{e}{k + 1}$$

- A number of counteracting forces exist.
  1. Ramp up exploitation.
  2. Increasing the size of the work force\*, or even better, proletarianize foreign populations who work at a lower standard of living! This will of course bring down the overall composition  $\frac{C}{V}$  and bring up  $e$  simultaneously
  3. Lower the real cost of raw materials. This can be done by innovating, but why do that when you can just subjugate a foreign country with a large stock of them! They'll practically beg you to do it! (Uneven and combined development)
  4. And more!

# The Circulation and Accumulation of Capital

# What *is* capital?

- Most capitalists talk about capital as sums of money. But they only use the term when talking about *using* this money to produce more money. Thus capital isn't money, even to a capitalist. It is *money in motion*. But it's more than this as well.
- Capital is invested. It is taken to the market and spent on raw materials and labor power. These things are then used in a social process of production of commodities, which are taken to the market, and exchanged for money, most of which is used to *repeat the process on a larger scale*.
- Thus capital is really a *circulatory flow of social activity*. Money put into motion as capital creates and directs these flows.
- Accumulation of capital therefore is more than simply the accumulation of wealth. It is not simply the accumulation of commodities, nor the accumulation of the value of those commodities. Accumulation of capital is the **scaling up of daily social productive activity**. If we say that there is more capital on day 2 than there was on day 1, we mean that more people are using more raw materials to make more stuff and trading more stuff for more raw materials. More of all of this is happening.
- When we speak of "a capital", we are referring to a particular process of production (i.e. a single steel producing firm.) We can therefore speak of the size of a capital, representing that entire social process by the daily cost required to animate the activity.  $C + V$

# Repulsion and attraction of capitals

- Accumulation is the work of capitalists. The particular form of accumulation we have been looking at is **concentration**. However, two other phenomena also occur in this process, which affect the rate of accumulation.
- First, individual capitals have a gradual tendency to *split* over time into multiple smaller capitals. Examples of this are inheritance to multiple sons and daughters, and franchising. One to one with this splitting process is the growth of the capitalist class. As capital *concentrates*, the capitalist class grows, however slowly.
- Second, and much more importantly, capital has a dual tendency of doing the exact opposite of splitting. It **centralizes**. Mergers, takeovers, buyouts, acquisitions etc. Marx makes the following general argument for why, *even in the absence of crises*, centralization tends to outweigh repulsion.

# Attraction over repulsion

- Productiveness of labor scales with the scale of production itself. Social organization dictates labor productivity every bit as much as technology.
- Therefore, larger capitals are generally more productive than smaller capitals.
- This skews the center of gravity of socially necessary labor time in favor of the bigger capitals. Bigger capitals end up earning a small amount of superprofits, while smaller firms, even with the same access to technology, end up underperforming. Bigger firms find themselves with a general competitive advantage.
- Furthermore, as technology develops and the size of these larger capitals gets bigger, barriers of entry get higher and higher. Smaller capitalists find themselves operating on the periphery, filling small niches. In the long term, these smaller capitals shrivel up and disappear.
- And by disappear, we of course mean find themselves absorbed into the orbit of a bigger capital.
- Note that as a consequence of centralization predominating, the productivity of labor has a tendency to rise independently of technology! This (probably) further accelerates an increasing composition of capital.

# What else accumulates?

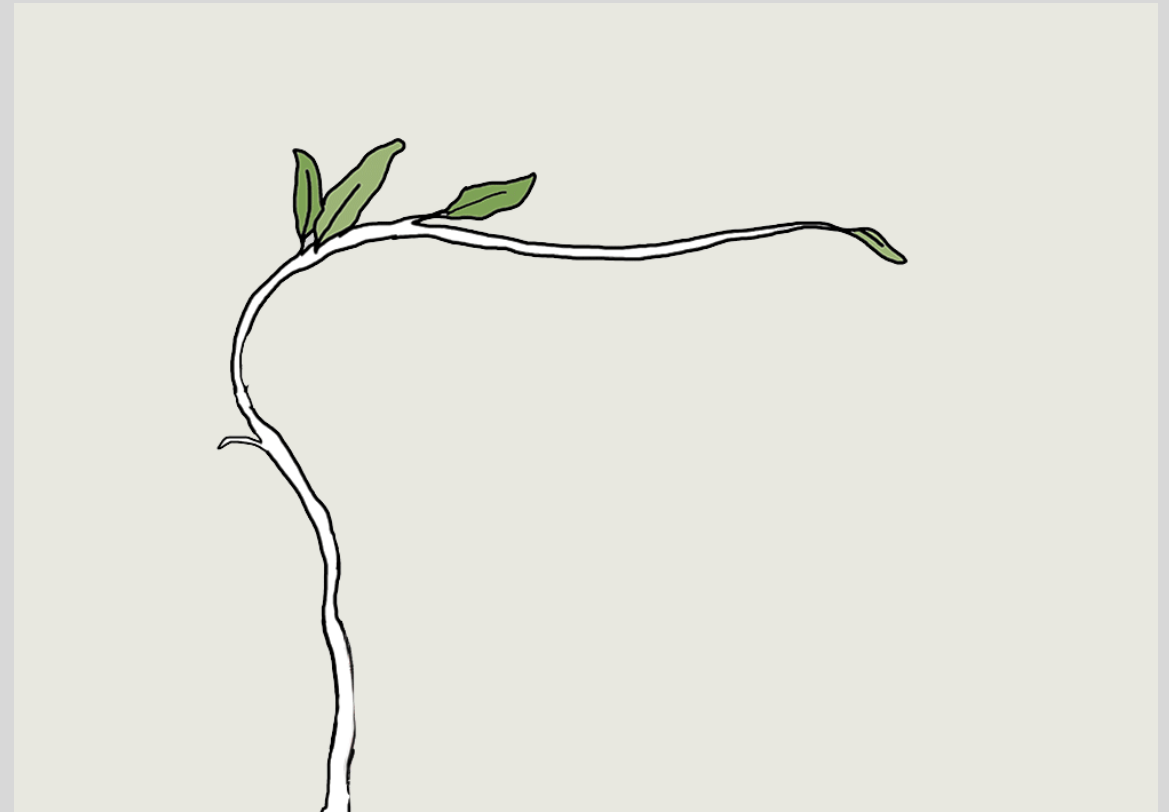
- The first answer is money. Money has a dual character. We've mostly been talking about it as a **measure of value**, but it is also a **means of exchange**. As a means of exchange, the purpose of money is to circulate and facilitate trade. Think of it as a stream of water, that commodities float along.
- As a stream of water, in order for it to properly function, it needs to flow. However, there is a problem: *people can hoard money*. Too much hoarding of money by too many people can disrupt the ability for money to serve either of these two purposes.
- From this, we arrive at the social necessity of banking to the function of market economies. A special reserve hoard of money must be administered to counterbalance the possible hoarding from the general population, which can flood money into circulation or take it back out as necessary to stabilize the price. A banking structure arises.
- As capital accumulates, greater and greater masses of commodities are being traded on the market. This necessitates
  1. A greater and greater amount of money being put into circulation
  2. A larger and larger hoard of money on reserve to be mobilized whenever necessary.

# Three kinds of capitalist

- The bank is of course a capitalist institution. It gives out money, but it expects a profit back on that money lent in the form of interest. Thus we see the genesis of the **finance capitalist**.
- The finance capitalist is juxtaposed with the **industrial capitalist** as being someone who sees production primarily as starting, and ending, with money. *They don't care at all about anything in between.* The industrial capitalist is what we've been assuming all capitalists are until now.
- The industrial capitalist is of course money driven too, but they understand that their ability to profit is dependent on the ability to *continue the production process at all costs.*
- Finally, as capitalism develops, there arises another division of labor besides these two. A merchant enters the scene, offering to make sure that the commodities made by the industrial capitalist get taken to market and converted into money in a timely manner. The **commercial capitalist** thus sees the finished commodity as starting and ending, not with money or production, but with commodities.
- This is all made very clear within Marx's diagram.
- These three subclasses of the capitalist class do *not* see eye to eye, and at any moment in the development of capitalism one will be likely subservient to the other two. The current hierarchy seems to be:
  - Finance > Commercial > Industrial

# Capital as a process of metamorphosis

- Capital takes three forms during its process of circulating: Money capital, commodity capital, and productive (or industrial) capital.
- Each of these has its own set of capabilities, and namely are different in terms of their *mobility*. Money capital is extremely mobile. It can go anywhere. Commodity capital is also quite mobile but not as mobile as money. Industrial capital is on the other hand usually quite immobile.



# Turnover Cycles

- Capital circuits take varying amounts of time to complete. The total amount of time required for the capital to reappear is called the **turnover time**.
- Turnover time can be broken into two segments: **production time** and **circulation time**.
- Within the production time, there are periods when workers are active and periods when they are idle. The periods of time when workers are actively laboring and adding surplus to the product are called **working times**.
- Suppose that the turnover time for capital is 1 year, with a rate of exploitation  $e = 1$ , requiring 500 in constant and 200 in variable capital for operation. The rate of profit for that year is thus  $\pi = \frac{200}{500+200} = \frac{2}{7}$ .
- Suppose that technology and organizational advances bring this turnover time down to half a year. At first glance, this doesn't seem like it would affect the profit rate. However, the constant and variable capital have been *recycled* by the end of the first turnover period. The size of the capital is *still* 700, but the surplus generated is now  $2 \times 200 = 400$ . Therefore the new rate of profit is  $\pi = \frac{400}{700} = \frac{4}{7}$ .
- Thus we have found a new method of increasing the falling rate of profit - decreasing turnover times.



# Historical ways of reducing turnover times

- Obviously, one way is to reduce the working times. But we've already talked at length about this.
- Reducing production times overall is another matter.
  - Faster growing crops means less waiting for crops to grow.
  - Animal abuse! Do weird stuff to make your animals grow ready for use faster.
- Reducing circulation time. This is the big one.
  - Planes, trains and automobiles. Communications technologies. Just-in-time production. Containerization. "The annihilation of space by time".

# More on turnover

- **Idle capital** and **breaks in continuity** are to be avoided by the capitalist at all costs. By breaks in continuity, we mean times between capital starting up again after finishing a turnover.
- To avoid breaks in continuity requires keeping stocks of available materials and money to be used as a buffer. However, this capital sits idle. So these two necessities are in direct contradiction with each other.
- Idle capital *mainly* exists in two of the three forms: money capital and commodity capital. Measures taken to avoid idle capital in the commodity form include innovations like just-in-time production. As far as the money capital goes...
- Suppose that the turnover period of a capital is 9 months, with 6 months of production time and 3 months of circulation time. The capital advanced per month is 200. Then 1200 capital is required to get through the production time, but to start up a fresh circuit of capital requires 600 *additional* capital. This is because the capital at the end of production is in the form of finished commodities, which aren't exchangeable for money capital to spend on resupplying.
- Thus the capital advanced isn't 1200, its 1800. Moreover 600 of this capital sits **idle**. It sits idle in the *money form*, specifically. *We again arrive at banks as a social necessity, but they now exist for a new reason. Banks are the common capital of the capitalist class, and serve to make sure money capital is simultaneously always available, and also always in use somewhere.*



# Globalization – The historical mission of the bourgeoisie

- We've seen in several ways already why overproduction is an implicit tendency of the capitalist system, and that this problem becomes particularly acute in the case of wages and consumer goods. Who is going to consume the product? With the understanding of speed-up as a fundamental tendency of capitalism, we can complete the puzzle and infer an important answer. **The world market.**
- "The need of a constantly expanding market for its products chases the bourgeoisie over the whole surface of the globe. It must nestle everywhere, settle everywhere, establish connections everywhere."

# Fixed and Fluid Capital

- From the standpoint of production, the principle division of capital is the distinction between constant and variable capital. From the standpoint of circulation however, the distinction is between **fixed** and **fluid** (or circulating) capital.
  - Up to now, we have essentially been seeing all capital as fluid. It is picked up at the market, used in a production process, and consumed completely. However, boats, buildings, railroad tracks, airplanes, and so forth, are all very different in that they are picked up once, but then used throughout *multiple* cycles of production until wearing out.
- The way this fits into the labor theory of value is a matter of some controversy (joint product versus depreciation models)
- From the perspective of the capitalist, fixed capital is an extremely dangerous proposition. If you get a machine, and this machine only gradually pays for itself, and before it's paid for itself the machine becomes obsolete, then you've lost money. This therefore incentivizes the capitalist to produce as much as possible, to get maximum use out of the machine before anyone invents something better.
- Taking this along with the tendency to scale up production without scaling up wages, we are set for periodic crises of overproduction.

# Turnover of What? Fixed and Fluid Capital

- We've seen now through the technological development of capitalism that there is going to be an immense accumulation of machines and infrastructure. Buildings, boats, railways, communication networks, giant factory and machines, and so on.
- From the standpoint of production, the principle division of capital is the distinction between constant and variable capital. From the standpoint of circulation however, the distinction is between **fixed** and **fluid** (or circulating) capita.
  - Up to now, we have essentially been seeing all capital as fluid. It is picked up at the market, used in a production process, and consumed completely. However, boats, buildings, railroad tracks, airplanes, and so forth are all very different in that they are picked up once, but then used throughout *multiple* cycles of production until wearing out.
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- Taking this along with the tendency to scale up production without scaling up wages, we are set for periodic crises of overproduction.



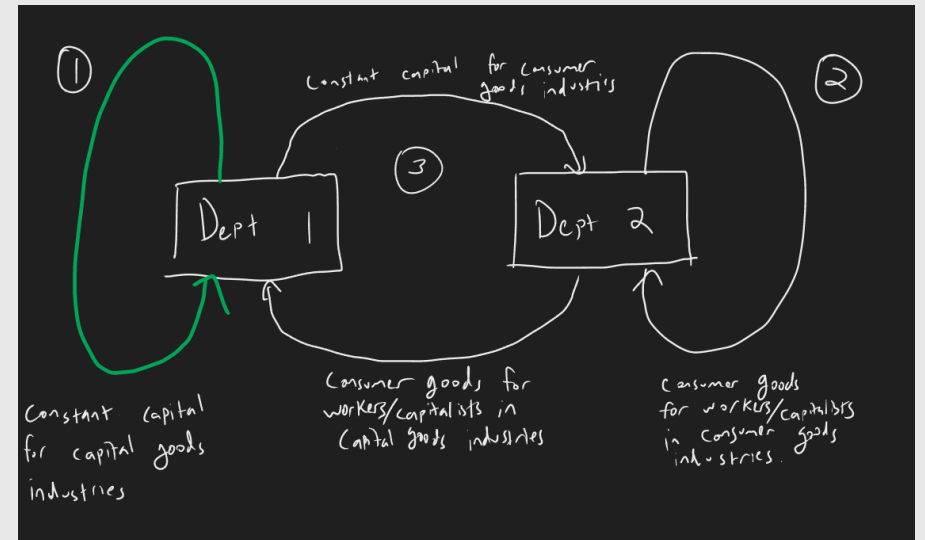
# Crises

- Capital, as we've seen, is a circulation of social activity; a network of processes which must continually operate.
- A **crisis** is a general and sudden interruption to the normal operation of capital. In other words, a situation in which capital has been halted in its tracks. Since humanity relies on capital as a social process to survive, these are simultaneously crises for humanity.
- We've seen one kind of crisis already. Namely, the profit squeeze crisis. This is an interruption of the accumulation of capital, which drives the whole process. If the capitalists decide in a political move to stop reinvesting, they can cause this crisis.
- Aside from these though, we can visualize where crisis can occur by looking at Marx's diagram of capital.

# The Circulation of Total Social Capital

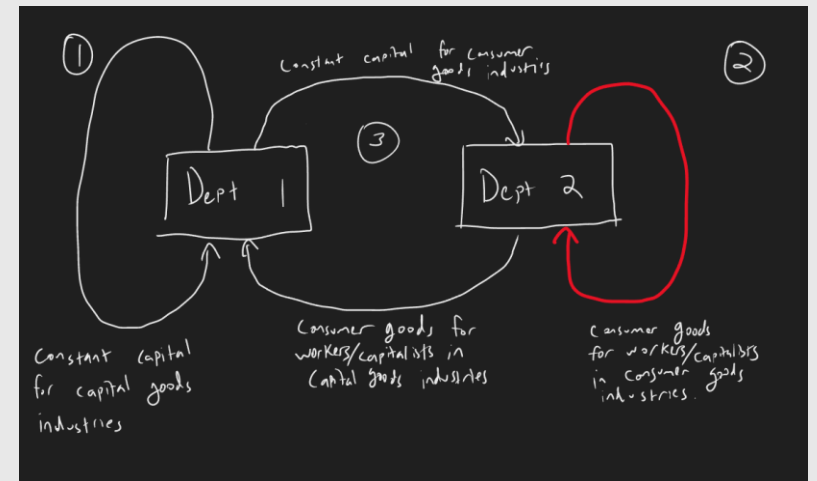
# Circulation 1: Supply Chain Problems

- Note that circulation 1 involves complicated *supply chains*, while circulations 2 and 3 do not. (By definition, end-products are not inputs to the production of other commodities)
- Moreover circulation 1 involves a disproportionate amount of the *fixed capital*. By comparison, most products of department 2 are fluid.
- Fixed capital is characterized by long and varied turnover rates. It is also expensive, in the sense that it requires a large sum of capital *advanced*. Thus capitalists in department 1 are going to be forced to do a large amount of hoarding (at least initially in the development of capitalism).
- Hoarding, as we've seen, is antithetical to capital, as it represents a blockage in the flow.
- All of this is to say, there is a large potential for disruptions in this circulation, and thus a large potential for crises, despite its advantage of self-compensating and thus creating its own increasing demand.
- **Circulation 1 is thus the home of crises of the supply chain.**



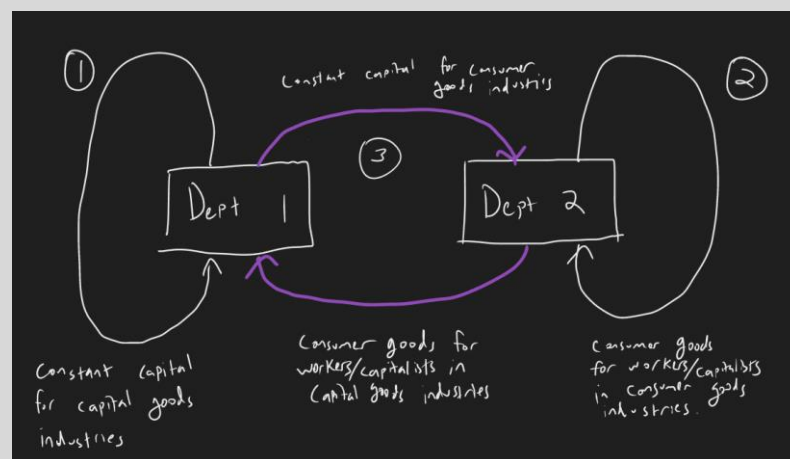
# Circulation 2: Overproduction/Underconsumption Problems

- First of all, unlike circulation 1, circulation 2 depends on **rational consumption on the part of the workers**. Whatever the means of subsistence is, they are expected to go use their wages to buy it and consume it. If they don't, this circulation becomes blocked.
- On a related note, just as circulation 2 had a hoarding problem on the part of the capitalists, circulation 1 has a hoarding problem on the part of the workers. Any *saving* on the part of the workers (in either department) can disrupt the flow of capital from department 2.
  1. **Pay workers too little to allow for hoarding**
  2. **Condition their consumption so that workers are always spending their wages immediately upon receiving them.**
  3. **Make intervals between wages as small as possible** (remember, capitalism *hates* long turnover times. Wages are variable capital, so they want to turn it over quickly.
- Also noteworthy is that capitalists in department 2 are selling workers the products that those same workers create. This puts them in an advantageous state in which they can extort extra profit from workers in all sorts of ways.
- All in all, **Circulation 2 is thus the home of crises of overproduction/underconsumption.**



# Circulation 3?

- Circulation 3 is something genuinely new to us. Just like 1 and 2, Marx is interested in analyzing its inherent vulnerabilities, tendencies and deficiencies.
- He goes about this by asking the question: what is necessary in order to maintain continual supply-demand equilibrium between the two departments?
- He goes about this by beginning with a simplified case: the one in which capitalists don't reinvest, i.e. capital is not accumulating at all. Obviously such a situation is impossible, but it allows him to derive a simple condition for equilibrium.



# Moving equilibrium

- He then moves to the **expanded** case in which capitalists are reinvesting portions of their surplus.
- He works out a numerical example of an expanding economy. In his example, capitalists from department 1 are reinvesting a fixed percentage of their surplus each period, and capitalists in department 2 are **reacting by reinvesting whatever is necessary to maintain equilibrium.**
  - I.e. if an expanding capital goods department requires  $x$  amount more consumption goods for the new workers, then capitalists in the capital goods industry are reinvesting exactly as much of their surplus as is necessary to give the capital goods department what they need.
- This creates a *moving equilibrium, i.e. conditions which are changing from period to period.*
- At this point it is worth noting that capital volume II, where he does this, is an unfinished work. His overall take away from his investigation is that there is no good reason to expect capitalists acting on their own will meet the conditions for equilibrium, and that as the credit system expands and develops it will become increasingly important as a potential tool for coordinating and resolving these circulatory difficulties. He also notes that the same kinds of problems will need to be addressed in socialist economies.

# Mathematical shortcomings

- I think that we can be sure that Marx was not fully satisfied with his own approach. There are a few related issues at play here.
- At the center of the problem is his investment scheme. Capitalists in department 2 have no agency at all within his schema. They are slaves to the whims of department 1 in terms of their reinvestment decisions. They do what department 1 needs them to do.
- A much more natural assumption to make about the capitalist economy is that *all* capitalists reinvest half of their surplus value, not just the ones from department 1. In fact, Marx actually begins the section 'Schematic Presentation of Accumulation' assuming this, and then changes his mind later.
- If he attempted things this way he would have definitely found himself lacking the mathematical tools to approach what he was dealing with.
- In doing this it seems necessary that capitalists in department one have to reinvest in department 1, while those in department 2 have to stay in department 2. This is contradictory to his assumption that the rate of profit has been equalized. Capitalists should be equally likely to invest in either industry.
- Needless to say, this reinvestment scheme isn't at all realistic as a model of how an actual capitalist society would go about accumulating.

# What is Marx *actually* trying to do here?

- The subtitle is 'Critique of political economy'. The political economists of Marx's time were utopians. They thought that if only capitalism were allowed to develop fully into its purest form, then everything would be perfect for everyone. Marx is attempting to refute this, by assuming a *pure* capitalist society by *their* definition, and show that things would be not nearly as perfect or stable as they think it would be. So we have to understand their assumptions of a pure capitalist society. The essential two features are:
  - Perfect supply demand equilibrium (any disruptions quickly corrected)
  - An equilibrium rate of profit across all industries
- Therefore Marx is trying to investigate the question: *What does equilibrium growth look like in a perfect capitalist society?* What does perfect mean here?
- He does exactly this in the case of simply reproduction. He derives the conditions for equilibrium there and has a discussion of the consequences of those conditions for a society in that state.
- There is an obvious objection then to the critique we are levelling at Marx. We are saying that 'his model isn't realistic in terms of how capitalists actually want to behave'. People might respond 'That's fine though, because Marx isn't trying to create a predictive model. He's just trying to analyze the equilibrium conditions.'
- This objection is wrong, because the predicted behavior of the capitalists *changes* the equilibrium conditions. Marx defines a moving equilibrium. A different set of assumptions about how capitalists want to reinvest will define a *different* moving equilibrium.

# A predictive model is necessary to address the question.

- We therefore have to answer the question: *which* equilibrium is the one we actually want to analyze?
- The answer, of course, is 'the one which is most realistic/likely given the capitalist's class interest'. In other words, in order to analyze equilibrium growth in a pure capitalist society, we *need a predictive model*. You can't properly address the question without one.
- Furthermore, we have one already, and a very good one. Capitalists generally want to invest a proportion of their surplus into accumulation. Under this assumption, the capitalist class as a whole will invest a fixed percentage of the total surplus, the average of all of the individual investments.
- This is, along with the condition that supply and demand remain in perpetual equilibrium, is enough to set up a system of equations and solve for growth paths. However, this was mathematically above Marx's paygrade. Even if he managed to set up the equations himself, he certainly wouldn't have been able to solve them.
- However, if he *had* managed to solve them, he would have ended up with a wicked punchline to volume 2, and a general refutation of the political economist's utopia with the same level of impact as his general law of accumulation from volume 1 (which we will talk about later).

# Shortcomings continued

- The question that Marx would have had to answer to do the analysis he wanted to do is this: **given that capitalists in both departments want to invest a fixed proportion of their surplus each period, what reinvestment choices do they have to make in order to have it be the case that this percentage of the total surplus gets reinvested, while at the same time being materially possible and maintaining constant supply/demand equilibrium?**
- By answering this question, we will find ourselves with a startling conclusion, in my opinion completing the argument that he was trying to make.

- Recall we are assuming standard production methods for all commodities.
  - For a specific make/model of car, there is a specific bundle of raw materials which is needed to make the car, which is the same for all car manufacturers. It has a total value. Likewise there is a total amount of labor time which must be exerted on those raw materials in order to produce the finished product.
  - Say a car has value of 300 hours. Of this 300 hours, say 200 hours is spent making raw materials, 100 spent assembling them into a car.
  - This *proportion* 2:1 applies to the car industry generally. Given an hour of value outputted from this car industry,  $66\% = \frac{2}{3}$  of that hour is value of raw materials, and  $33\% = \frac{1}{3}$  is value of labor added on.
  - 2 cars is 600 hours of value.  $\frac{2}{3}(600) = 400$  of that is value of raw materials,  $\frac{1}{3}(600) = 200$  is value of living labor added.
  - So for any industry there are two numbers,  $c$  and  $l$ , which characterize that industry, and they satisfy the identity

$$1 = c + l$$

- Define  $c_1$  to be the *average* of all of these  $c$ 's from department 1,  $l_1$  to be the average of all the  $l$ 's from department 1.
- Define  $c_2$  to be the *average* of all of these  $c$ 's from department 2,  $l_2$  to be the average of all the  $l$ 's from department 2.
- Note that

$$c_1 + l_1 = \frac{\sum c}{n} + \frac{\sum l}{n} = \frac{\sum c + l}{n} = \frac{\sum 1}{n} = \frac{n}{n} = 1$$

- So the averages add to 1 just like the actual  $c$ 's and  $l$ 's

# Why does it go this way? Case 1

- Consider the case in which the capital goods department is more capital intensive, and the labor goods department is more labor intensive, i.e.  $k_1 > k_2$ .
  - Suppose I have an oversupply of capital goods, an undersupply of wage goods. The obvious thing to do is shift capital away from the capital goods industries into the wage goods industries. Can I?
    - To shift capital into the wage goods industries is to create an economy which consumes wage goods at a much higher rate, which is problematic because I already have an undersupply of wage goods.
    - It also creates an economy which consumes capital goods at a much lower rate. Again this is problematic because I already have an oversupply of capital goods.

## **The solution exacerbates the problem.**

- On the other hand, suppose I have an undersupply of capital goods, and an oversupply of wage goods. The obvious thing to do is shift capital away from the wage goods industries and towards the capital goods industries. Can I?
  - To shift capital into the capital goods industries is to create an economy which consumes more capital goods, the thing I have an undersupply of.
  - It also creates an economy which consumes less wage goods than before, the thing I have an oversupply of.

## **Again, the solution is incompatible with the problem.**

**The result is an economy in which maintaining supply/demand equilibrium locks society into a growing disproportion between the two departments.**

# Why does it go this way? Case 2

- Consider the case in which the capital goods department is more labor intensive, and the labor goods department is more capital intensive, i.e.  $k_2 > k_1$ .
  - Suppose I have an oversupply of capital goods and an undersupply of wage goods. The obvious thing to do is to shift capital away from the capital goods industries and towards the wage goods industries. Can I?
    - To shift capital into the wage goods industries creates an economy which consumes more capital goods. This is great, because those are exactly what I have an oversupply of already.
    - It also creates an economy which consumes less wage goods. This is equally great, because those are exactly what I have an undersupply of.

## **The solution thus overcompensates for the problem**

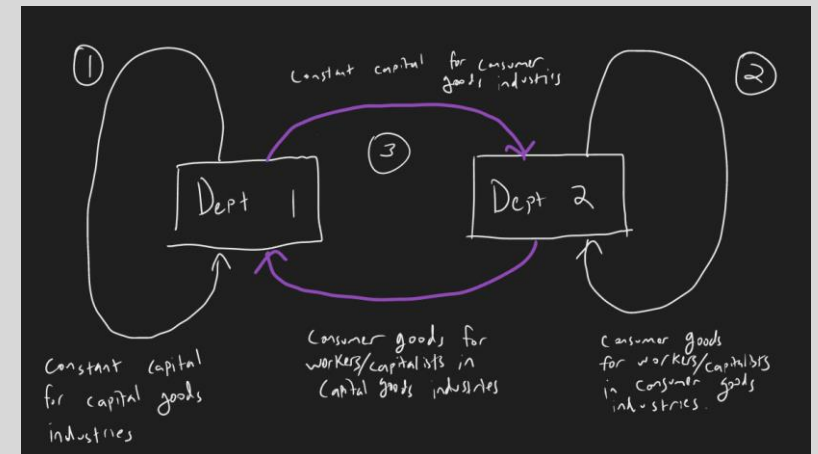
- On the other hand, suppose I have an undersupply of capital goods an oversupply of wage goods. The obvious thing to do is to shift capital away from the wage goods industries and towards the capital goods industries. Can I?
  - To shift capital into the capital goods industries is to create an economy which consumes more wage goods. This is great, because I have an oversupply of those.
  - It also creates an economy which consumes less capital goods. This is equally great, because those are exactly what I have an undersupply of.

## **Again, the solution is *overly* compatible with the problem**

**The result is wild swings back and forth, constantly missing the balanced growth path.**

# Circulation 3: *Disproportionality* problems

- Circulation 1 is the home of crises of the supply chain. Circulation 2 is the home of crises of overproduction. Circulation 3 is the home **of crises of disproportionality**. And unlike circulations 1 and 2, these crises are much more built in and inevitable than the others.
- The political economists believed that when capitalism was allowed to settle into a pure state in which market relations drove production in its entirety, and in which the rate of profit had been equalized so that reinvestment decisions were purely a function of supply and demand, then the capitalists would be forced into the role of humble servants adjusting production to maintain perfect equilibrium. They believed that such a situation would develop into utopia.
- Marx questioned this belief. He wanted to ask the question: what does a pure and perfectly functioning capitalist society in perpetual equilibrium *actually* look like?



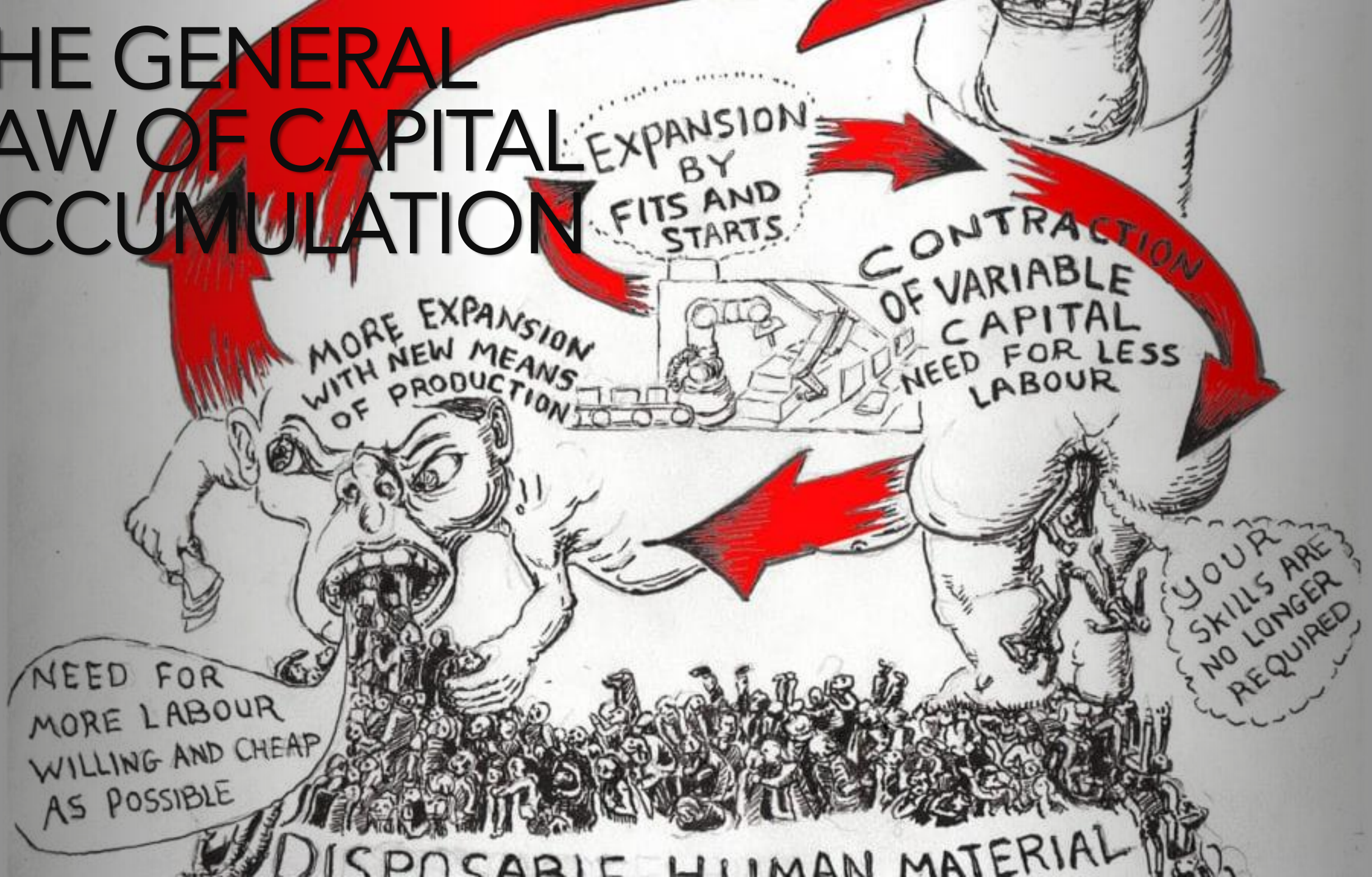
# The answer: pure chaos.

- If Marx had been able to solve his own system, he would have shown that *even if* nature and labor are perfectly obedient and always available, and *even if* there were no problems of the supply chain, and *even if* capitalists were perfectly able to maintain supply and demand equilibrium, there would *still* be periodic crises of disproportionality.
- A society of this form would have shown itself to be *wildly disruptive and unstable*. As capital violently sloshes back and forth between departments, workers find themselves routinely laid off en masse.
- With each such crisis, the capitalist class will attempt to reconfigure outputs to achieve more balanced growth, but the balanced growth path is unstable. They will thus inevitably fail in their attempts, buying themselves at most only a few cycles of steady growth.
- We've also seen that the disproportionality crisis shows itself *abruptly and suddenly with very little warning*. This gives the capitalist class periods of calm in which they can convince themselves that market mechanisms work perfectly. *They will never learn their lesson*.
- It's worth noting that we are viewing demand here as *effective demand*. An unemployed worker, within our model, is not a member of society. Their demand for subsistence has no bearing on the supply and demand being measured.
- Moreover as capital sloshes from the more labor intensive industries to the more capital intensive ones, those workers laid off in the former will find demand for their labor in the latter industry lacking....

# One more thing: the crises are a feature, not a bug

- If the only way to come back to something approximating balanced growth is through a crisis, then crises become *socially necessary* within the capitalist system. They serve the essential purpose of bringing things back to balanced growth.
- Crises serve a second major purpose as well, but more on this in the next video...

# THE GENERAL LAW OF CAPITAL ACCUMULATION





# What is a free market?

- At the very least, a free market should have the property that the people bringing a commodity to the market for trade has control over the price of that commodity, in the sense that they control the supply and demand of that product (at least collectively).
- The question which will book-end the following argument is this: **Who controls the supply and demand of labor?**
- The commodity that the working class sells is its labor power. If the working class doesn't have the commanding negotiating power over the value of their labor power, then there can be no such thing as a free market under capitalism.

# The accumulation of capital, revisited

- The individual capitalist has three methods of accumulation available to them.
  1. *Simple* accumulation. This is a simple scaling up of production using the current methods. More of the same machinery and raw materials, more of the same labor to work that machinery.
  2. New technologies and organizational restructuring. In other words, the capitalist changes to how the firm operates. We've seen how this can produce temporary superprofits, and which can be reinvested and accumulate.
  3. Centralization. Buy out your competitors. Control your entire industry. Note that centralization, unlike the other two, does not produce accumulation for society as a whole, but does produce accumulation for the individual capitalist doing the act.
- 2 and 3 are not entirely separate. We've seen that centralization of capital creates opportunities for restructuring that smaller capitals don't have. Thus it is often the case that accumulation of type 3 comes along with accumulation of type 2.
- There is a qualitative difference between simple accumulation and the other two. We can expect that accumulation of the first time occurs at a constant, steady rate, whereas accumulation of types 2 and 3 occur in fits and starts.



» — ATTRACTION AND ACCUMULATION OF CAPITAL — «

# Simple accumulation

- Focusing first on simple accumulation, we see that for any individual capitalist's  $\frac{C}{V}$ , they'll have to go out and purchase a certain amount of means of production and a certain amount of labor power. Thus to the extent that simple accumulation is the dominant form of accumulation, accumulation of capital is one to one with a growing workforce: **accumulation of capital is increase in the proletariat.**
- This begs the question: where do these new workers come from?
- There has to exist a *labor market*. That is to say, capitalism requires the continual existence of a mass of people who are dispossessed of any means of production and have no choice but to sell their labor to someone else. (Or at the very least, dispossessable.) This must be maintained at all times, and desperate enough that the rate of exploitation is high enough that accumulation is sufficiently incentivized.
- We call this mass of dispossessed people who are seeking work, and creating the labor market, the **industrial reserve army of labor**, or simply the **reserve army**. Note that we are not simply referring to it as the unemployed population, because the reserve army encompasses much more than just this group.


# Pressure and wages

- There is a general tendency for people in higher positions of employment to dismiss the unemployed population as unrelated to them. This couldn't be farther from the truth.
- **In general, the bigger the reserve army, the lower the wages are, and the worse off the working class is generally.** This is for the simple reason that the bigger the reserve army, the more *replaceable* labor becomes, and the less bargaining power labor has.



# Composition of the reserve army

- Marx stratifies the reserve army into three (really four) groups: **floating, latent, and stagnant (and pauper)**. The pauper population itself is broken into three subgroups.
- The **floating** population is the unemployed proper. These are people who have, for reasons we will get to, been let go from some previous employment and are seeking new employment elsewhere.
- The **latent** population are pools of *potential* workers, i.e. populations which are not yet fully integrated into capitalist production, but are either in the process of being integrated or vulnerable. This historically at various periods of history includes peasants, women, and children. Other modern examples include our prison population, patreon artisans, and more generally populations of less developed capitalist countries which are either collapsing or liberalizing.
- Finally, the **stagnant** population are people who are technically employed, but this employment consists of a combination of jobs that are barely jobs and jobs that are extremely irregular in their employment.
- Finally, there are the people who have fallen out of the workforce entirely. Marx referred to these people as having fallen into **pauperdom**.
- Each of these groups has unique properties and functions within the capitalist system, but the army as a whole has an extremely important qualitative effect, which we address first.

A photograph of several white wooden figures holding signs that say "NEED JOB" or "NEED WORK". The figures are simple, stylized human shapes. The signs are rectangular and attached to the figures by thin wooden sticks. The background is a light, neutral color.

# The floating population

- This group has some advantages over the others. First of all, they are more skilled and already disciplined. They have experience as a worker, are generally better educated, and require less training.
- However, they are also better organized, have a better understanding of what they are entitled to, and are therefore less easy to subdue. For a capitalist system then, a large floating population is desirable, but also impossible to maintain. If the floating population gets too large, revolutionary change might appear on the horizon.
- This is why we generally see low but constant unemployed populations in stable and 'prospering' capitalist countries. 4%, 6% and so forth.
- This is what necessitates a latent population. Capitalists must have at all times somewhere else to turn to for their simply accumulation.



# The latent population

- When labor becomes too scarce or too powerful in the capitalist society proper, the capitalists look elsewhere.
- They might look inward at groups like women, children, and prisoners.
- If capital controls are tight, then they import labor from less stable countries. (Germany importing labor from Turkey, France importing labor from north Africa, and so forth.)
- If this is not an option, then why not just destabilize a country and make it an option? (Example, the Mexican peasants).
- Note that in both of these cases, the inevitable result is going to be an anti-immigrant reaction from the working class.
- If capital controls are loose, then the capitalists might simply take their accumulation somewhere else (for example, to China).
- In any case, you'll generally be hearing about some population which could be taking up the jobs of the proletariat there already. *This discourse itself is an act of war on the working class.* The pressure that latent populations exert on a workforce depends on their social proximity to work. (The Mexican peasants weren't perceived as a threat at all prior to NAFTA.) It also serves to divide and conquer by turning these groups against one another.
- **This is why the proletariat has no country. The well being of every worker, regardless of their level of comfort, whether they like it or not, is directly tied up with the well being of all other workers and all layers of the reserve army.**



# The stagnant population

- Later Marx refers to these as the **Lazarus layers** of the working class. These are the most precarious and unreliable jobs. Also jobs that barely classify as jobs. Odd tasks that someone assigns you out of pity for change.
- Pictured on the left are some elderly women picking oakum, which involved unweaving old ropes and cords for use as materials to seal gaps.
- The modern incarnations of this are uber and other gig economy work, some care work, maybe Amazon labor in some circumstances (Amazon prides itself on its high turnover rates).
- Living conditions for this group historically, more often than not, are significantly worse than what someone receives in prison. (Often ex-prisoners will recommit crimes to go *back* to prison.)
- This grouping is sometimes also referred to as the *precariat*, because they are perpetually on the brink of falling into...



# The pauper population, aka the hospital of the reserve army

- In short, this is the place you're warned as a child that you'll end up if you don't conform to what society demands. The historical definition of a pauper is one who lives off of charity and public aid. It's more accurate to think of it this way, in my opinion.
- Sometimes these people are known as the **lumpenproletariat**. I think personally that lumpenness is a somewhat separate concept to pauperism, although related.
- People who become too demoralized, too physically broken become pauperized. (In my opinion, lumpenness as a concept is the negation of class consciousness. To the extent that you feel no solidarity towards any class, then you are lumpen.)
- Marx breaks the pauper population down into three subgroups.
  1. Those who are able to work, but instead get by via semi-legal or illegal shenanigans. Petty crime, scavenging, and so forth.
  2. Orphans. This as its own category seems maybe a bit outdated.
  3. 'The demoralized and ragged, and those unable to work, chiefly people who succumb to their incapacity for adaptation, due to division of labor, people who have passed the normal age of the laborer; the victims of industry, whose number increases with the increase of dangerous machinery...' This category clearly then includes people such as NEETs, elderly people, disabled people, and so on. The majority of paupers belong here it would seem.
- The necessity of a reserve army creates the necessity of a pauper population, since some in the reserve army will always be falling into it. The system therefore must accommodate this group with welfare programs, but they do so minimally by making their welfare programs sufficiently viscous to where nobody wants to fall into pauperism.
- The Reagan assault on the welfare state was an assault on the working class, for this reason. It was a campaign to raise the rate of exploitation by lowering the baseline of misery in the United States generally.

# Dynamics of the reserve army.

- We now ask the central question: **what is going to happen to the reserve army in a 'healthy' capitalist system?**
- To discuss dynamics, one must specify initial conditions. We are going to *initialize* a capitalist system and make observations about how it will develop. This initial state must have a labor market. Otherwise accumulation cannot occur.
- *Thus we have to assume that, in the beginning of our theoretical capitalism, a sufficiently miserable reserve army already exists. Equivalently, we begin with a society in which a large amount of capital already exists in a few lucky hands.*
- How did we get here? Robbery, war, and historical context. There must have been some accumulation of capital prior to capitalism's initial development. Marx calls this **primitive accumulation**. Every capitalist country has its own pre-capitalist story, and every capitalist country has its own story of primitive accumulation. In many ways, it still occurs to this day.



# Accumulation begins



- In any case, suppose we have this initial reserve army. This, along with other factors determines a fixed initial rate of exploitation (likely high). Equivalently, we have some folks with capital.
- For the sake of analyzing this specific aspect of capitalism on its own, we will assume that with the sole exception of labor power, everything magically works perfectly in circulation. What we mean by this is that any capitalist, regardless of what they decide to do with their profits, will always find exactly what they want to purchase, even if nobody made it, and that they will always find a customer to buy anything they produce, even if no such person exists. Again with the exception of labor power, prices are assumed to be as if supply and demand were in perpetual equilibrium.
- These assumptions will be removed later.
- Accumulation begins. As we mentioned, this will initially be *simple* accumulation. Assume for the moment that simple accumulation is the *only* type of accumulation occurring.
- Now is a good time to bring in two new mathematical variables: **the rate of accumulation** and the **demand for labor**.

# The rate of accumulation

- Recall that the size of a capital is  $C + V$ . Accumulation of capital can therefore be seen in value terms as an increase in the overall value output  $C + V$  for society.
- Say that  $C + V$  is the size of the economy at the beginning of some production period, and  $C' + V'$  is the size of the economy at the end of it. The amount of capital accumulated is therefore  $\Delta(C + V) = C' + V' - (C + V)$
- The **rate of accumulation**  $G$  is defined to be the amount of capital accumulation as a proportion of the original output. I.e.

$$G = \frac{\Delta(C + V)}{C + V}$$

- If  $G = \frac{1}{2}$ , then the amount of accumulated capital by the end of the period will be 150% of what it was at the beginning of the period.



# The demand for labor

- Say the amount of labor done in the previous production period is  $L = V + S$ , and that  $L' = V' + S'$  is the amount of labor done during the current one. The difference in labor employed between periods is thus

$$\Delta L = L' - L.$$

- The **demand for labor**  $D$  is the change in the amount of labor employed as a proportion of the amount employed in the previous period. i.e.

$$D = \frac{\Delta L}{L}$$

# A second falling rate of profit

- As accumulation continues, the reserve army drains. As it drains, the workers gain bargaining power, and wages rise. The rate of exploitation falls, and the rate of profit  $\pi = \frac{e}{k+1}$  begins to fall with it.
- **For accumulation to continue, capitalists therefore must continually pursue methods of reinflating the reserve army.**
- One method of doing this reinflating of the reserve army is to implement labor saving technology (thereby targeting the floating population). This is noteworthy versus the other two methods **because the capitalists were already going to be doing it.**
- It goes without saying that the capitalists are going to use this feature of capitalism to maximal effect. The question of where the rate of exploitation lands after the class struggle therefore depends on **how powerful this method of accumulation is at inflating the reserve army.**
- If the rate at which workers are being thrown into the reserve army exceeds the rate at which workers are leaving the reserve army due to simple accumulation, then the capitalists likely won't even have to do much beyond what they were already doing to win this class struggle and come out of it with a higher rate of exploitation than before.

# Bringing in innovation/centralization

- Either because of capitalist competition or because of a recent wave of centralization of capital, let us assume that an individual capitalist firm reorganizes itself or implements technological change which improves the productivity of labor.
- We mentioned earlier that the capitalist has a choice: either produce more with the same number of workers, or fire some of them. We mentioned that regardless of the choice made here, the capitalist is guaranteed to earn superprofits for a period of time, and also guaranteed to have a permanently higher composition of capital  $\frac{C}{V}$ .
- The choice here in the way that we framed it was fine for what was being considered, but now we should be more careful. The capitalist has a certain amount of capital to put forward. That amount hasn't changed. They are going to reorganize their entire firm in accordance to the new technology. Since  $\frac{C}{V}$  is now bigger, that same amount of capital will be used to purchase less labor than before. Therefore workers **must** be let go.
- Even *if* the capitalist has the extra capital available to take that first option and produce more with the same number of workers, they are going to be averse to this option, because it's riskier. They have a certain expected market for their product, and if they produce too much, they might find some their product not being sold, i.e. their capital not turning over.
- And all of this is to say nothing of the possibility that the capitalists might be implementing this technology as a unified class with the explicit intent of laying off workers.
- **In 'fits and starts' then, workers find themselves laid off. Equivalently, the reserve army inflates, in addition to natural population growth, and at the same time that it drains due to simple accumulation.**

# Dialectic of the reserve army

- We have ourselves a contradiction. On the one hand, the reserve army is draining steadily due to simple accumulation. On the other, the reserve army is inflating in fits and starts due to changes in organization and centralization.
- Which one wins out? If the inflating happens at a faster rate than the draining, then the reserve army will grow overall. If it drains faster than it inflates, then the reserve army will shrink.
- What we haven't yet considered is the effect that the **overall growth in the composition of capital has on the overall demand for labor.**
- We have that

$$D + 1 = \frac{k+1}{k'+1} (G + 1) \text{ and that } G = a\pi$$

- Substituting  $a\pi$  in for  $G$ , we have

$$D + 1 = \frac{k + 1}{k' + 1} (a\pi + 1)$$

- What is the significance of this?

# Falling overall demand

$$D + 1 = \frac{k + 1}{k' + 1} (a\pi + 1)$$

- What we can see from this is that **the overall demand for labor falls with the rate of profit**. But we can also see much more than this.
- First, note that the rate of reinvestment  $a$  itself falls with the rate of profit. As we've mentioned repeatedly, a falling rate of profit disincentivizes reinvestment. Thus a fall in  $\pi$  induces a much faster fall in  $a\pi$ , which is what  $D$  really depends on.
- Second,  $\pi$  is shrinking specifically because  $k$  is increasing. Therefore from one period to another in which technological/organizational changes have been implemented, we have  $k' > k$ , meaning that  $\frac{k+1}{k'+1} < 1$ , so that

$$D + 1 < a\pi + 1, \text{ meaning that}$$

$$D < a\pi$$

- So the shrunken  $D$  will be even less than the shrunken  $a\pi$ , which was itself even less than the shrunken  $\pi$
- **Demand for labor thus falls as the overall composition of capital increases just like the rate of profit and the rate of accumulation, but significantly faster and more dramatically.**

# Enforcing the argument: disproportions (add in even in simple accumulation)

- Marx makes his argument strictly using changes in technology and organizational methods. However, we can show within our equilibrium growth model that even if none of these changes occur, it is still extremely likely that the reserve army will grow with time.
- We showed before that even in perfect equilibrium growth, society will rapidly and violently swing from favoring more capital intensive industries to favoring more labor intensive industries, and vice versa. **This produces rapid swings in the composition of capital independent of technology or organization.**

- We have

$$D = \frac{ae - \Delta K}{K' + 1}$$

- As long as the overall composition swings sufficiently rapidly to exceed the rate of exploitation times the rate of exploitation, the demand for labor, **the demand for labor will routinely go negative, translating to mass layoffs of entire chunks of the laboring population.**
- If these routine layoffs are frequent enough or dramatic enough to outdo the steady demand following crises, then the reserve army will grow, even if the crisis itself doesn't result in mass bankruptcy (which it will, and that will only make this worse).

# Rising exploitation

- When the rate of exploitation is constant from period to period, we have the equation

$$D = \frac{k+1}{k'+1}(G + 1) - 1 \text{ where } G = a\pi$$

- By the falling profit rate,  $G + 1$  is approaching 1 as labor is made more productive. Therefore if the rate of productivity increases is itself increasing, then the ratio  $\frac{k+1}{k'+1}$  is shrinking and approaching zero. Therefore there comes a point where the whole product is less than 1, and  $D$  becomes negative.
- In the more general case, when  $e$  is changing, we have the more general equation

$$D = \left(\frac{e' + 1}{e + 1}\right)\left(\frac{k + 1}{k' + 1}\right)(G + 1) - 1$$

- We've already seen that  $e$  is extremely limited in its ability to prevent  $G$  from falling. Nonetheless we can see here that if  $e$  is increasing at least as fast as  $k$ , then  $D$  can be prevented from going negative. It might even be increased.
- What we can therefore be sure of now isn't so much that the workers will all find themselves laid off, but rather that the rate of exploitation **will** increase. What does this entail?

# Official pauperism.

- The rate of exploitation increases in three ways.
  1. *Relative surplus value*. The productivity increases themselves decrease the value of the commodity bundle consumed by the average worker, meaning a decrease in  $V$ , and therefore usually an increase in  $e$  (the increase is damped by a simultaneous increase in  $C$ ). This is simultaneously the cause of everything we've been talking about. It entails:
    - a) Increasing labor intensity
    - b) More granular division of labor (tasks become more robotic, less skilled, less fulfilling)
  2. *Absolute surplus value*. Increasing the length of the working day. 12 hour shifts, 16 hour overtime shifts, etcetera.
  3. *Accumulation by dispossession(?)* Instead of reducing the value of the bundle of wage goods the average worker consumes, instead simply reduce the bundle of goods itself. In other words, force the workers to live with less. This is the primary method of the modern era.
- Through capitalist competition, 1 will occur. As the reserve army increases in size, *or threatens to increase in size*, the bargaining power of the worker weakens, and 2 and 3 become inevitable. What we have then isn't a law of an increasing reserve army, but rather a law of *increasing immiseration*. This is what Marx calls the general law of capital accumulation.

# Social Necessity.

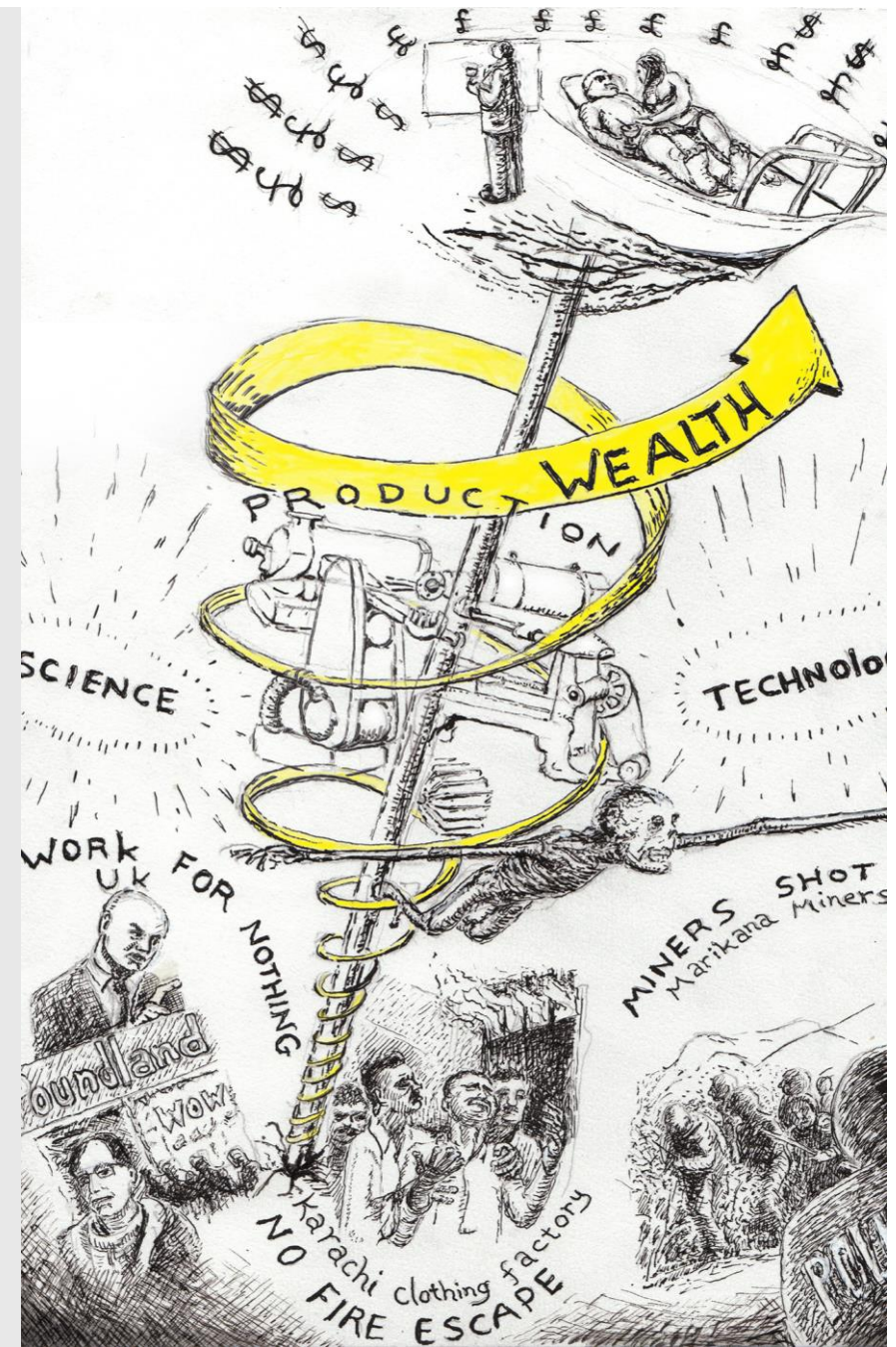
- It's important to remember that capitalism **needs** a growing reserve army, both to keep the working class subdued and to facilitate accumulation. It needs to mobilize greater and greater masses of labor *all at once* as capital centralized. This confirms something Marx makes note of:

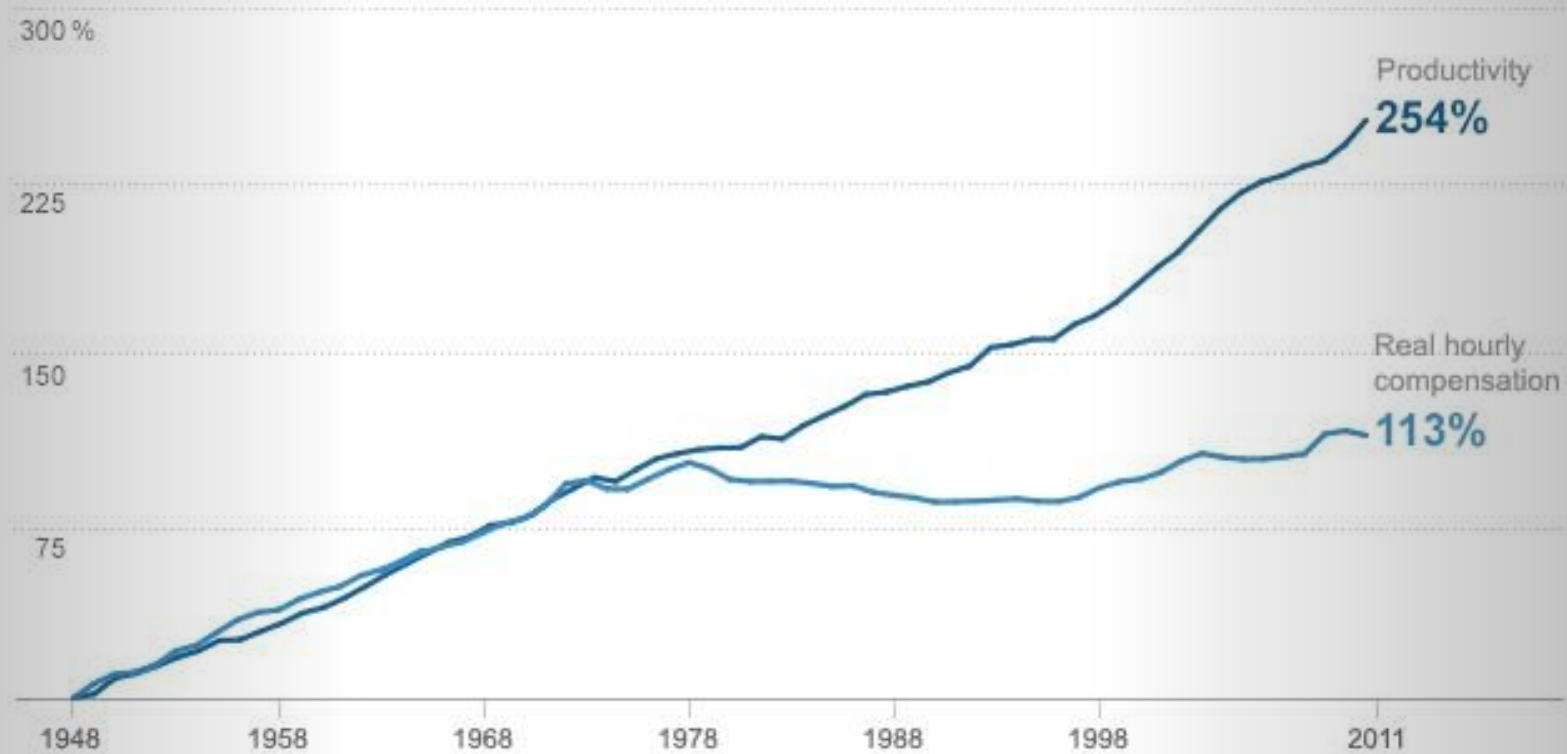
“The mass of social wealth, overflowing with the advance of accumulation, and transformable into additional capital, thrusts itself frantically into old branches of production, whose market suddenly expands, or into newly formed branches, such as railways, &c., the need for which grows out of the development of the old ones. In all such cases, there must be the possibility of throwing great masses of men suddenly on the decisive points without injury to the scale of production in other spheres.

**Overpopulation supplies these masses.”**

- What Marx is noting here is that each industrial cycle, the boom period is going to require a bigger and more rapid mobilization of labor than the previous one. Because of this, a growing reserve army isn't merely a consequence of capitalism, it's a *social necessity*. Capitalism *needs* to create for itself a bigger and bigger pool of dispossessed people desperate for work and living in squalor, in order to facilitate its natural cycles of growth.
- The reserve pool of labor must grow over time. This is *identical* to what we observed in the case of money.
- A growing reserve army means a rising rate of exploitation. This generally translates to a falling quality of life over time for the *entire* working population. **The working class must necessarily then become increasingly immiserated over time.**

“The greater the social wealth, the functioning capital, the extent and energy of its growth, and, therefore, also the absolute mass of the proletariat and the productiveness of its labour, the greater is the industrial reserve army. The same causes which develop the expansive power of capital, develop also the labour power at its disposal. The relative mass of the industrial reserve army increases therefore with the potential energy of wealth. But the greater this reserve army in proportion to the active labour army, the greater is the mass of a consolidated surplus population, whose misery is in inverse ratio to its torment of labour. The more extensive, finally, the Lazarus layers of the working class, and the industrial reserve army, the greater is official pauperism. *This is the absolute general law of capitalist accumulation.* Like all other laws it is modified in its working by many circumstances, the analysis of which does not concern us here.”





DATA IS FOR PRODUCTION/NON-SUPERVISORY WORKERS IN THE PRIVATE SECTOR AND PRODUCTIVITY OF THE TOTAL ECONOMY  
 SOURCE: ECONOMIC POLICY INSTITUTE

# The character of technology under capitalism

- We argued before that technological change under capitalism would have a labor-saving bias. But now we can see it much more clearly, because we can now observe that it has taken on a new character. It becomes a means by which to maintain a maximally large reserve army, and also work the workforce more intensely. **Technological change under capitalism becomes a lever by which to discipline and keep in line an increasingly immiserated working population.**
- If the workers are organizing and unions are becoming too powerful, capital will retaliate with technologies to keep them in check. Even if they aren't, capital will research labor saving technology and keep it on hand as a threat to the workers to ensure they don't organize. And regardless, capital will always be thinking of new ways to make workers work harder, and faster, and boost the intensity of labor. **Capitalists wield technology as a form of class warfare.**

# What about natural population growth?

- One of Marx's main objectives here was to combat **Malthusianism**. Malthus also believed in a growing reserve army, but he believed it to be the fault of the workers, not the capitalists.
- He, and many others, believed that workers would demand higher wages, and then use those higher wages to reproduce in greater and greater numbers until exceeding what could be accommodated by societal production, leading to bad times for the workers. It's a shame, but it's their fault for being too greedy and then breeding like rabbits.
- The capitalist must therefore solemnly look away while a portion of the working class starves to death, so that society can go back to prospering.
- Note here that workers are in the control seat here. They're the ones controlling the supply and demand of their labor power and therefore also their wages. This is a great irony of bourgeois economics generally. Agency is placed in the hands of the workers so that they can take the blame for everything bad that happens.

# Orders of magnitude

- Marx's theory of the growing reserve army completely reverses this. Capitalists are the ones making the decisions which effect the population here, **not** workers.
- The population grows over time, inflating and deflating the reserve army. Marx doesn't deny this. What he is pointing out is that technological and organizational change have a much, **much** greater effect on the reserve army than these more exogeneous changes. His proof of this claim is Ireland.
- The Irish potato famine occurred during Marx's lifetime. (The revolutions of 1848 which he participated in were a culmination of the so-called 'hungry forties', the potato famine being a major cause of.) Needless to say, during this time there was mass depopulation of Ireland.
- According to a Malthusian framework we would expect to see a draining of the reserve army and a rise in wages and quality of life for able bodied laborers. However, another effect of the famine was a mass centralization of agriculture at a time when agricultural in general was undergoing a technological revolution. This means a massive spike in the composition of capital.
- We can see here how much more important the effects of technology and centralization are than anything else, even mass famines that kill and displace millions. Despite all of that, the reserve army inflated, and workers were left idle and without sufficient employment.
- If the irish potato famine can't produce sufficient population **loss** to deflate the reserve army in the face of technological changes, then the idea that the natural population growth over time of the laboring population can produce sufficient growth to *inflate* it in the face of this becomes laughable.



BOY AND GIRL AT CAHERA.

Either the price of labour keeps on rising, because its rise does not interfere with the progress of accumulation. In this there is nothing wonderful, for, says Adam Smith, “after these (profits) are diminished, stock may not only continue to increase, but to increase much faster than before.... A great stock, though with small profits, generally increases faster than a small stock with great profits.” (l. c., ii, p. 189.) In this case it is evident that a diminution in the unpaid labour in no way interferes with the extension of the domain of capital. — Or, on the other hand, accumulation slackens in consequence of the rise in the price of labour, because the stimulus of gain is blunted. The rate of accumulation lessens; but with its lessening, the primary cause of that lessening vanishes, *i.e.*, the disproportion between capital and exploitable labour power. The mechanism of the process of capitalist production removes the very obstacles that it temporarily creates. The price of labour falls again to a level corresponding with the needs of the self-expansion of capital, whether the level be below, the same as, or above the one which was normal before the rise of wages took place. We see thus: In the first case, it is not the diminished rate either of the absolute, or of the proportional, increase in labour power, or labouring population, which causes capital to be in excess, but conversely the excess of capital that makes exploitable labour power insufficient. In the second case, it is not the increased rate either of the absolute, or of the proportional, increase in labour power, or labouring population, that makes capital insufficient; but, conversely, the relative diminution of capital that causes the exploitable labour power, or rather its price, to be in excess. It is these absolute movements of the accumulation of capital which are reflected as relative movements of the mass of exploitable labour power, and therefore seem produced by the latter’s own independent movement. To put it mathematically: the rate of accumulation is the independent, not the dependent, variable; the rate of wages, the dependent, not the independent, variable. Thus, when the industrial cycle is in the phase of crisis, a general fall in the price of commodities is expressed as a rise in the value of money, and, in the phase of prosperity, a general rise in the price of commodities, as a fall in the value of money. The so-called currency school concludes from this that with high prices too much, with low prices too little <sup>[8]</sup> money is in circulation. Their ignorance and complete misunderstanding of facts <sup>[9]</sup> are worthily paralleled by the economists, who interpret the above phenomena of accumulation by saying that there are now too few, now too many wage labourers.

- The same argument was being made earlier in the case of simple accumulation only. **Even here, it is capital which dictates the fluctuations of wages, not labor itself (at least, not without collective action).**

Capital works on both sides at the same time. If its accumulation, on the one hand, increases the demand for labour, it increases on the other the supply of labourers by the “setting free” of them, whilst at the same time the pressure of the unemployed compels those that are employed to furnish more labour, and therefore makes the supply of labour, to a certain extent, independent of the supply of labourers. The action of the law of supply and demand of labour on this basis completes the despotism of capital. As soon, therefore, as the labourers learn the secret, how it comes to pass that in the same measure as they work more, as they produce more wealth for others, and as the productive power of their labour increases, so in the same measure even their function as a means of the self-expansion of capital becomes more and more precarious for them; as soon as they discover that the degree of intensity of the competition among themselves depends wholly on the pressure of the relative surplus population; as soon as, by Trades’ Unions, &c., they try to organise a regular co-operation between employed and unemployed in order to destroy or to weaken the ruinous effects of this natural law of capitalistic production on their class, so soon capital and its sycophant, Political Economy, cry out at the infringement of the “eternal” and so to say “sacred” law of supply and demand. Every combination of employed and unemployed disturbs the “harmonious” action of this law. But, on the other hand, as soon as (in the colonies, *e.g.*) adverse circumstances prevent the creation of an industrial reserve army and, with it, the absolute dependence of the working class upon the capitalist class, capital, along with its commonplace Sancho Panza, rebels against the “sacred” law of supply and demand, and tries to check its inconvenient action by forcible means and State interference.

# A free market?

- Returning to the question we asked at the beginning: can a free market truly exist in a pure capitalism? We’ve seen before that the particular commodity of labor power *fails* to satisfy the conditions we specified. Workers, the owners of labor power, at least without significant union power, don’t have any significant control over the supply and demand of their product.
- A consequence of critical importance here: **the purpose of unions is primarily to assert control over the supply and demand of labor, and place a barrier between capital and the reserve army, and only *secondarily* to assert individual gains. Every individual win for a union is a win for the working class.**



## Putting it all together

- Let's compile everything we've observed and walk ourselves through a crisis. We'll leave the nature of the crisis open and only assume what can be reasonably assumed of any crisis. These include:
  1. Mass layoffs. This leads to...
  2. A rising rate of exploitation, and a swelling of the ranks of the reserve army.
  3. A general crash in the average rate of profit. This applies to most capitalists, but not all. For some, the rate of profit will always spike. This leads to...
  4. Mass bankruptcy for most, massive centralization of capital. The big fish eat the smaller fish, and the process of monopoly lurches forward.

# Aftermath: Capitalism gets a software update

- **Wages plummet. The reserve army has balloons. The rate of exploitation skyrockets.** Those who still have work are desperate to keep it, and willing to work under harsher conditions. Those who don't are desperate to be offered anything. A boom is inevitable (barring revolution, of course). The only question is: what will it look like?
- It is right here, at the tail end of a massive crash, that the big changes are implemented. This is for a variety of reasons which we've spelled out and several which we haven't.
  1. **Centralization of capital.** To quote Marx: 'accumulation, the gradual increase of capital by reproduction as it passes from the circular to the spiral form, is clearly a very slow procedure compared with centralization, which has only to change the quantitative groupings of the constituent parts of social capital. *The world would still be without railways if it had had to wait until accumulation had got a few individual capitals far enough to be adequate for the construction of a railway.*'
  2. **New technologies have been developed during the previous period, but not widely adopted.** Now, all new investment into any industry will of course choose to use to the latest and best technology. *Capitalism resets, and with this reset comes a software update.*
  3. **Creative destruction.** A mass of capital is destroyed in order to reset the system to something approximating balanced growth. This destruction of old capital 'clears the way' for new ventures. To quote Marx: 'The additional capitals formed in the normal course of accumulation serve particularly as vehicles for the exploitation of new inventions and discoveries, and industrial improvements in general. But in time the old capital also reaches the moment of renewal from top to toe, when it sheds its skin and is reborn like the others in a perfected technical form, in which a smaller quantity of labour will suffice to set in motion a larger quantity of machinery and raw materials. The absolute reduction in the demand for labour which necessarily follows from this is obviously so much the greater the higher the degree in which the capitals undergoing this process of renewal are already massed together by virtue of the centralization movement.'
  4. These are just the basics of what can be expected in a general crisis. The specific character of a crisis will necessitate further social changes. The managers will change capitalism into whatever it needs to be turned into in order to preserve the system as a whole.
- With all of these changes, it becomes clear that another boom is inevitable, barring revolution.

# The boom

- Capitalists begin to invest in these new projects, and this involves hiring new workers (at lower wages). The reserve army shrinks again. But note, given all of what we just said: The composition of capital  $K$  has spiked. Labor demand is permanently smaller than the previous boom period, regardless of what department is receiving the boom's blessing.
- The mobilization of labor will be far more dramatic than before, but nonetheless, at the eve of the next crisis, the reserve army will be overall bigger than it was before. Consequently, the rate of exploitation will be higher as well. We therefore see a rising rate of exploitation over time.
- Obviously at this point, the profit rate will rise again. However, if we remember our equation:  $\pi = \frac{e}{k+1}$ , we can see that it will never reach the height it was at the eve of the previous bust. Recall that  $e$ 's ability to compensate for a falling rate of profit in the face of a rising  $k$  is very limited. Moreover,  $k$  has spiked at likely a higher rate than  $e$ . Thus, we see in this more concrete scenario the falling overall rate of profit.
- Implicit here is a new wave of speculation on a new batch of fixed capital. Capitalists investing in these new ventures will be anticipating a crisis, at which point this large investment might ruin them. Their objective on the whole then is not to produce according to supply and demand, but rather to get the maximum value out of their productive investments. **Production for production's sake intensifies.**

'Within the capitalist system all methods for raising the social productivity of labour are put into effect at the cost of the individual worker; all means for the development of production undergo a dialectical inversion so that they become means of domination and exploitation of the producers; they mutilate the labourer into a fragment of a man, degrade him to the level of an appendage of a machine, destroy every remnant of charm in his work and turn it into a hated toil; they estrange from him the intellectual potentialities of the labour process in the same proportion as science is incorporated in it as an independent power; they distort the conditions under which he works, subject him during the labour process to a despotism the more hateful for its meanness; they transform his life-time into working-time, and drag his wife and child beneath the wheels of the Juggernaut of capital. But all methods for the production of surplus-value are at the same time methods of accumulation; and every extension of accumulation becomes again a means for the development of those methods. It follows therefore that in proportion as capital accumulates, the lot of the labourer, be his payment high or low, must grow worse. Finally, the law which always holds the relative surplus population or industrial reserve army in equilibrium with the extent and energy of accumulation rivets the worker to capital more firmly than the wedges of Hephaestus held Prometheus to the rock. It establishes an accumulation of misery, corresponding with accumulation of capital. **Accumulation of wealth at one pole is, therefore, at the same time accumulation of misery, agony of toil slavery, ignorance, brutality, mental degradation, at the opposite pole, i.e.,** on the side of the class that produces its own product in the form of capital.'

# The silver lining: labor centralization

- Note finally that centralization of capital always involves a geographic centralization both of capital and labor. Workers find themselves simultaneously being brought together to work in greater and greater numbers on more and more complicated processes, while also being relegated to more and more dilapidated living conditions. Workers and capitalists separate geographically. Some regions become gentrified, others become worker shanty towns.
- Workers find themselves increasingly living communally, either relying on mutual aid systems for survival, or forced to organize into unions and councils to defend themselves from bosses and landlords, or both. In other words, a consequence of centralization is the geographic centralization of labor, and a rising class consciousness of the working class.

As soon as this process of transformation has sufficiently decomposed the old society from top to bottom, as soon as the labourers are turned into proletarians, their means of labour into capital, as soon as the capitalist mode of production stands on its own feet, then the further socialisation of labour and further transformation of the land and other means of production into socially exploited and, therefore, common means of production, as well as the further expropriation of private proprietors, takes a new form. That which is now to be expropriated is no longer the labourer working for himself, but the capitalist exploiting many labourers. This expropriation is accomplished by the action of the immanent laws of capitalistic production itself, by the centralisation of capital. One capitalist always kills many. Hand in hand with this centralisation, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the cooperative form of the labour process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economising of all means of production by their use as means of production of combined, socialised labour, the entanglement of all peoples in the net of the world market, and with this, the international character of the capitalistic regime. Along with the constantly diminishing number of the magnates of capital, who usurp and monopolise all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of the working class, a class always increasing in numbers, and disciplined, united, organised by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which has sprung up and flourished along with, and under it. Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated.

# Now why didn't this actually happen?

- This theory of a growing reserve army and growing immiseration of labor in conjunction with a falling rate of profit leading to the revolutionary demise of capitalism has not actually occurred, at least yet. The questions we have to ask then are:
  - What's gone differently?
  - How should we treat this argument if not as a prediction?
- These questions are interrelated and we will discuss both at once. Several avenues deserve investigation.
- First and foremost however, we should think closely about the assumptions that we made to get here, particularly regarding the reserve army.
- The most important of these that we have yet to address is market conditions. We assumed to get here that capitalists can follow their lazy ideal growth paths that we showed were impossible to follow in the reproduction schema videos.
- This assumption was partially addressed when we brought the discussion into the departmental disproportionality model developed in those videos. We saw that to the extent that the market steers capitalist accumulation into disproportions, this only strengthens the argument for a growing reserve army.
- However, that model itself assumes something.

# Overproduction

- Our disproportionality model assumes constant supply demand equilibrium - i.e. it assumes there is no overproduction. We've seen roughly 600 reasons why this is not a reasonable assumption throughout these videos.
- In particular, it is in direct contradiction with the conclusions of a growing immiseration among the workers. If capitalists are constantly producing 'for production's sake', while simultaneously stripping the worker of the wages needed to purchase those products, then capitalists are immediately confronted with a completely broken system. This problem must be solved. A **demand stream** must be created somewhere, somehow.
- The final question we always have to ask ourselves in the analysis of capitalism is: Who (or what), at any given moment, is *creating the supply **of** demand?*
- The answer to this question depends primarily on historical contingency, and secondarily on the composition of class power.

# Creating demand

- If the bourgeoisie is in power, then their preferred answer is **colonialism/imperialism**. Maybe more generally, *anywhere that isn't from the workers themselves*.
- If there is a constant supply of demand off *somewhere else in the world*, then a capitalist society is free to develop along the lines of Marx's volume 1 story that we just told.
- For the first 400ish years of capitalism's history, the colonization of the new world created a more or less constant stream of demand, which is why Marx is principally concerned with volume 1's supply-side analysis.
- If this alienated demand stream dries up, the contradictions of circulation/volume 2 crop up, and it's demand-side analysis becomes more pertinent.
- This is to some extent the dialectic of volumes 1 and 2 of capital. To the extent that a constant supply of demand exists, the dynamics of volume 1 are more important. When that dwindles, the dynamics of volume 2 becomes more important. The history of capitalism is a history of swings between these two analyses. From a supply-side economics to a demand-side economics, then back again, and so forth.

# The resistance from workers

- When the external stream of demand dries up, the capitalist class generally has little choice other than increasing wages for workers and giving them more buying power. The problem is that this is not generally something that the capitalist class is capable of doing on their own.
- This leads us to the second major reason that things have not gone in the way we spelled out. Within the theory of the reserve army specifically, Marx generally assumes that workers are passive, at least until the moment of their revolutionary takeover.
- He describes them organizing unions and seizing control of the labor market, but doesn't analyze how doing this will shift the dynamics. He seems to generally assume that their effect on things will be insignificant, which makes sense within his analysis but is not what took place. The big wrench that was thrown into this was World War I.
- By the time World War I started, the world had been fully carved up between the European powers (and the USA). There was no room left to expand consumer markets, and the demand stream began to dry up. The youngest and most modern of these powers, Germany, needed additional consumer markets, and so the war began.
- What followed was an apocalyptic 40 year period in capitalism's history. It took 40 years and two world wars before workers had wrestled enough power away from the capitalists to create the new demand stream: themselves.

# 1945-1970: An interregnum

- In the rubble of European capitalism and in the wake of the great depression, workers emerged with significant power in the so-called first world. But they stopped short of fully abolishing the capitalist system. They were tired of fighting.
- The class struggle thus served to restabilize the capitalist system on a new footing. In exchange for significant power being handed over to workers, a new global capitalist system emerged and swept the world.
- The result was a temporary stalemate with workers retaining significant power but continuing to allow capitalism to persist. For about 20 years, the contradictions of volume 1 were silenced, while new contradictions sharpened.
- In this deeply unstable configuration, workers were able to demand and continually receive rising wages. The capitalists grant these increases and then immediately increase the prices of their commodities. The result was an eventual rate of profit crisis.
- At this point, the capitalists regrouped and went on the offensive, seizing control over the narrative and implementing neoliberal policies.
- It goes without saying that the working class fought against this trend, but it also goes without saying that they didn't fight hard enough, because they lost. To understand the final facet of why things went differently from what would immediately be implied within Marx's framework, we have to understand a few crucial reasons why they lost.

# New Issues

- The growing mass of value. The escape valve from part 4 needs to get bigger, society has to keep itself consuming at a higher and higher rate as capitalism innovates. (Labor productivity has gone up roughly 500% since WWII iirc.) This value must be consumed. Systems of social control have to be developed to ensure this capital can always flow. Advertising and surveillance systems, etc.
- The capitalists had to keep profiting. The workers had to keep seeing their lives improving. This contradiction slams society into a brick wall in less than 30 years, and the capitalists stage a political power seizure as the world globalized.
- With the seizure of power, the demand stream from the working class began to dry up again. At first this issue was plugged by war spending and an intricate system of credit bubbles. The latter bubbles finally popped in 2008, and the world was flung into it's current crisis.
- Since the crisis, the primary source of demand has been (massive oversimplification) China. In particular their absolutely absurd public spending spree. Look up how much concrete they imported from 2008 to 2020 to see some positively shocking numbers.
- Tied up with the global demand stream is the global supply chain, arranged into an intricate global tapestry of nation hopping supply chains organized for constant just-in-time production, becoming more and more vulnerable to external perturbations.
- Since coronavirus hit, both the demand chain and the supply chain have been compromised as people are generally spending less, especially in China. They are playing with fire with their zero covid policy in terms of long-term demand shifts.
- And then, of course, there's the climate. And thousands of other things. Capitalists have seized control of a world which was only partially theirs, and are running it into the ground. Only the organized global working class can seize control back. And this time they have to seize all of it, because the consumption of the earth by capitalism can't continue. Living with dignity no longer cuts it. We have to figure out how to live *differently*.

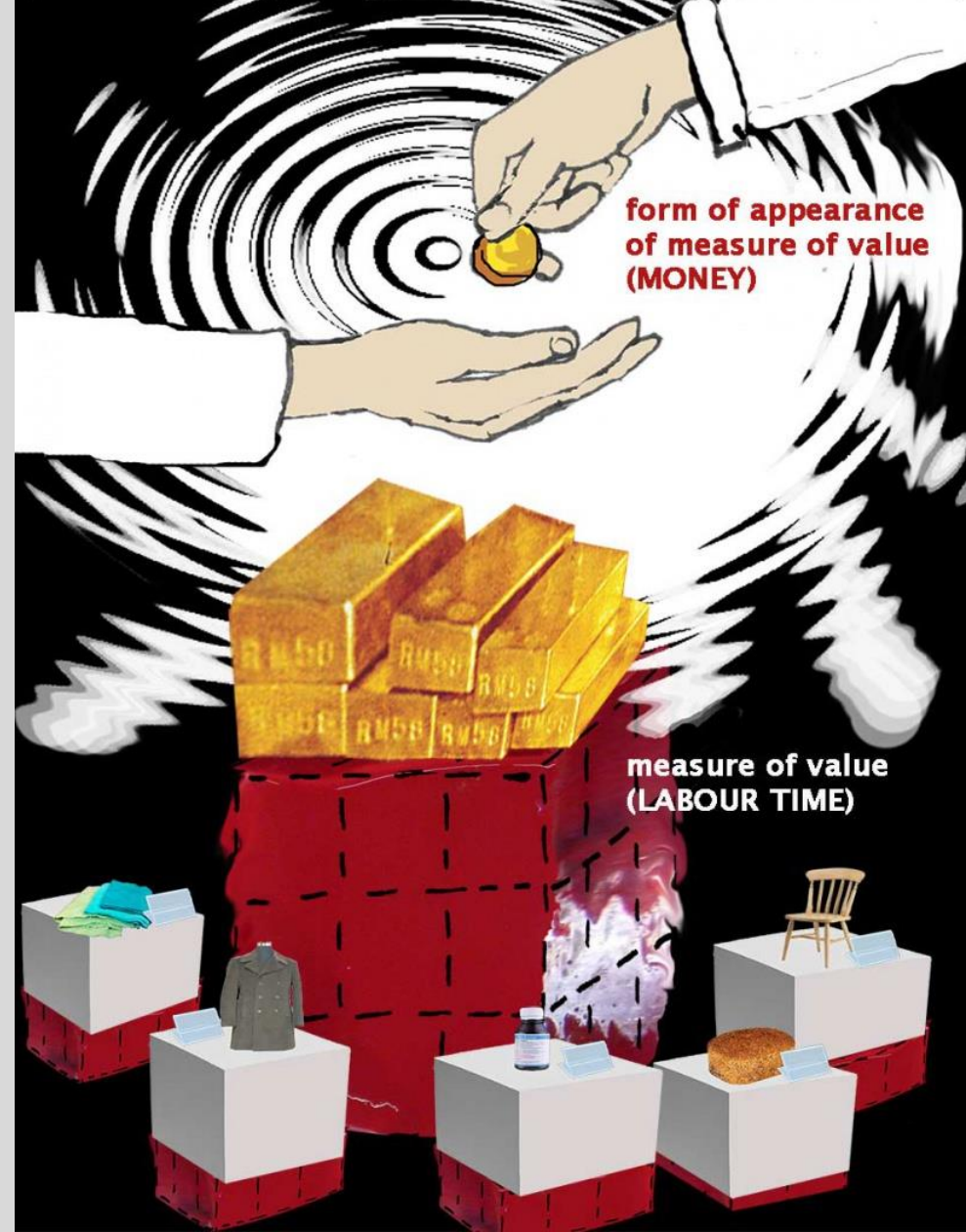
# In the USA: Mass media and suburbanization

- The primary problem to be addressed within the volume 2 analysis is the so-called 'rational consumption on the part of the workers'. The years 1945-1970 saw systems of social control implemented in which workers were both pacified and turned away from identifying as workers and towards other forms of identification, primarily consumerism.
- Suburbs served to separate workers in every possible way. Quarantining the lower-class minority population workers into ghettos was the other side of this coin.
- Workers leave their suburbs, travel long distances to work from all different directions, and then disperse without associating with their fellow workers. They return to their suburban homes and remain inside of them. Mass media served to keep them in those homes. In place of workers leaving their homes and associating with other workers they would stay inside and have their social satisfaction delivered to them through electrical signals. What the viewer read on the newspaper or saw on television could be safely filtered and tuned to keep us complacent and turned away from radical politics.

# Conclusion: The Alien Mediator

# MONEY - THE MASK OF CAPITALISM

'And that no man might buy or sell, save that he had the mark  
or the name of the beast, or the number of his name.'  
(Revelations)



# The Problem

Recall that until now we've been operating under a **naïve labor theory of value**. This is to say we have been assuming a direct proportionality between price and value. Money has been assumed to be a unit of time, i.e. 1 dollar = .6 hours. This is what we've called the naïve labor theory of value.

We've also assumed many times, sometimes directly and other time indirectly, a steady and perpetual supply-demand equilibrium. This is because the political economists were doing the same to evaluate the *steady-state* behavior of a capitalist system. (They believed that once the system had settled into such an equilibrium that the conditions of capitalism would be utopian, a claim that Marx is interested in contesting.)

# The Problem, continued

- There is a contradiction between these two assumptions (both logical and dialectical) which had perplexed political economists long before Marx picked up the topic. We've already mentioned it:
  - Different industries have different compositions of capital,  $k$ . They also generally have the same rate of exploitation  $e$ . But then the profit rate of a given industry is  $\pi = \frac{e}{k+1}$
  - Under a naïve labor theory of value, some industries will therefore have higher profit rates than others. Whichever has the lowest composition of capital (i.e. is the most labor intensive) has the highest profit rate, and whichever has the highest will have the lowest profit rate.
  - For example, compare an early 19<sup>th</sup> century steel making factory with a cotton plantation. Making steel requires relatively few laborers to be operating heavy machinery. This doesn't produce much surplus relative to the cost of investment. Meanwhile, farming cotton requires nearly nothing besides human labor. (In principle, the only other input to production is created by the process itself!)
  - In such a situation, capitalists would immediately begin leaving the steel making industry and all get into cotton, to increase their profit rates. Supply-demand equilibrium would be immediately disrupted.
  - There is thus no way to reconcile a naïve labor theory of value with a capitalist economy in perpetual equilibrium. One immediately undoes the other.
  - Adam Smith took this to mean that the LTV, while being the *initial condition* to a capitalist system, would not be operational in a capitalist society.



# The Equilibrium Question

- We've seen that in order to talk about stable supply-demand equilibrium economies, there must be an **equilibrium rate of profit**.
- What this means is that any dollar invested in any industry earns the same amount of profit as any other dollar in any other industry. All industries are equally profitable.
- The political economists of Marx's day assumed that over time, capitalist society, through class struggle and competition, would gradually approach such a state.
- Marx, as we've seen, is accepting these economists' premises in order to form a critique. However, *we should note that he never accepts a premise that he believes is strictly wrong*.
- There is, I've been told, some empirical precedent to the claim that an undisturbed capitalist society will approach equilibrium profit rates. Such a process will never in reality complete, but there is clearly a constant *pull* of profit rates towards each other. Being pulled towards each other means there is a central point they are approaching.
- It could therefore be argued that this equilibrium profit rate is a property of the system, even if the system never actually reaches it. An 'attractor for the dynamics of capital', as Ian Wright would say. Others disagree.
- The idea of an equilibrium rate of profit is very controversial. Many find the situation useless to even consider. Others see it as essential. Whatever you think, we have to acknowledge that Marx himself not only accepted their assumptions but agreed with them.

# The Real World

- We talked about surplus product before defining surplus value. Surplus product is characteristic of agricultural society in general. It's how we got here.
- A class in power will generally enjoy the lion's share of this surplus. In capitalist society, the form that this surplus takes is *quantified* as profits. (What else could profits be, if not this?)
- It can therefore only be assumed that the profits of the capitalist class as a whole are deeply related to the surplus value produced by society. To think otherwise would be, in my opinion, absurd.
- This is a real world principle of actual capitalist societies. In any real capitalist society, there *must* therefore be some major connection between the total surplus product and overall profits, and therefore values with prices. This includes any reasonable model equilibrium economy, like the ones we've been working with.
- Marx, keeping this principle in mind, tells us a story in volume 3 about how values are gradually *transformed* into prices, as a capitalist society gradually settles into equilibrium.

# The Equalization Process

- Marx begins with a society in which, initially, prices *are* proportional to labor values. As we noted, this will mean that labor intensive industries are more profitable than capital intensive industries.
- In such a society, capitalists will reallocate their capital into the more profitable industries. This creates artificial scarcity in the less profitable industries, boosting prices above their values, and an artificial oversupply in the more profitable industries.
- This brings us towards a point in which the rate of profit is equalized. However, we now explicitly do not have supply-demand equilibrium.
- A dialectical inversion then occurs. Society itself adjusts its consumption habits to this new situation, making this deviation from the normal into the new normal. What was supply-demand disequilibrium *now becomes* the new equilibrium. The demand once created the supply. Now the supply creates demand.
- If consumption goods become cheaper, then people learn to consume more of them. If a certain means of production becomes more expensive, the capitalists will learn to use less of them, etc.
- The result is a transformation of values into **prices of production**. Market prices begin to orbit these rather than the values themselves.
- The importance of Marx's description of the process is that the rate of profit equalizes is a passive result of competition between capitalists acting unconsciously towards it. It happens behind the capitalists backs. However, more conscious processes also effect the situation which are worth considering.

# Struggle among the capitalists

An illustration of two hands, one on the left and one on the right, pulling on a thick, braided rope. The hands are rendered in a simple, sketchy style with brown skin tones. The rope is dark grey with a textured, braided appearance. The background is a dark, muted blue-grey color.

- Marx describes a process of transformation that occurs due to competition. There is a lot of insight to be gained from his account of things. However, **conflict** effects the situation just as much.
- What we observe in our everyday lives is a *struggle* within the capitalist class itself. Capitalists *fight* over their 'fair share' of the surplus. This struggle takes many forms, but primarily the following two:
  - Price hikes from capitalists with a concentrated amount of economic power.
  - *Unions* of capitalist 'producers', such as OPEC, which ban together to exert monopoly control over their product and demand prices that they deem fair. (This is identical to the union conflicts engaged in between workers and capitalists!)
- Just as interclass struggle eventually must produce either socialism for all or common ruin, the *intra*class struggle do something similar. It will either produce socialism for the capitalist class, or ruin.
- To the extent that it produces socialism for the capitalist class, what we end up with is an equilibrium rate of profit.
- I don't think I need to tell anyone how applicable that latter terminology sometimes feels to our current reality of bail-outs and golden parachutes.
- The conflict between capitalists is waged through the distorted lens of money prices, which confuses everything, but it is obviously what is happening in *real terms*.

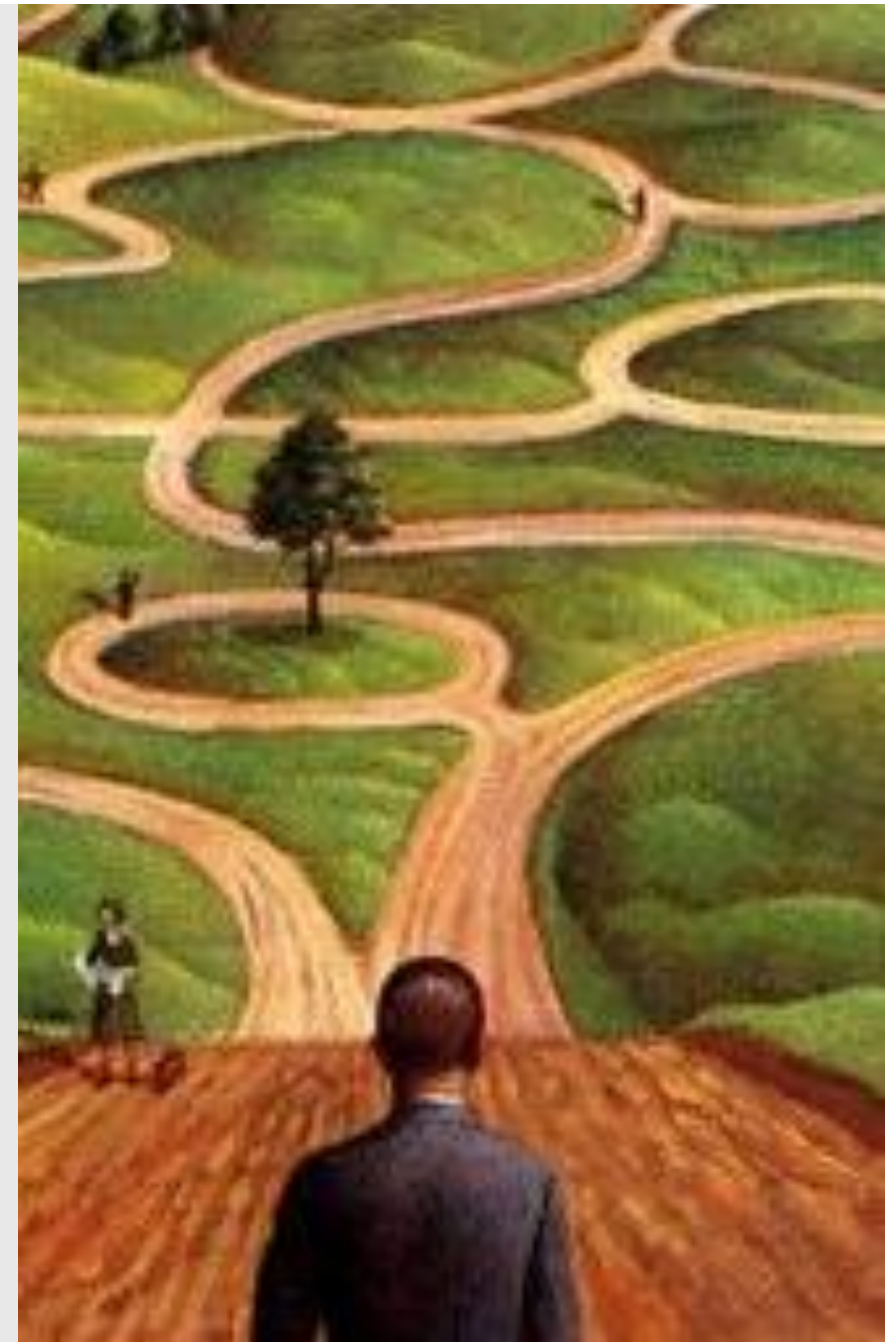


# Production and Circulation

- Workers produce a surplus of use-values. The prices charged for all such products include a surplus price which must in some way reflect this *real* surplus. Capitalists fight over their fair share of the surplus. Equitable distribution in this surplus of use-values should correspond to an equilibrium rate of profit in value terms.
- Capitalism has two great 'spheres': **production** and **circulation**. In the sphere of production, the surplus value is produced. Within the sphere of circulation, capitalists dramatically fight, publicly and privately, in the market and out of it, over the distribution of that surplus value.
- Example: Martin Shkreli increases the price of the drug Daraprim overnight by 5000%. This has nothing to do with the value produced – it hasn't changed! It is the pharmaceutical industry making a play to snatch up more of the total surplus product (and subsequently also the value) which is produced.
- This happens through the distorted lens of money prices, which confuses everything, but it is obviously what is happening in *real terms*.

# The process is far more important than the result!

- Whether this process settles into some kind of equilibrium or not, prices of commodities are immediately yanked away from their values.
- The transformation of values into prices is an ongoing process, and *the process itself serves* the socially necessary process that Marx sees it serving. It doesn't need to finish to do its job!
- We are interested in the endpoint of this process insofar as it helps us to evaluate the process itself. The process, as far as I see it, has two possible extremes.
  - Common ruin, i.e. profit rates ossify and become stuck in place, eventually producing an equilibrium insofar as one capitalist takes in all profit and sells all goods at a single uniform profit rate.
  - Socialism for the capitalists, i.e. equilibrium profit rates for all capitalists.
- Neither of these extremes are in reality reachable. What we generally have in reality is something in between: a collection of still competitive or 'unionized' industries which are experiencing a process towards equilibrium, and a collection of outliers which appear outside of this process and leech an exaggerated share of the surplus.
- The conflict between capitalists is waged through the distorted lens of money prices, which confuses everything, but it is obviously what is happening in *real terms*.
- However, both terminate with the same result. By observing that result, we will see that money is at its best in serving the purpose of dazzling everyone, and obtain insight into what money means in our world right now.



# Ideological Blinders

- This is an ongoing, never-ending process in our reality. However, the process itself serves the purpose that Marx believed was essential: to allow the capitalist class to intentionally blind themselves to the origin of their profits, while also blinding the workers themselves to their exploitation.
- After the transformation from value into price, whether it be in an equilibrium economy or not, whether it be in a perfectly fair capitalist society or one in which they're still fighting, the origin of the capitalists' profits are hidden from society. This is the principal of the transformation, and why the transformation problem is an essential component of Marx's theory.
- From the perspective of capitalism, the labor theory of value is *dangerous*. If workers understood it, they would be painfully aware of their own exploitation.
- Suppose I give my employer 8 hours of labor a day, and they give me wages that I know are only worth 5 hours. If I could see this, I would realize I'm being played. The transformation of value into price serves the essential purpose of hiding this information from everyone, and preventing widespread unrest. *Social relations must be mystified in order to keep a stable mode of production. This is a social necessity, and money serves this function. The 'dazzling money form' blinds us all to our actual social relations.* Prices appear to be beamed down from heaven, confronting us and dominating us.

# Exploitation leaves the realm of the individual

- To quote Marx himself: 'The transformation of values into [different] prices of production serves to obscure the basis for determining value itself.' (III, p. 168.)
- 'The individual capitalist (or all the capitalists in each individual sphere of production), whose outlook is limited, rightly believes that his profit is not derived solely from the labour employed by him, or in his line of production. This is quite true, as far as his average profit is concerned. To what extent this profit is due to the aggregate exploitation of labour on the part of the total social capital, i.e. by all his capitalist colleagues- this interrelation is a complete mystery to the individual capitalist; all the more so, since no bourgeois theorists, the political economists, have so far revealed it.' (III, p. 170.)
- The capitalists' no longer take home their own surplus, but rather a **share** of their surplus from a social pool of surplus produced by all capitalists. Exploitation ceases to be a relation between individuals on any level. At that point it can only be said exploitation is a relation between the capitalist class and the working class as a whole.
- The labor theory of value has been abandoned by most 'respectable' economists. Some might say this is due to the issues we are about to observe. But are we supposed to simply overlook that this decision was essential to the preservation and stability of capitalism?

# Conservation Laws

- Let's suppose the capitalist class achieves its intra-class socialism, ie an equilibrium profit rate. What carries over from the naïve labor theory of value?
- From what we've said, it follows that in such a society, we have that
  1. The naïve labor theory of value no longer holds. *However,*
  2. The total surplus value produced by society is still nonetheless *directly proportional to and determinant of* the total profits of the capitalist class as a whole.
- This means that despite prices no longer being proportional to values, the money profit rate experienced by capitalists (as a whole) would still nonetheless be given by the same rate of profit that we've been working with,  $\pi = \frac{S}{C+V}$ .
- If that's the case, then given a commodity which requires  $D$  dollars worth of means of production and labor power to produce (the **cost-price**), the money profit for that commodity will be  $\pi D$ . This means that the total price of the commodity will be

$$P = D + \pi D = (1 + \pi)D$$

- $P$  is what we called earlier the **price of production** for the commodity. Suppose the value of the means of production and labor power required to make a commodity is  $C + V$ . Marx proposes that taking  $(1 + \pi)(C + V)$  makes for a good approximation of this.
- He notes\* that if you do this for every commodity, then you could *repeat* this process to get a better approximation. You could therefore iterate to create an algorithm which converged to the prices of production given the unit values.

# The supposed problem with the solution to the so-called problem

- Marx is not rigorous in the nowadays acceptable way that theorists operate. Instead of defining and working within a particular toy model with a fully operational set assumptions, **he is engaging in a dialectic with reality**. He is in a dialogue with the 'real' model. He is unafraid to fluidly make observations of his reality, write them down as theory, and then allow that to inform his further inquiries. As such, his model contains ambiguities from the perspective of anyone that tries to construct toy models in order to capture his work.
- There is, in my current opinion, no perfect way to mathematically model what Marx was doing in Capital which unifies everything together. He's engaging in a dialectic with *the real world*, not building a toy model built on rigorous assumptions and definitions. Nonetheless, models are continually being attached to his work. Assumptions are continually made about what Marx was doing, attempting to bring it in line with the current 'acceptable way of doing things'.
- In particular, models were quickly created in which economies had a fixed number of commodities, fixed production methods, and therefore fixed labor values.
- In such models, it can be shown that if all capitalists are assumed to profit at the exact same profit rate, then there is only a *single* profit rate which can possibly work as the equilibrium rate of profit.
- This is a problem because that number isn't generally equal to Marx's value rate of profit  $\frac{S}{C+V}$ , outside of a few very special cases.
- This means that within these equilibrium models, we have an apparent paradox. Total surplus is disconnected from total profits. Moreover, prices don't seem at all to be determined by values.

# Models and incompleteness

- To understand the world, we build toy models which make the world simpler. These models always overlook something. This has been shown in several astonishing ways throughout the 20<sup>th</sup> century.
- The incompleteness theorem effectively implies that for any model constructed of a 'real' thing, there will always be properties of the 'real' thing which are ambiguous within the scope of the model.
- (In mathematics, the toy models are the axiom systems and accompanying theory (models satisfying these systems are usually implied rather than directly constructed). To talk of a real model would be a Platonist view of mathematics, which I tend to want to avoid. However, material reality is not at all a Platonic ideal. Here, it is entirely appropriate to think of there being a real model.)
- A related set of results (the theory of forcing, Gödel's completeness theorem) imply that, for any claim which is ambiguous within a theory, the model can always be *expanded to one* in which the thing is *made to be* explicitly true or false. In math, there is no easy way to agree on what it should be. In theory pertaining to the real world, the theory will point towards the thing being true or false depending on whether the theory was extended based on valid observations about the world.
- In other words, the 'moral' of the incompleteness theorems is that no theory of the real world is ever complete, but can always be added onto and expanded in order to *better and better approximate the world*. One can expect any ambiguities to eventually be filled in as one continues to engage in that dialectic with material reality.

# Models and reality

- When we build a toy model meant to help gain insight to our material reality, there will always be intricacies missing, by the incompleteness theorems. Therefore we have to keep building, and expanding our models.
- This has to be done by going into reality and pulling new theoretical observations from it into the model. Engaging in a dialectic with material reality, if you will.
- To the extent that the new assumptions we bring into our model are valid, the theory of forcing implies that we can always expect to eventually capture any phenomena that we might hope to. However, no observation will ever be completely valid. It can only be approximately valid.
- Therefore, multiple models must be constructed simultaneously, and all of them have to be continually expanded at once.
- It is kind of amazing that this kind of expansion of multiple models simultaneously is basically what Marx is doing in the volumes of capital, a hundred years before any of these results were known.



# Building out vs building around

- Kliman and Farjoun/Machover are choosing to address certain simplifications within the model we've been discussing and build alternative models in which there is no transformation problem.
  - This can easily be done by simply making the alternative models more vulgar to the point where the transformation problem can't present itself. Alternatives of this sort are not worth our time.
  - However, it seems to me that both of these alternative models **do** have valuable things to show us that the models we've built cannot. They seem worth considering, and I'd like to do videos on them in the future.
- On the other hand, people like Ian Wright are seeking to expand out the models we've been looking at, in order to explain *why* the transformation problem exists in the first place.
  - The value of this route is self-evidently obvious. Ian Wright, from what I can tell from skimming his paper (apologies to him for not reading it fully before making this video), is showing that by factoring in 'hyper-indirect' labor into our labor accounting, the discrepancy can be fully explained. This is very cool, and extremely important.
- It's good that we have people doing both these things. The only thing we could be doing that is a waste of time is having arguments about whether or not the transformation problem exists in the first place. It does.
- More generally, the incompleteness theorems tell me that the goal of theory should not be to predict precisely, but rather **to reduce our uncertainty**.



# The goal: Not predicting, but rather reducing uncertainty.

- We should not expect any sociological or economic model to be sufficient for predicting the directions society is going to go in. There is simply too much complexity.
- Therefore, what we should be seeking to do with our models is to **reduce our uncertainty** about the world. The most productive uses of our time intellectually are the activities which maximize this reduction.
- The less uncertain we are about the world, the better we can decide how to prioritize how we use our time right now, and the better prepared we will be to *recognize moments when real change is actually possible, and our individual actions can make a major difference.*
- What should I expect the next crisis to look like? How might I be able to use my body to capitalize on that moment? What can I do with my body right now to prepare *for* that moment? These are the questions that theory can help us answer, and that we should be seeking to answer.





CONCLUSION: THE  
CULT OF CAPITAL

# Whither, LTV? (no)

- Clearly, the information encoded by the price signal is complicated enough that neither a naïve labor theory of value nor a jaded labor theory of value could ever hope to capture its intricacies completely. We should, as Marxists, accept that *there is more to the price signal than simply labor times and supply/demand fluctuations*.
- The transformation as discussed by Marx already addressed one, namely the struggle among the capitalist class, and the equalization of the RoP
- However, there are others, such as **sign value** (brand name value).
- These things have an effect on the price signal. However, they can only ever be seen as supplementary to the primary form of value that we've been talking about: socially necessary labor time.
- At it's foundation, profit is merely the distribution mechanism by which the ruling class divides up the surplus product. As long as this is the case, money has to be a numerical expression of this surplus product. We have to therefore ask: what does capitalism value in the surplus product?
- There is only one answer: Labor time. The ruling class doesn't want to be doing the work. That is what the ruling class of any society values: not working.
- These other bits of information serve the exact same purpose as the equalization of the rate of profit - to mystify social relations and scramble information. Money collapses all of this information down into a single signal and therefore destroys information as it codes it.
- So, what is money? It's a lot of things. But at its foundation, money is time, and that will never change until we've emerged from the nightmare of using it entirely.



# The Alien Mediator

- “The essence of money is not, in the first place, that property is alienated in it, but that the mediating activity or movement, the human, social act by which man's products mutually complement one another, is estranged from man and becomes the attribute of money, a material thing outside man. Since man alienates this mediating activity itself, he is active here only as a man who has lost himself and is dehumanised; the relation itself between things, man's operation with them, becomes the operation of an entity outside man and above man. Owing to this alien mediator - instead of man himself being the mediator for man - man regards his will, his activity and his relation to other men as a power independent of him and them. His slavery, therefore, reaches its peak. It is clear that this mediator now becomes a real God, for the mediator is the real power over what it mediates to me. Its cult becomes an end in itself.”
- (From <https://www.marxists.org/archive/marx/works/1844/james-mill/>)





# The Law of Value

- The **law of value** is not a law in the sense of the law of the falling profit rate, or the law of accumulation. It's a law in a different sense.
- The law of value is the law of the land. It is the law in the sense that *you must obey*.
- The law is simple: The value of a thing is its market price. It isn't what you value in the thing. It is what the *market* values in the thing. The value of a thing is what the alien mediator *decides* the thing is worth. Making our own value judgements is *against the law*.
- The true believers in this law are the people who worship the market as if it's a transcendent force which cannot be meddled with.
- The laws of competition and dynamics we've already discussed enforce the law of value, but the law of value must also, especially in earlier stages of capitalism, be enforced by true believers: high priests of the cult of capitalism

# Gods and masters

- The law of value is a religion. It is a system of habits and rituals which is imposed on a population by a cult of high priests who believe in the authority of an abstract nexus of objectified power that is alienated from us mere humans.
- The mode of production seeks stability. Monotheistic gods have been very helpful in this throughout history. What is socially necessary can be viewed as the will of one of these gods. In this sense, *the god of a society is the personified will of the mode of production*. The Christians called it God. Today, we call it the market.
- Those who disobey the will of god must be punished. In older modes of production, this punishment was carried out by humans in the name of god. These earlier gods are not real, in the sense that they did not actually exert power over society. Instead, humans exerted power over society while claiming to represent the will of god.
- With capitalism, this changes. The god of capitalism is *real*, in sense that it has the ability to exert it's will independently of the direct decision making of its high priests. To begin to see this more clearly, let's return to the system and view it again as a totality.
- There is something we need to observe about capital, the atomic unit of capitalism, that we haven't yet.

# The value form of capital

- Everything in our world has a duality between use and value. For any *thing*, we can choose to view that thing in terms of use, or in terms of value.
- We've been seeing capital as a *flow of social activity*. We've been seeing the accumulation of capital as the accumulation of social activity. We've been seeing capital in *real terms*. We have been focused on the use-form of capital.
- This is completely different from how capitalists tend to see it. They tend to see capital as a *stock of materials and resources to be allocated*. They are seeing the value form.
- When we inspect the value form of capital; capital as a stock, and an investment, we see something very alien to ourselves.
- Capitalists, especially modern CEO's beholden to shareholders, are increasingly merely the beneficiaries of the capitalist system. We've seen at this point that they increasingly *have no agency of their own*. They are merely the administrators of various capitals.
- Their job is to allocate a stock of capital wherever profit can be maximized. That's it. Individual capitals are therefore increasingly taking the form of simple control systems which behave independently of human desire and according to a very simple singular rule: generate maximal profit.
- This means that capitals are operating entirely on signals *which only exist in the world of value*.
- By reallocating themselves to whatever venture maximizes profit, capitals move humans and their products around, conducts them, and controls their activity. Capitals act on us, while we increasingly fail to act on them.

# Capital is alive

'A negative feedback control loop has all the basic elements of cognition: it in fact senses, decides and acts. A qualified kind of animism is entirely appropriate here.

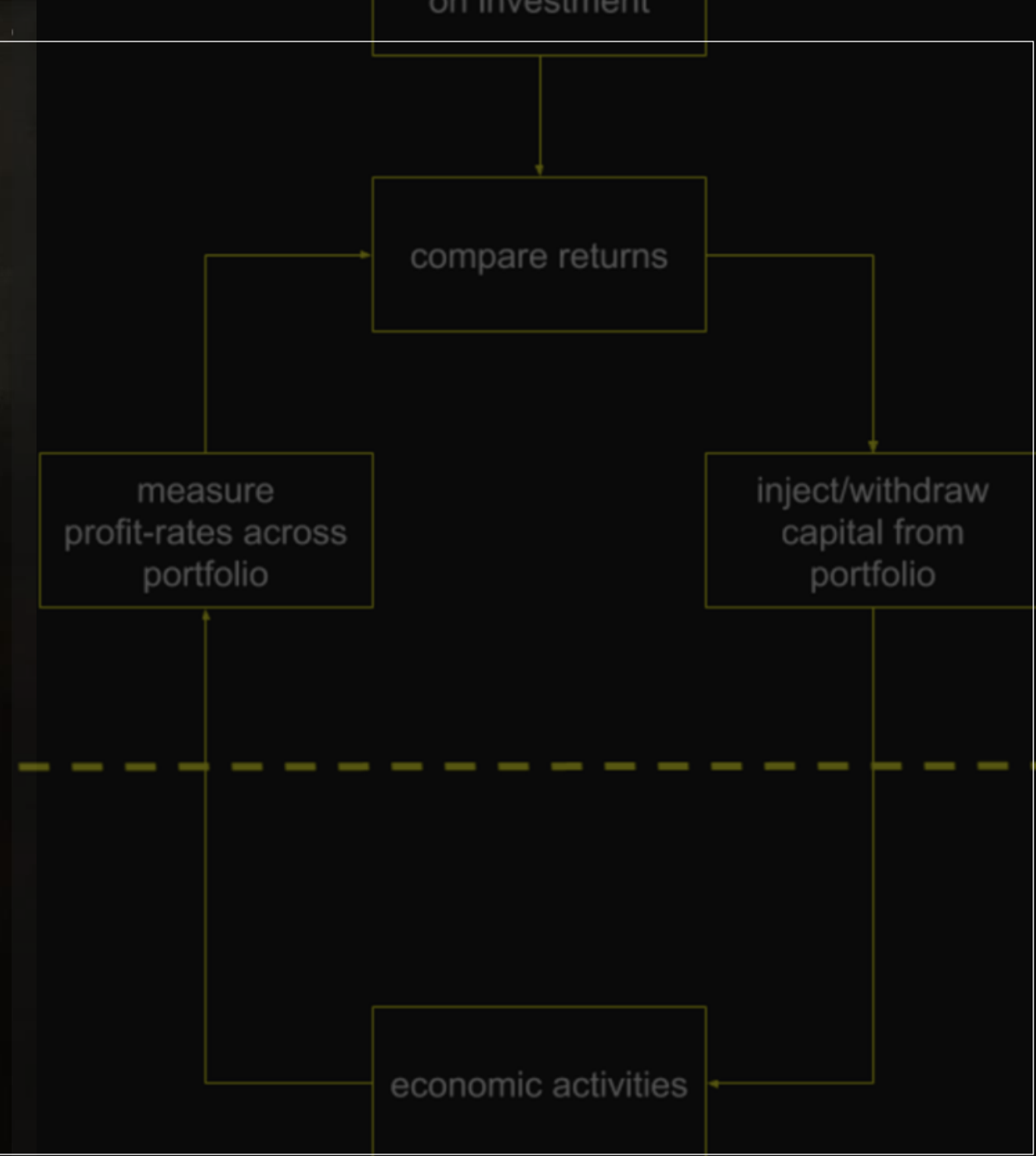
Of course, the sensing, thinking and acting cycle of an individual capital is quite unlike that of an individual human being. Nonetheless, both pursue distinct goals, and both have the power to make things happen. One control system consists of neurons, muscles and organs; while the other consists of social practices, belief systems and the exchange of a value substance.'

For the full talk which this is from:

[https://www.youtube.com/watch?v=gvp8khkvoQQ&t=44s&ab\\_channel=CommunistPartyofGreatBritain](https://www.youtube.com/watch?v=gvp8khkvoQQ&t=44s&ab_channel=CommunistPartyofGreatBritain)

For another talk by him detailing the structure of capitalism as a religious cult, see:

<https://youtu.be/zY-Gci1PJso>



# Divine retribution

- These individual control systems act in unison to coordinate more complicated actions. It is through this nervous system that the real god of capitalism punishes acts of blasphemy.
- Suppose that a country decides to fix the price of bread at something that isn't the market price. This lowers the rate of exploitation, and consequently also the rate of profit.
- Each capital running through the country in question will detect this and begin looking elsewhere for more profitable investments. In unison, they reallocate themselves elsewhere. Capital flies out of the blasphemous country.
- The offending country, reliant as it is on these capital flows, is flung into chaos and general collapse. Its sovereign currency becomes worthless relative to other currencies, triggering hyperinflation.
- Here we see the god of capitalism, through an automatic nervous system of coordinated capitals, punishing the offending country more efficiently than humans could ever hope to.
- This is the essence of what happened to Venezuela, and what would have happened to France under Mitterand or the UK under Callaghan, had they not cooperated with the imposition of neoliberalism. There are many more examples.
- We've seen that the system of capitals is an entity which can take sensory reading from the environment and act on it in order to accomplish what seem to be specific goals. In this sense, it is a living thing, and a real god. But is it conscious of itself as such? Does it have a will to live?
- The system of capitals might not on its own, but the *mode of production* certainly does. To understand this, let's return to crises.

# What are crises?

- We've actually always known that the mode of production is an egregore in the sense that it arises from our collective thoughts and actions, but then uses us to reproduce itself in a self-reinforcing feedback loop.
- In general, the mode of production changes at the moment of a **crisis**, brought about by the development of internal contradictions implicit to class society.
- Not every crisis brings about a revolution. Often, the ruling class is able to manage the crisis themselves, and steer the mode of production back into a temporary stability, buying themselves time.
- These crises are therefore moments of *existential crisis* for the class currently in power. To the extent that they aren't willfully blind to the society they preside over (something they love being), they will be willing to change the way that they think in order to facilitate changes that preserve their power.
- The ruling class therefore acts as a processor (or a brain) for the mode of production, as a negative feedback control system.
  - A crisis occurs, and the ruling class evaluates the situation (i.e. they take a measurement from the environment.)
  - They make a decision based on that reading on necessary changes, subject to the constraint of keeping as much of what they have as they can.
  - They implement those necessary changes.
- The mode of production is therefore a control system with the goal of adapting to changing conditions and keeping itself alive. It is self-aware, out for itself, and employs the ruling class for the job of helping it make decisions.

# What are crises? (continued)

- The mode of production is therefore an adaptive control system. It is thinking about itself, and changing itself in order to preserve essential properties.
- Eventually, the current ruling class will simply become incapable of making the necessary changes to the mode of production in order to keep the system stable. At this point, the mode of production fires its current managers and hires a new class to take control and be the brain. The crisis becomes a revolution.
- We can think about this similarly to how a vehicle on autopilot sometimes requires an actual pilot to assume manual control. The revolution is humans taking back control of the machine, and implement the necessary changes manually.
- A new class dynamic emerging from this revolution helps to ensure that changes will be much more significant, generally resulting in something which we would regard as a new mode of production entirely. However, the mode of production is a single, fluid process. There's no exact moment in history when feudalism ends and capitalism begins, and the capitalist class will have had effective power for quite a while before the system can be called capitalism. The same will be true of socialism.
- This is why a dictatorship of the proletariat (i.e. the working class installing itself as the brain in place of the capitalists) is so essential to the creation of a new mode of production.
- What then is different about capitalism? Why does it seem so much more adaptive and responsive than other previous mode of production? What are we really observing here with these systemic periodic crises?

# What's so different about capitalism?

- There is a paradox at the heart of capitalism. On the one hand, it is the most unstable mode of production we've ever had in the sense that it creates crises for itself at a much higher frequency what has been previously typical, but on the other hand it seems to be able to hold itself together *better* than past modes. How is this possible?
- We can see now that these are actually two sides of the same coin. The frequency of these crises are precisely what allow capitalism to think faster and adapt faster than previous class-based modes of production were capable of.
- We already knew that these crises were a feature and not a bug. We saw in the reproduction schema videos that capitalism produces periodic unsustainable production patterns leading to disproportionality crises every few years, and that these crises were exactly what the system needed to reset itself to something approximating balanced growth.
- We can see now that it goes much deeper than simply disproportionalities. Capitalism has created for itself a routine updating cycle that it can use to adapt dynamically to the problems created by its internal contradictions, generally.

# The difference: clock speed.

- The clock speed of a computing device is the number of simple computational steps can be executed per unit of time. The computer I'm using to make these videos has a clock speed of 3.5 GHz, or 3.5 billion computations per second.
- We've seen that the mode of production is performing computation. It takes reading periodic readings from the environment in the form of crises, and changes itself to something more suitable to its external conditions.
- The clock speed of the mode of production, until capitalism, has been very slow. Crises were much more infrequent and much less predictable.
- With capitalism we get an enormous upgrade in clock speed. This allows for capitalism to adapt to changing conditions *much faster* than previous modes of production, *conditional on the ruling class being smart enough to steer the ship effectively*.
- This caveat is very important for the present day. Faster clock speeds aren't helpful if the computer isn't capable of using the extra steps efficiently!
- There is therefore no exaggeration or hyperbole in saying that capitalism has a conscious will to self preservation, is willing to change itself in order to keep itself alive, and is significantly smarter than previous modes of production at accomplishing this task.
- It's worth noting that socialism would be no different in regard to any of this. The hope would simply be that the system can update itself less violently, i.e. that we can make it take readings without needing to enter a crisis first. In other words, the task of socialism is to transcend discrete clock speeds altogether, and smooth the computation out into something fluid.

# A real god? Nah, let's just call him Wilson.

- We've seen that humans have conjured up through their collective habits, rituals, and incentive structures, an abstract entity which is clearly real, something which we worship as a god (whether we call it that or not), which feels, thinks, desires, and has a will to live. Something exerts control over our lives, and in some sense even has a cellular biology.
- Ian Wright is entirely correct: A qualified animism is entirely appropriate here. For the sake of developing a heuristic, let's fully embrace this.
- Meet Wilson (he/him), the capitalist mode of production (and what capitalists like to call 'the market'). Let's get to know this guy. Let's figure out how he works, what he wants, how he thinks, and most importantly, how he relates to us.
- First of all, Wilson (ie the capitalist mode of production), is in every sense of the word both real, and a god. He is worshipped as a god. While he does act on us, we also do things in the name of him.
- Our habits and actions also *constitute* Wilson. Wilson is conjured into being by our collective habits, rituals and beliefs. **The law of value is the cult of Wilson.**
- The reality of the situation is that we are the god of Wilson. Wilson, like most other gods in our history, is a renegade god who has escaped our control.
- The will of Wilson is the social necessity of capitalism. Because of this, we already know Wilson extremely well, we just have to put our observations together.



# Wilson is hungry

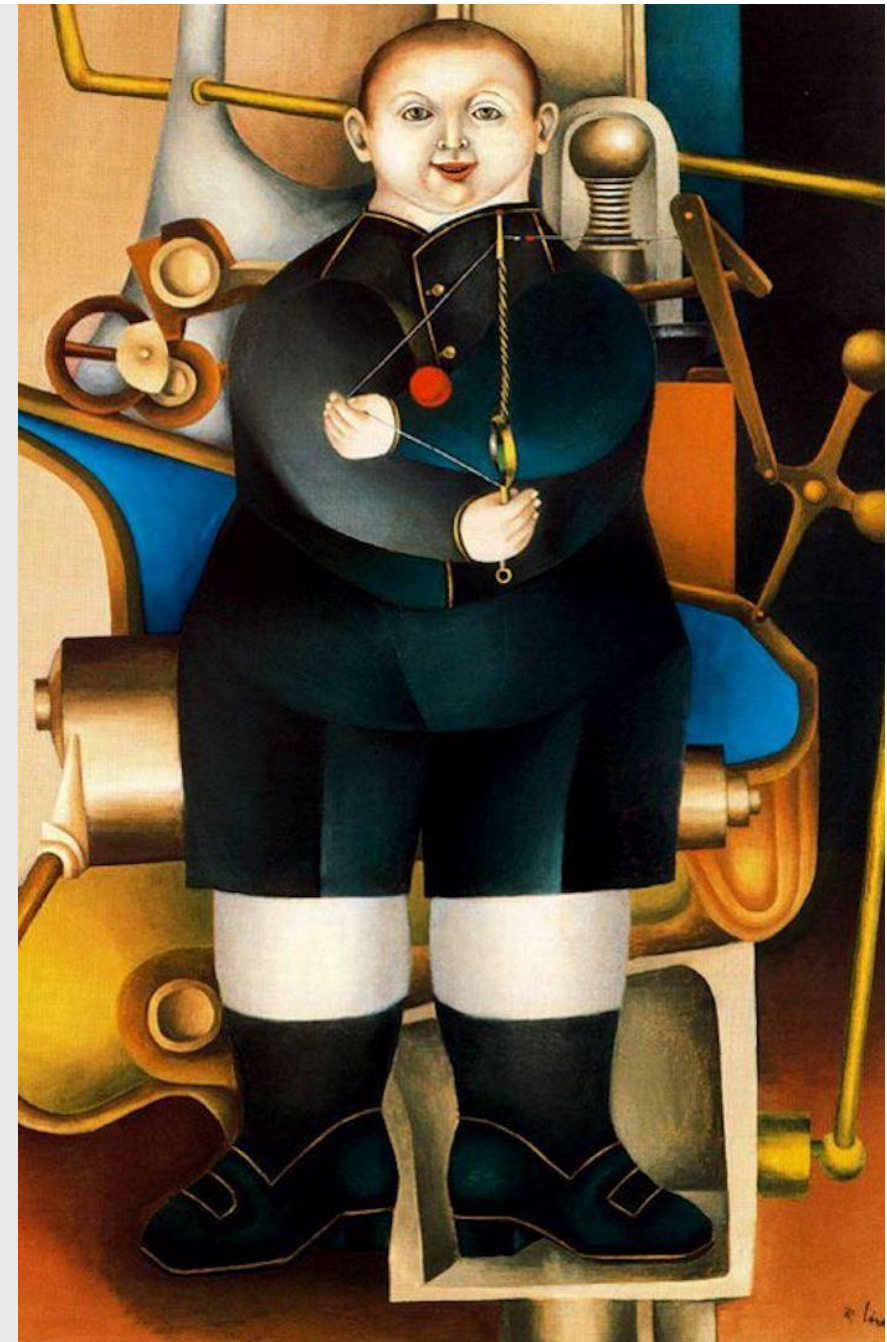
- The capitals composing Wilson constitute what could be considered his nervous system, internal wiring, circuitry, etc.
- Just as we are composed of our own flesh, we also exist in the service of it. Wilson is no different. He is composed of these capitals, but acts as their manager, watching over them and managing them. Like all other gods, **Wilson is watching over us.**
- Wilson, acting as the manager of total social capital, is driven to do exactly two simple things:
  1. Circulate capital (qualitative)
  2. Accumulate capital (quantitative)
- Focusing on accumulation first will help us understand quite a bit. Wilson wants to accumulate in a very similar way to the way in which humans want to eat.
  - Humans need to eat constantly, or they die. Wilson needs to accumulate constantly, or he dies.
  - How driven humans are to eat varies with time. Sometimes we are hungry and are eating a lot. Other times we are just snacking. How rapidly we consume food depends on how driven we are to consume food, which is given by our level of hunger. In place of a level of hunger, Wilson has the rate of accumulation  $G = a\pi$ . The bigger this is, the hungrier Wilson is, and the more determined he will be to accumulate.
  - Young humans grow big and strong as they eat. Wilson is no different. Accumulation of capital is accumulation of Wilson. For him, eating is identical to growing.

# Wilson rises and grinds (when he needs to)

- Our equation for the rate of accumulation  $G = a\pi$  can tell us quite a bit about Wilson.
- Considering first the rate of profit,  $\pi$ : Humans, as they grow, undergo a process of aging, in which their rate of growth and appetite slow down over time. Wilson is no different. As the rate of profit falls, the rate of accumulation falls. Wilson's rate of growth slows down over time as he matures and becomes an adult. Just like human aging, this weakens his ability to dynamically adapt to changing conditions, makes him more brittle, and more set in his ways.
- The rate of reinvestment,  $a$ : To some extent, the rate of reinvestment must be seen as a *political variable*. If there is significant labor unrest, the capitalist class will be scared, and have a strong desire to put their surplus towards solving the problem. This temporarily boosts the rate of reinvestment and subsequently also the rate of accumulation. This is identical to the production of adrenaline in humans under severe stress. Despite the rate of accumulation falling over time, Wilson will find a heightened motivation to act when in a stressful situation.
- We saw this in the New Deal era, as well as China post-2008 financial crisis. It is noteworthy that both of these eras corresponded to particularly young stages of capitalism in which the rate of accumulation was very high.

# Wilson and the capitalists

- We're still looking at the rate of accumulation  $G = a\pi$
- It's important to note that two historical examples of spikes in the rate of reinvestment were in places that had a relatively young national capitalism, and were conspicuously absent in the more developed western Europe leading up to World War I. In today's world, in which a mature capitalism dominates the entire planet, we should not expect something like this to happen again. **Wilson is too old to solve problems the way he used to be able to.**
- The equation  $G = a\pi$  means that capitalists act to some extent as Wilson's libido; **Wilson's drive to act is entirely a function of the desires of capitalist class.** The more they are driven to profit, the more Wilson is going to be rising and grinding. If the capitalists are lazy and unmotivated, then so is Wilson. We've also seen that the more stressed capitalist class is, the more stressed Wilson is.
- In some sense, we can see now that Wilson is nothing more than the collective subconscious of the capitalist class. By understanding Wilson, we achieve an understanding of the capitalist class itself, complete with all it's neuroses, delusions and obsessions.



# Wilson and you

- Accumulation of capital **is** increase in the proletariat. To be in the proletariat is to have no means of production of your own and nothing to sell but your labor power. Therefore Wilson's relationship to everyone that isn't a capitalist is to make everything private property existing in a few specific hands and **dispossess** everyone else. He wants to see us all working nonstop all the time (and is completely unconcerned with what we're actually doing.)
- Note that  $G = a\pi = \frac{ae}{k+1}$ , where  $e$  is the rate of exploitation.
- Despite losing motivation over time as he ages, Wilson is constantly in search of inspiration. Unfortunately for us, inspiration for Wilson generally means heightened misery for humans. A spike in the rate of exploitation will motivate Wilson to accumulate more.
- Recall that accumulation of capital goes hand in hand with an accumulation of misery. If the accumulation of capital is Wilson eating, then the accumulation of misery is Wilson shitting.
- As is the case with human shitting, Wilson tends to shunt the misery off to very specific places. However, Wilson has a problem: he doesn't really have a toilet.
- If humans attempt to make their lives better in a way that runs parallel with the accumulation of capital, then Wilson will allow it. However...
- If an attempt by humans to make their lives better happens to slow down accumulation, Wilson will generally choose to move capital elsewhere. For example, if a country tries to implement welfare programs that lower the rate of profit, then capital will leave, as we've noted. Wilson will simply abandon this part of the world, rewiring his capital flows somewhere else. In this sense, Wilson is a coward, who's first instinct when he doesn't get what he wants is to run away.
- We know that centralization is characteristic of capital accumulation. Wilson has severe ADHD. He has hyperfocus issues. This corresponds to the tendency for capital to centralize. It also corresponds to a centralization of misery.



# Wilson is having an existential crisis all the time

- Like us, Wilson thinks in terms of the big picture. He's thinking about capital circulation and capital accumulation. However, he is also creature of habit (just like us), and his habits routinely steer him into hurting himself.
- When a crisis occurs, a large quantity of capital is always destroyed. **These are direct injuries to Wilson.** He becomes determined not to let them happen again. He learns from them, and changes himself in response to them.
- Wilson therefore develops dynamically. He has a character arc. He grows and evolves. But the choices he makes aren't always good ones, and certainly aren't sustainable. This is because Wilson is an addict.
- Wilson *is* the accumulation process. The end of accumulation is the end of Wilson. He cannot stop accumulating misery. As the rate of profit falls, the capitalist class will be driven to ramp up exploitation. *Wilson copes with aging by embracing his vices.* Wilson has a hopeless addiction which is killing him. He is a danger to himself and others. If he had friends (he doesn't), they would be very sad to see the direction he's been going.
- While he evolves and changes, therefore, he will always be dancing around the real problem. He looks for ways to avoid dealing with his problems, rather than confronting them directly. He looks for quick fixes, and cheap compromises.
- Pair this trait of Wilson with the fact that he is constantly getting older, and less dynamic. His ability to radically change himself is weakening over time. It's only a matter of time before his addiction gets the better of him.



# The Verdict

- What have we learned? Wilson, the god of capitalism, is a real god, and an occult one at that. But he isn't really as special as that moniker makes him sound. Wilson is a system, seeking stability, no different from any other observable phenomena in our universe.
- Wilson thinks, feels, desires, learns, eats, and shits. He learns from his mistakes and works towards self improvement. He has goals that he pursues. Sometimes he's motivated. Sometimes he's lazy. He grows, ages, and will eventually die according to a natural life cycle. He fears death, but knows he is dying. He develops neuroses in response to this understanding. Eventually, Wilson's bad habits will get the better of him, and do him in.
- The secular veneer of capitalism is fundamentally a lie. The cult of capitalism is the cult of convincing you that it isn't a cult. That Wilson does not exist, that we don't go and sacrifice our labor in His name each day, while simultaneously promising collectively to bring even more labor to the sacrificial altar on the next day. (What is accumulation if not this?)
- "Any sufficiently advanced religion is indistinguishable from economics." -Ian Wright

# Conclusions – The virality and cowardice of capital

- We've seen that Wilson is fundamentally a coward. If at some point in the future, labor movements manage to take local control, capital's first instinct will be to flee somewhere else. To effectively combat capital, therefore, is to have our own social relations from which we can sustain ourselves in its absence. A general strike cannot be sustained without these.
- We therefore need to consider capital one last time – in particular what makes it so viral as a social relation. There are, in my estimation, two:
  1. It's simple reward structure. Those in parts of the pre-capitalist world that have power can easily see the advantages of turning their social relations into the capital social relation. **Capital therefore creates a world after its own image.**
  2. It's modular scalability. New capitals can be easily incorporated into the overall system of capitals in a way that strengthens them.
- Capital isn't unique in either of these properties. Any successful social relation will have both. Other examples are
  - Christianity (spreading the gospel, etc.)
  - Labor unions
  - Political parties
- Our task is to invent new social relations. We have to create similar processes, but with reward structures that are based on what people actually need. Food, shelter, and so forth.
- The social relations we engage in condition our thinking. If the only social relation we engage in is capital, then the law of value will naturally creep into every facet of our thinking (something I'm sure we're all very aware is happening). If we want to build class consciousness and make people think about their relations with others differently, then *we need to give them new social relations to facilitate that.*
- Organizing our workplaces and creating a mass party therefore is necessary, but insufficient. We have to figure out how to live without the market in order to effectively challenge it. **Organize your community.** Create systems which reward people for helping each other, rather than profiting off of each other. Systems that allow people to feed each other without going to the supermarket, transport each other without hiring an uber driver, and so forth.
- The right social relations for the current moment will spread on their own. We just have to find them.

Thank you so  
much for  
watching!

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