

FREDERICK ENGELS (1820-1895)

Although Marx discusses labor and machine and clearly sees how machines transform labor, it is his younger co-author, Engels, who writes most tellingly about the role of technology in the life of work and society.

Engels, like Marx, predicts ever-increasing role of machine used to steal labor

1. machinery becomes the most powerful weapon in the war of capital against the working-class
2. instruments of labor constantly tear the means of subsistence out of the hands of the laborer; very product of the worker is turned into an instrument for his subjugation.

Engels maintains that machine development & production causes supply/demand problems for capitalism

Technological innovation creates an army of unemployed

1. The perfecting of machinery is making human labor superfluous.
2. Improvement in machinery means the displacement of more and more of the machine-workers themselves
3. Improvement in machinery means the production of a number of available wage workers in excess of the average needs of capital, the formation of a complete industrial reserve army, a regulator for keeping wages down to the low level that suits the interests of capital.

An army of unemployed means fewer who can afford the goods the capitalist produces: supply of products increases but demand for products falls

1. The overwork of some becomes the preliminary condition for the idleness of others
2. Modern industry, which hunts after new consumers over the whole world, forces the consumption of the masses at home down to a starvation minimum
3. And in doing thus destroys its own home market.
4. The extension of the markets cannot keep pace with the extension of production.

ENGELS describes the booms/busts we have become so familiar with in Silicon Valley.

1. The whole industrial and commercial world, production and exchange among all civilized peoples, are thrown out of joint about once every 10 years.
2. Commerce is at a stand-still,
3. the markets are glutted
4. products accumulate,
5. hard cash disappears,
6. credit vanishes,
7. factories are closed

8. bankruptcy follows upon bankruptcy
9. the mass of the workers are in want of the means of subsistence, because they have produced too much of the means of subsistence; The stagnation lasts for years

Engels predicts ever-increasing role of machine to transform the conditions that allow for liberation from capitalism and proprietary machine ownership

1. *The means of getting rid of the supply/demand problems of machine-driven capitalist production must also be present, within the changed modes of production themselves.*
2. *These means are to be discovered in the stubborn facts of the existing system of production.*

Engels predicts government eventually will evolve into a worker-owned state. Advanced government allows for end of private property

1. *The first act by which the State really constitutes itself the representative of the whole of society, the taking possession of the means of production in the name of society, this is, at the same time, its last independent act as a State.*
2. *As soon as the individual struggle for existence based upon our present anarchy in production are removed, nothing more remains to be repressed, and a State, is no longer necessary.*
3. *State interference in social relations becomes, in one domain after another, superfluous, and then dies out of itself; The State is not abolished. It dies out*

In the end, when the state and capitalism are abolished, we will have a world where overseeing of technology and technologically-driven distribution of goods will be the pattern of society

The government of persons is replaced by the administration of things, and by the conduct of processes of production.

No way to know when the state/economy has reached critical point

No way to know when or if successful revolt will take place or is needed

Worker-run state might naturally evolve as technology and production reach the point where the middle-man of capitalism just is no longer necessary.

1. Think of the way we can now vote without the need for the government middleman (the politician). Representative government was designed so that laws and administration could be decided on in a timely fashion. Elected officials did the deciding because just to count the votes of election of officials took weeks, sometimes months. With the technology we have today we could all vote on the issues that now only elected officials vote for. Our democracy

could be just electronically decided votes of all the people, American Idol fashion.

2. Think now of the way you can order groceries from Safeway online. All goods could be produced and distributed according to the Amazon/Safeway model, with orders sent and innovations developed according to electronic placing and coordination of orders. As we continually move toward these online forms of buying and selling, the very existence of market forces will change dramatically, such that our good old capitalist system might just gradually disappear, and placing orders/filling orders might not look like buying and selling at all.

No way to know when technology reaches limit of theft

This scenario would be where capitalism and the capitalist State are violently overthrown by workers due to the unbearable theft of productive forces and theft of labor. This was the vision of Marx. Engels suggests that this would not be necessary: the development of technology will naturally evolve into an overseeing organ of production and distribution.