

The Division of Intelligence— “Babbage Principle” Applied in Artificial Intelligence

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In the article *Baggage's Intelligence: Calculating Engines and the Factory System*, Baggage reinterprets Adam Smith's notion of division of labor into the intelligence field (Schaffer, 1994). He emphasized that there is “a considerable difference exists between the terms *making* and *manufacturing*” (p. 208). Manufactory requires different regulations of each process of the domestic system of the factory. In another word, the whole manufacturing process should be divided into different sections and different level of strength (which considered as labor factor) and skills (which considered as intelligence factor) are required depending on the specific circumstance. For instance, the process of the plane manufacture requires design, inspection, assembly, etc., which need the different level of intelligence and labor. According to Schaffer (1994), Baggage believed that the implementation of machinery intelligence in the workshop can avoid the loss of “inattention, idleness or the dishonesty of human agents” (p. 209). Therefore, it is both politically and economically necessary to expand the machinery intelligence into the industrial community.

I partly agree with Babbage's philosophy of management for the “sensitive analytical regulation” (p. 209) through machinery intelligence like AI. The division of intelligence could help increase the productivity, avoid the man-made mistakes, and consummate the process of manufacture by detail. Firstly, with the help of automation machines, the efficiency will dramatically grow since AI can handle most of the complex and tedious process effectively. Secondly, the learning cost will decrease since people do not need to know its principle but how to give some simple commands to

machines. Finally, the machinery intelligence could detect the unnoticeable details for human and conduct the process more thoroughly.

However, With the flourish of AI, people concern the replacement of human being by machine or AI in industrial manufacture will result in the massive unemployment since the cost efficiency ratio of machines is much more reasonable than that of labor. As Marx (as cited in Schaffer, 1994) mentioned: “In one, the combined collective worker appears as the dominant subject, and the mechanical automation as the object; in the other, the automation itself is the subject, and the workers are merely conscious organs” (p. 223). Different from the scientist like Babbage, the capitalists are profit seekers. All they care about is how to maximize their profit. Under this circumstance, people will be marginalized and become the accessories or even slaves of machines. Just like what Charles Chaplin acted in *Modern Times*. Without the governmental interference, the implementation of automation will lead our society to dystopia. Therefore, it is crucial to put the division of intelligence under regulations to make sure it is an intelligence *division* but not the machine-dominant exploit. Only through this way, the idea of Babbage could benefit people through the increase in labor productivity.

In conclusion, Babbage’s idea has its limitation of his time which should be thoroughly considered when putting his principle into practice. However, his idea of the division of intelligence could be a precious legacy to deal with the artificial intelligence issues.

Reference

Schaffer, S. (1994). Babbage's intelligence: Calculating engines and the factory system. *Critical Inquiry*, 21(1), 203. Retrieved from <http://ezproxy.library.dal.ca/login?url=https://search-proquest-com.ezproxy.library.dal.ca/docview/1297341580?accountid=10406>