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STS 1010

1 October 2018

The Technological Impact Of Currency

Things like the personal computer, the automobile, and even larger concepts like electricity are all great examples of widely used technology, but none of these technological breakthroughs would be possible without some core technological innovations that took place previously. In Technology Matters, David Nye describes technology as ideas that build upon previous ideas (Nye 18-22), and the types of technologies that have the biggest impact are not always the ones that are used the most frequently. In a sense, some of the most advanced technological innovations would not be possible without specific core ideas that were developed thousands of years ago. These core ideas have paved the way for future technology, and many of these core ideas have become so prominent that many forget how large their impact truly is. A key example of a significant, yet seemingly simple technological innovation can be found in the development of currency as we know it today. Currency has completely redefined the way in which individuals exchange goods with one another, and it has vastly increased the speed that technology can develop by removing the time burden that comes with bartering goods. No longer are the times that both parties must have an equally desirable matched good to exchange. This simple concept of economic freedom has paved the way for a more globalized economic system.

The first reported use of modern currency took place in China in the 7th century (Fong 4-5). The first paper currency was introduced during the Tang Dynasty, which was prompted after the chinese government realized the need for a more universal unit of value. The Tang Dynasty was an imperial dynasty known for its strong influences on Chinese culture, and this cultural influence continued even after the Tang period ended (Fong 8-10). The creation of a paper currency was one of the key technological developments that took place during this era, and many surrounding cultures took note and began developing currencies of their own. The key difference between a centralized currency and something of value is the way in which value is attributed to the object. A traditional currency has an agreed upon value that is culturally accepted whereas most items have an inherent value. This differentiation requires an individual to place trust in a centralized entity to ensure that the currency will continue to hold value. This requirement for a centralized entity is likely the reason state-sponsored currency took so long to be instated.

In the times before centralized currency was commonplace, many societies bartered to get the goods they wanted. The concept of bartering worked in the simplest of cases, but it immediately became ineffective when the two parties had mismatched wants or needs. For instance, say there are 2 individuals (John and Dave) that are both interested in bartering an item they currently own. John is in search of sheep wool, and he has corn in his possession that he intends to trade for the wool. Dave has sheep wool, but he also has plenty of corn and has no interest in accumulating more. In this scenario, both individuals have items that they are willing to barter, but their needs are mismatched and a transaction would not be worthwhile for at least one of the two parties. Currency eliminates this issue entirely by having a material item that acts as an escrow between the two parties. With the introduction of currency, both John and Dave would be equally satisfied in this hypothetical transaction.

At its core, currency has vastly increased the speed that new technology can develop and flourish. Using the same previous example, if John really needed sheep wool he could trade his corn for something else desirable and then successfully complete the transaction with Dave. Bartering was and still is still a valid way of exchanging goods, but it can take multiple trades to end up with the item you desired in the first place. Fundamentally speaking, currency removes the boundaries that previously slowed down the flow of exchange by removing the need for multiple transactions. This increased efficiency spreads out into every economic activity and increases the speed at which technology can develop.

Having identical forms of currency has changed the way we think about economic transactions, but an interesting dynamic has been introduced as our society becomes more globalized in the modern era. Prior to recent years, currency was exchanged on a micro-economic scale between societies that were generally located in similar geographical regions. This localized exchange ensured that societies were working with the same form of currency and that the worth of the currency was represented with a static value. This concept falls apart when we work with different societies that have economic systems entirely separate from our own. As globalization continues, additional currencies have developed and economic exchanges have begun to require an additional entity for converting between currencies (Chakrabarti). While the need for an additional entity goes against the simplicity of currency, the simple fact that an exchange like this is still possible shows how much it has has become embedded in our society. The fact that an individual can engage in a transaction with someone from a different economic system shows how currency has adapted and shaped the global economy in the modern era.

In computer science, there is a design paradigm known as modular programming in which software is built upon other pieces of software (Sherer 6-10). David Nye takes a similar perspective in Technology Matters (Nye 20-22), a perspective in which all technological development is based on previously created work, and the value or importance of a technological innovation far exceeds the face value or immediate effect of the idea. The impactfulness of currency in this perspective is immeasurable, as currency has completely redefined the way in which individuals exchange goods with one another. In turn, currency has vastly increased the speed that technology can develop by removing the time burden that comes with bartering goods. As time progresses, currency has become so much more than a tool used to purchase goods and services. Currency can be a status symbol, it can be a way of accumulating power, and it can even be an emotional burden on those that use it. Regardless of an individual's viewpoint towards the concept of currency, it is clear that it was a good idea and that it has had an extremely large impact on society as a whole.

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