**The importance of conceptual thinking**

1. **Introduction**

Humans have been around for quite a while on this planet. In fact, it is believed that modern homo sapiens emerged around 150.000 years ago. Life was much “simpler” back then, with every human living somewhat the same nomadic hunter-gatherer life centered on basic survival and living in small groups.

Things stayed like this for about another 140.000 years when the so called “neolithic revolution” [1] came to be. Essentially, humans transitioned to larger farming societies which would stay in one place and grow the food rather than hunt for it. Growing food takes significantly less effort than hunting it, and one person can easily provide for many more, therefore by this point, things would get more complicated for a small portion of the group that didn’t need to invest all of their time into basic survival. As such, in time, higher level occupations appeared that raised the quality of the lifestyle, going up Maslow’s hierarchy of needs.

Now things started to move quicker. It took only 8000 years to reach large scale civilizations with hundreds of different occupations such as the roman empire and another 1800 years to discover the steam power and electricity which would introduce a whole new kind of automation that would give humans more free time, which was eventually used to find another occupations or jobs. After another 150 years computers were invented, and only after 30 years the internet was born.

Given this, we can see that it took 93% of the time modern humans have existed to reach the first agricultural societies. Most advances in all aspects of life have been made in only the remaining 7% of human existence. As such, we can observe a key pattern that led to this exponential evolution.

1. **Conceptual thinking**

The common pattern in all these technological revolutions is the human ability for ***abstraction***.The idea is that a hierarchy of jobs is built, with each new revolution, bringing a new layer of abstraction which in turn enables a better lifestyle.

At its core, a concept is itself an abstract idea. According to [2], abstract ideas are what define concepts, and they serve as the foundational building blocks for principles, thoughts, and beliefs. As such, this mechanism of abstraction or the ability of humans to think conceptually allows for defining very complex scenarios. The main consequence of this is that knowledge becomes hierarchical.

This knowledge hierarchy means not only that higher level concepts depend on lower level ones, but most importantly it means that a human can build on top of this hierarchy without necessarily fully understanding all of the lower levels, and this capacity from my point of view is the core of ***conceptual thinking***.

Another real-life example is programming itself. Nowadays very complex software systems are built, but they are only the result of years of advancements. For instance, a modern web developer might not know every detail about how the code is transformed into assembly and how the bits travel at a physical level. Instead, the developer builds the software on top of these concepts, or in other words, they are treated as abstractions. The idea is that the developer needs only to know how to connect the dots and how to work with abstract ideas in order to create even more complex concepts. In this way, several people can be responsible with different levels in the hierarchy, because otherwise, it would be very hard for one person to develop a complex website from absolutely nothing. The same principle can be extrapolated to virtually most things humans do nowadays.

1. **Conclusions**

In conclusion, the ability of humans to think conceptually is a building block of civilization and it is a key factor in human evolution because without it, humans would have to understand everything from scratch and would probably be stuck in the stone age. Instead, conceptual thinking gave humans the power to pass knowledge across generations and gradually build on top of more and more complex concepts.

**References**

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