

## *Replying to the first section - Plan*

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*201908071123BJ*

This was mostly written as prompted by Melvin Harson, Esther Wang, & 伍天一. This is a continuation generally in response to WTY, following from earwigger(201907251209BJ) and ΣIM (20190806BJ).

### **Regarding inspiration**

- especially when we are young —

If you look at the development of a person, and if we try to explain development as a decision tree, well then most of the decisions made later in life are preconditioned by the earlier decisions. Maybe not all, but many. I think our early childhood development makes us most of who we are as an adult. So the things that influence you when you are young, what authors you read, will inspire your dreams and expectations for life.

My own thought is that children are much more intelligent than adults, and that large scale decisions are best made when children are young, because raw intelligence decreases quickly with age.

Liu Cixin has influenced perhaps an entire generation of thinkers. His works are influential and maybe genius. He is a cultural force in the modern world. That you were influenced by him is not surprising, especially when younger and more susceptible (actually I would say more intelligent), and because he casts such a big shadow. I also have been influenced by him, as I read his 三体 in January 2018. After that, surprisingly, I was invited to design AR special effects for the theatrical performance.

What he explores is the sort term and long term future, and his influence is strong in giving people ways to think about the future. Most people are uneducated about what the future could be, and they come to learn of possible futures only from movies. But books and literature allow us to think more deeply about and imagine what a future might be, rather than just seeing pre-rendered images of it.

*How can we think about and plan a future?* This is a topic I address with the ΣIM project. I think the topic is very important, as we always have problems with resource allocation

### **Motivation for neural encoding of maths**

Math is one of the only languages that survives cultures nations societies and probably technologies. As such, it is the most important language. It probably survives evolutionary catastrophe. But we have to make a good biological encoder for it if we want it to survive.

I would like to work on encoding math functions in neural circuits. This is one of the original reasons that I started to work on neural circuits, and the main reason I built NEN (the neural circuit encoder machine).

Actually most math that we know is probably already encoded in brain circuits - 3d matrix transforms exist as neural circuit counterparts in the brain. They are possibly genetically encoded and are expressed in our phenotype. Place cells are part of this network.

### **Theory of mind**

Mathematics are one of the high-quality outputs of our brain. I would not go so far as to say that math explains our brain, but I would say that our brains explain math. Some good math is the result of extensive brain activity, or some exceptional brain activity.

The recursive nature of math describing a brain is going to lose information. That kind of a process, where a thing describes itself, using the language and materials that it is itself composed of, will require a larger encoding space than the original. But you could probably use many brains to encode one.

### **Social problem of math education**

Mathematics is a special language that people must train in for many years. It is currently communicated very poorly. Most people give up and do not use it to communicate anything outside their early education.

An example of how math is poorly communicated: the use of quaternions, which make 3d games possible, were developed more than a century ago. However, it is only recently with 3d games and spaceflight that we use them in any meaningful way. The value of math (as measured in possible application space) far exceeds its communication as measured in impact on the daily thinking of regular people. Computer systems, games, media, VR AR, these types of processes can help us express and communicate math, as well as develop it further.

### **Future solutions to mathematical communication**

Computer systems, AR/VR and neural interface if well developed allow communication directly in mathematical models. Things like Mathematica (the software) slowly change society. Though most people do not communicate in Javascript, about 5% of earth's population probably could.

### **More on equality**

Egalitarian motivations are common in youth, and less common in adults. I would guess that the reason is increasing social responsibility and economic pressure as people age. Another main reason is experience, decreasing intelligence, failure of the continued development of empathy. There is also a natural divergence in growth patterns as people age: they differentiate and specialize, so they really are different from each other when they are older. So empathy for others might decrease when they find that they are really not similar. For an extreme example, adult people don't have much empathy for whales, probably because there is a radical difference in society, economy, and lifestyle. But children seem to empathize with whales well. I would say this could be the same if we substitute different categories of people for whales.

The theory of wealth and distribution of it, and its practice is the basis for competition in all its elevated and despotic forms. It is the province of the educated to attempt an abstraction of wealth so that they are not directly subject to its dangers.

If we follow from this example, and abstract wealth into a virtual space, for example an electronic virtual space, we can shatter the limits of physical wealth, and move toward some equitable distribution of it. If all objects are virtual and are just made of electricity, then we don't have the physical limits of wealth, we only have the social limitations. However from this we come back to the problem that in many situations, there never really was a problem with physical wealth, but just a problem with the social license to distribute it.

Money is in our modern era, infinite. It is created by loans, which are created from numbers, electrons. Physical products are largely a symptom of the allocation of money. Production is not much of a problem, 快递 has shown us that distribution is not much of a problem either. So then any wealth distribution problem is mostly social, rather than based in another quarter of human capacity.

You can think about how wealth should function in the kingdom of the mind, where all things are concepts, thoughts, dreams.

### **Physical things are but an agreement that the thing should exist**

The eigenvector of human progress is the modification of the correspondence between physical things and action, so physical things become an agreement between people that the thing should exist.

Personal agency is effective. It shortcuts the above requirement that agreement must be negotiated before reality can be instantiated. The allocation of reality effecting decisions to the personal self, this is attractive to those who aspire to leadership, power, control. It is command necessity in the patriarchal male, and this social structure is a basis for much of human society (it got us this far).

To have more capability than other people, it seems that this is your desire. This is a common desire, and a valid one for those who are especially talented and capable. It is through the feedback mechanisms of success feeding success that people believe that they are capable and can be successful.

What is a businessman but a small king, bound only by weak legality and economics? Economics can be hacked by personality and cunning. Then we are left with the weak limits of the legality, which also falls by the principles already described. Small kings become bigger kings.