The problem of a problem solver is his inability to define the problem

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This essay reflects my thinking through research and professional work with the academia, politics, and business communities. Whether right or wrong, it's up to your judgment, but I am honestly writing what I observe and think.

Illustration: Incompetent problem-solver (by Stable Diffusion, AI Image Generator. Created: December 11, 2023)

We are all problem-solvers of some sort. We solve problems to earn a living, get promoted, show that we are smart and deserve colleagues' respect, and contribute to human progress.

Yes, problem-solving is important; the better solution-maker we are, the brighter future we expect.

But we are not such good problem solvers for simple reasons: it is hard to define a genuine problem.

First, we do not have a real problem to solve. About 20 years ago, when I encountered the Black-Scholes problem involving second-order partial differential equations, I got stuck for a while. So I rushed to consult with my uncle - a nuclear physicist - for he had been known as a good problem-solver. He helped me learn how to get over them. Done. Then he said: "Ah, these guys are tricky. They tweaked the long-standing problem (which had been perfectly solved) to show that a close connection exists with their problem in economics. That's all they did."

So, that became clear to me: the power of defining the problem. The "guys" my uncle – a super-smart superman-physicist – mentioned are Nobel laureates in economics with time-tested solutions so well known that later on, all Texas Instrument had to install a ready-built solution in every electronic calculator for finance and business students...

My super-smart uncle did not have a genuine problem to work on, so he continued living as a Vietnamese university physics professor, making a living by teaching computer programming skills. (He did make awesome physics discoveries in the Soviet Physics school of thought, but that was back in the 1960s and early 70s).

Second, we choose the wrong problem to work on. In Rene Descartes' philosophy of science, we know complex problems should be able to be decomposed into smaller and less complex (but interconnected) ones so that problem-solving will become less challenging and more manageable. Everyone has to do just that. So, by "wrong," I do not mean the problem we choose is NOT the right one, but how we decompose the complex one is inefficient and ineffective. In short, we are not capable of deriving a set of smaller, less challenging and less complex problems to solve.

In fact, while trying to derive smaller and less complex problems, some of the smartest even make them harder to solve. While in high school, we attended a class for the gifted who were supposed to learn lots of math to compete in the city of Hanoi and then the national competition. Some of my classmates were brilliant. The most brilliant faced exactly the same problems I just mentioned: They complicated the original problem by using the wrong way of deriving small problems.

So one of our math teachers at the day was angry to conclude: “The smart makes the most difficult problem easier to solve. And the stupid makes the easiest problem harder to solve. Unfortunately, one of the stupid is my nephew.” Yes, his nephew was in our class at the time.

Third, we fool ourselves that we have no problem with our intellectual capacity, skills, perseverance, or all other calibers. That means we assume we have no problem with problem-solving at all. In fact, we all do.

Watch a man being interviewed by a television reporter. Everyone tries to say something, hopefully showing his great intellectual qualities, without knowing that his answer betrays him so bitterly. The same goes for our illusion of problem-solving skills.

Those illusions impede us from seeking collaboration, true learning and true working. A kind of self-indulgence that brilliant scientists try to stay away from, but the rest want to embrace.

That’s it for now.

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* *Editorial note*: This piece was written eight years ago, in early 2016. It was lightly edited for clarity. This vein of thinking has led to out-of-box writings such as the Kingfisher’s stories [1] or those contained in *Meandering Sobriety* [2].

References

[1] Vuong QH. (2022). *The Kingfisher Story Collection*. https://www.amazon.com/dp/B0BG2NNHY6

[2] Vuong QH. (2023). *Meandering Sobriety*. https://www.amazon.com/dp/B0C2TXNX6L
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