Review: "You and Your Research" by Richard Hamming

Summary

This is a talk by Richard Hamming about the impact of one's relationship with research on the research itself. He talks about the following key points:

- The importance of working on important problems.
- The compound interest of learning and thinking, and the correlation between personal investment in research and the produced results.
- The necessity of working with the system.

He explains that most of the research done is not "important" research. He emphasizes that we need to think about what research we do, how it is seen in the bigger picture, and whether it is important in the bigger picture. In short, he wants researchers to work on topics they find important and that actually further their field.

He explains that time investment, given that the time is invested in a smart way, produces a compound interest. He notes that given two people of identical ability, the one who invests just one hour more per day will produce far better results than the other. He attributes this to the compound interest of learning and thinking — if you spend just a small amount more today, this will lead you to be slightly more productive tomorrow, further increasing the value of the one additional hour you spend. He therefore reasons that if a person wants to produce truly great research, they need to be willing to prioritize their research over other parts of their life to gain this compound advantage.

He also dives into the reality of the system and the institutions that research is confined to. He acknowledges that every good researcher has a certain drive to fight the system, but he conveys that by leaning into the system and working with it, you can exploit its efficiencies without wasting time fighting it. He tells us that this is a necessity even if it comes at the cost of one's individuality and convictions.

He also talks about the importance of scientific dialogue with colleagues — not only from the same field — and the incredible value contained in discussing one's work with capable people.

Strengths

The core strengths of the paper — or rather, the talk — lie in Hamming's experience both within research and in his ability to articulate his ideas. Mainly, the point of working on important problems is a very strong one under the maxim of wanting to achieve the best possible research.

Weaknesses

The main issue with the paper is that it is not reflective on its own ideas. His perception is very much confined to the American system of the 20th century. And while some points with certainty still apply today, it is also necessary to appreciate the importance of context. He also leaves the term "important research" very ambiguous. He connects it closely with accolades and historical relevance, but a great deal of foundational research without much glory is essential to the functioning of not just modern science but also our society as a whole.

My POV

I agree with his points about the compound interest of time investment and the importance of working on "important" problems, but I disagree with his definition of "important." I find that a researcher testing the results of someone's paper and affirming or refuting it is also important. Further, I assume that the system has changed quite a bit, even though I cannot fairly assess that due to a lack of knowledge.

Takeaways

My main takeaways are the following:
In research, you have to be wholeheartedly committed to the work you are doing if you want it to succeed. And if you commit to something, then you should, both beforehand and during, think and reflect on whether what you are doing is important — if not to the world, then at least to yourself. I see this as a point that applies not only to research and science but to almost anything in life.