

Abstract You and Your Research

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Abstract—This is an abstract of the transcription of the Bell Communications Research Colloquium Seminar, specifically the lecture given by the Dr. Richard Hamming about the relation of the research and the investigator and what he considers to be the key factors that influence on his or her success.

Index Terms—Richard Hamming, You and Your Research, abstract.



1 ABOUT THE DR.

THE Dr. Richard W. Hamming developed his career around the computer science and mathematics. Studied at Illinois, joined the Los Alamos project during the war and then joined Bell Labs. Since he began his work at Bell Labs, he had this anxiety to make things better, and know what differences the normal people with the people that do "first-class work".

2 TRAITS

In his search for excellence he found out some traits that distinguish the good researchers with the ones who do the first-class work.

2.1 Luck-Courage-Confidence

With some examples, the Dr. explains that although most of the people think that great science is just luck, is not that way. Since a great number of scientist that made big discoveries didn't made one but several. This made him think that is most courage nor luck what move them to make this discoveries, the courage to make a question and pursue the answer. And when they finally find the answer, they build up confidence that boost their courage. "Luck favors the prepared mind."

2.2 Drive-Application

But is not only the courage to do the things but to truly make them. He makes a comparison between two persons, were the first one dedicates more effort to get things done and applied that effort intelligently, this person will get better results undoubtedly. - "Genius is 99% perspiration and 1% inspiration."

2.3 Ambiguity

The better results are obtained when the scientific is aware that what his theory can be right or wrong so he have to believe in it enough to start the project but mistrust and recall all the flaws that the theory can have so they can put special attention on that.

2.4 Open—Closed Door

This one was a tricky one for Hamming, since the people that work with a closed door as he calls it tend to do more work and be more productive than the ones that work with a open door, but the later ones tend to get hints about what could be the real big problems that have to be resolved with the interaction with other people.

3 OTHER FACTORS

3.1 Age-Success

According to Hamming, the age is directly related with the success. That depending on the study field, a person within a age range will likely to make their best works. And when they are at the peak commonly they will get stuck. This because they forget to as he says "plant the little acorns from which the mighty oak trees grow"; so they only work on big problems.

3.2 Working Conditions

This he explain it simple, not always the best conditions are were you get all the facilities but maybe in a modest place were you can see the opportunities that arise from a problem.

3.3 Sell Your Job

He experimented studied how people respond to the information that is given, and he suggest that a person that do "first-class work" must learn how to write clearly and communicate his ideas also verbally. Normally they'll tend to fill their publication with a bunch of technical information and leave the context behind, and doing so the reader can get lost.

3.4 The system

There's an entity that Hamming calls system, and during his lecture he tries to explain that the way to live with it is to adapt, study and make it work in his favor. He gives 2 options, fight again it or just use the time on the research and leave that kind of fights to other people. But there are some fights that the person can make to gain recognizance.

REFERENCES

- [1] R. Hamming and J. Kaiser. *You and Your Research*. Morristown, New York: Bell Communications Research, 1986.