

Helmut Milz:

Uncertainty & Serendipity

In times of rapid globalization, with expanding worldwide markets and communications, growing ecological destructions, multiple wars, international terrorism and mass exodus of millions of refugees, there is growing uncertainty on many frontiers. In this context science is sometimes understood “as the secular equivalent to spiritual salvation” (H. Novotny). Many hope for fast or even miraculous discoveries and breakthroughs to solve these problems. Others speculate on lucrative innovations, while often ignoring possible connected social or ecological risks. New algorithms are searched to screen complex “big data” for solutions, which may shape the future for the better. In-midst of all the new machineries of Government and Self-Governing, a challenging strategy, coming along with an interesting sounding neologism – serendipity – becomes an indispensable ally to research. In 2015 the Global Research Council formulated a paradox: “Real innovations are those that come about unexpectedly, and this means we cannot actually plan for and organize them. In our strategies, we have to institutionalize something we cannot actually institutionalize.” Researchers need freedom and the flexibility that leads to serendipity, and they should be encouraged to take risks even if it leads to failure.

In the 1930s, the sociologist of science, Robert Merton rediscovered the concept and term of “serendipity”. While searching in the Oxford English Dictionary, he stumbled about an unusual word, which had been coined in 1754 by the English writer Horace Walpole. Walpole had constructed this new term around the title of an Persian fairy tale: “The Three Princes of Serendip”. On the heroes of this story, Walpole had written: “As their highnesses travelled, they were always making discoveries, by accident and sagacity, of things which they were not in quest of: for instance, one of them discovered that a mule blind of the right eye had travelled the same road lately, because the grass was eaten only on the left side, where it was worse than on the right – now do you understand serendipity?”

Serendipity can be understood as the outcome of unique blend of intellectual scholarship, alertness, attention, a portion of wit and the unprejudiced exposure to a wide range of experience, which may lead to sagacity, open-mindedness and the appreciation of

surprising (side)effects, which at first may seem to be accidental or even a failure. They may provide chances to discover missing links to new “patterns, which connect” (G. Bateson). The “Serendipity Pattern” (R. Merton) postulates that surprising observations should be “unanticipated”, “anomalous” and “strategic”, i.e. with lasting implications for the development of new knowledge and theory. It is almost impossible to foresee a groundbreaking discovery and often they are not in accord with current beliefs or dominating theories. Discoveries are sometimes the fruit of a genial mind, but more often they grow out of “fortuitous circumstances” (R. Hoffman) in “sociocognitive microenvironments” (T. Merton), which are provided by collaborating teams, shared intellectual communities, congenial working groups, “Centers for Advanced Studies” or maybe inspired by transdisciplinary Summer Schools like the “CortonaWeek”. They may open discourses between synergistic qualities of logic, mathematical, naturalistic, linguistic, artistic, bodilykinesthetic, spatial, interpersonal, social or cultural intelligences. To allow serendipitous discoveries, the Natural Sciences can profit from collaborating with the Humanities and the Arts, and vice versa. Roald Hoffman, a Nobellaureate in Chemistry and a former contributor to the CortonaWeek commented on this: “We need the arts, for they address the problems that are capable of no solution, only infinite paraphrasing, infinite resolutions. There is room for the millionth poem about the end of love, for there is no strict calculus of that loss. The humanities also temper the dictates of politics and reason, they make you understand that things are never black or white, but shades of gray in which fallible men and women strive to be good to others and to themselves.” By speaking more frankly about the differences and the dynamics of strictly applied, logically formalized research protocols and possibly meandering, serendipitous discoveries, attentiveness, curiosity and observational skills will be enhanced. R. Feynman mentioned: “We have a habit in writing articles published in scientific journals to make the work as finished as possible, to cover up all the tracks, to not worry about the blind alleys or to describe how you had the wrong idea first, and so on, so there isn't place to publish, in a dignified manner, what you actually did in order to get to the work.” In the same vein George Beadle said: “I have often thought how much more interesting science would be, if those, who created it, told how it really happened, rather than reported it logically and impersonally, as they often do in scientific papers.”

Further readings:

Hoffman, R.: Between Art and Science. A conversation with Roald Hoffman.
Cosmo-politan Review, 2014, Vol. 6, No.2

Merton, R.K, Barber, E: The Travels and Adventures of Serendipity, Prince-ton
University Press, 2004

Novotny, H.: The Cunning of Uncertainty. Polity Press, Cambridge,
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