Editorial

Gerontology

Gerontology 2019;65:103–105
DOI: 10.1159/000495861

Published online: February 8, 2019

Pillars of Successful Research: Serendipity, Pasteur's Axiom, Kairos, and Luck

For reasons I can only guess, I have apparently been a good teacher and mentor for many students and postdocs who later became highly successful scientists in many different disciplines all over the world. In this Editorial, I will therefore try to discuss obvious and less salient circumstances that impinge on the lives and professional achievements of a scientist.

Successful research depends on factors that are either inborn or acquired as well as spontaneously arising or consciously planned opportunities. Inborn prerequisites for successful scientific work include intellectual capacity – often restricted to a narrow scientific spectrum – passion, original ideas, potential for lateral thinking, determination for hard work (scientific results are based on 1% inspiration and 99% transpiration – Thomas A. Edison), and persistence.

Constituents of a scientific career that can be planned to a certain extent are the choice of one's specific research discipline or even special niche and the selection of an optimal working group or an institution led by a competent mentor providing good and critical guidance through the jungle of your student days and your later independent life when you lead your own group or a larger enterprise (do not forget that the best way to compete for a Nobel Prize is to first work in the laboratory of a Nobel laureate!). Finally, pure necessity in the course of a research project often leads to the development of new methods that are needed to overcome technical obstacles.

In addition to these obvious ingredients of successful research, other, more ephemeral circumstances play essential roles. Some of these are intimately dependent on prior professional experience and therefore give preference to older scientists. For me, the most important representatives of these imponderabilities are Serendipity, Pasteur's Axiom, Kairos, and, of course, pure luck.

The term Serendipity is used in the English literature describing a finding that a person – in the present case a scientist – has originally not looked for. This notion was first coined by Horace Walpole, 4th Earl of Oxford (1717–1797), alluding to an old Persian tale that described the adventures of the three princes of the land Serendip, the former island of Ceylon, now Sri Lanka. These princes swarmed out to their kingdom in disguise to look for typical characteristics – wishes and achievements – of their people and were confronted continually with something different from their expectations.

A telling example for a serendipitous finding is the discovery of America by Christoph Columbus or – more prosaic – that of the functional properties of Viagra. Every reader of this Editorial – including myself as its author – will certainly be able to cite numerous examples of serendipitous findings that occurred in the course of her/his own work and recall the surprise and satisfaction accompanying this event.

Equally important are discoveries based on Louis Pasteur's Axiom that "chance smiles at the prepared mind."

E-Mail karger@karger.com
www.karger.com/ger

Fig. 1. Agnostizi, Kairos-Relief von Lysippos, Kopie in Trogir, CC BY-SA 3.0.

In my own career, I was often confronted with unexpected results from our own or other laboratories that I was able to interpret differently than my younger or less experienced colleagues due to my longer and broader theoretical and practical experiences.

Thus, Serendipity and Pasteur's Axiom are two notions that often contribute to the success of research depending on prior knowledge of a scientist.

What about Kairos?

Kairos has two meanings: on the one hand, it is the name of the ancient Greek god of the right moment or the right opportunity; on the other hand, it also denotes the right moment or opportunity itself that must not be missed because it will never arise again. The god Kairos is bald in front and wears a stack of hair on the back of his head (Fig. 1). Hence, a German proverb translated into English is "to seize an opportunity at its stack of hair."

In my own life as a group leader, teacher, and mentor, Kairos often meant the fortuitous gathering of exceptionally gifted young and older scientists at a certain period in our laboratory that created a unique collegial intellectual atmosphere, resulting in exceptional scientific moments and the beginning of many successful careers in different fields of research.

All these considerations are, of course, not specific for research, but pertinent to all aspects of human life, and so is the least projectable, but most important facet – pure luck.

For me, as the Editor-in-Chief of *Gerontology*, the year 2018 was again filled with pleasure and excitement upon the receipt of an ever-increasing number of interesting manuscripts for all sections. This was also the reason that we – together with the Editors for the topics Regeneration (Günter Lepperdinger) and Technology (Bijan Najafi) that so far were combined into one section – decided to run these as separate, independent sections starting in October 2018.

One problem of being confronted with the increasing influx of so many manuscripts was their often purely descriptive nature. We have therefore added a sentence to our Mission Statement explaining that by definition, gerontology is interested in studies on mechanisms that possibly underlie any described experimental, clinical, or other phenomenon.

Furthermore, the Section Editors were instrumental in conveying the message to all authors that *Gerontology* is the only gerontological journal that addresses a very broad readership from many disciplines, requiring manuscripts to be written in a style that can be understood by this diverse audience.

As mentioned in my 2018 Editorial, the impact factor of *Gerontology* had risen above average for the year 2017. In 2018, a slight drop occurred due to the fact that our publishing house, Karger, had generously allowed us a significant increase of the number of pages for the evaluated period to work off our backload of accepted papers waiting in the pipeline.

As every year, several members have rotated off our Editorial Board, and I would like to take this opportunity to thank them again for their intellectual input and donation of time.

Johannes Attems, Newcastle upon Tyne, UK, has to focus more intensively on a journal that he is editing and asked to be relieved from his duties as one of our three editors for the Clinical Section. He will, however, be further associated with *Gerontology* as a member of its Editorial Board. Peter Pietschmann, Vienna, Austria, an experienced and highly competent member of our Editorial Board, will act as the new third Editor of the Clinical Section.

David Gardiner, Irvine, CA, USA, has agreed to become the second editor for the new, independent Regenerative Section, and Michael Schwenk, Heidelberg, Germany, will act as the second editor of the Technological Section. I am looking forward to our collaboration with great anticipation.

Newly recruited members of the Editorial Board of *Gerontology* are Michael Beach, Marwan Sabbagh, and Timothy Farrell for the Clinical Section, and Dale Dannefer and Kira Birditt for the Behavioural Science Section. Thanks and Welcome!

Finally, I would like to thank all Section Editors, members of the Editorial Board, reviewers, the staff of Karger – especially Mr. Nold, as the responsible representative for our journal – and Christine Süss from the Editorial office, for their ideas, dedication, and commitment to *Gerontology* during the year 2018!

G. Wick, Innsbruck