

ACADEMIA

The Road to Utopia

Dr. Agnieszka Kloch

Faculty of Biology, University of Warsaw



Although access to knowledge and the freedom to conduct scientific research are now far greater than decades ago, the ideal is still a long way off.

Recently, an Iraqi colleague defended his doctoral dissertation, presenting an analysis of materials collected over many years of parasitological research in Egypt. When asked what types of field work he had participated in, he replied: in none at all. Due to the strained diplomatic relations between Egypt and Iraq, he had been denied a visa. Fortunately, his Polish colleagues did not have such difficulty and thus the project could still be completed. Although science knows no borders, they do certainly affect the scientists themselves. There are no statistics, so we can only guess how many Middle Eastern scientists have been denied entry into the United States as a result of President Trump's executive orders, and how many researchers will have to leave British universities as a result of Brexit.

But even if the political map limits the mobility of researchers, they can still stay connected via the Internet. Once upon a time scientific journals were only available in libraries, whereas today the vast majority of publishers provide online access. Unfortunately, some charge a fee for accessing their resources and force institutions to purchase bulk packages of their journals consisting of numerous titles. This has led to a boycott of Elsevier, a leading publisher. So far, over 16,000 of the 600,000 authors whose work is published by Elsevier have joined the boycott.

An alternative to the paid-access model is the open access movement. Here the cost of publishing is borne by the authors themselves, but this allows the publisher to provide free access to the articles. The Public Library of Science (PLOS) and BioMed Central (BMC) are two highly renowned publishers in this respect, and their titles rank high on the ISI index of journals. The fees for publications are high (about 2000 euros) and not all research teams can afford it. And since high-profile publications open the door to funding for further research, it seems only the rich can afford to boycott Elsevier.

As far as research funding is concerned, public funds play a key role in Poland and most of Europe. In the United States, the private sector, especially pharmaceutical companies, is a significant provider of resources. The findings made in research done through the private sector, although they may lead to new drugs, are not published, which means they cannot be used by

other researchers. Freedom of access to knowledge here must succumb to the benefits of limiting this access. Government agencies, such as the US DARPA (Defense Advanced Research Projects Agency) behave in a similar way. Although many of the projects funded by it, such as the Internet, have been circulated and serve humanity, probably just as many, remain classified and will never see the light of day.

Even if the funding organization does not prohibit the dissemination of the results, or indeed even requires it, the issue of what research to conduct still remains. In science, some topics are trendy while others are considered anachronistic, and here the chances of getting financial support are very small. According to the Enlightenment ideal, science seeks the truth, but it is only accepted when each discovery advances our knowledge about one-half a step forward. Too bold a jump will certainly meet with disapproval. The story of Michael Kaplan is a good example. In the late 1970s this American scientist observed the emergence of new neurons in the mammalian brain. This finding was contradictory to the received paradigm of the time, holding that neurogenesis does not occur in adult animals. Pasko Rakic, an authority in neuroscience, even wrote: "It may look like new neurons in New Mexico [where Kaplan worked], but it certainly does not look like that at Yale." The supply of funding for Kaplan stopped, prompting him to change his specialty, and his discoveries only received acclaim 20 years later when the paradigm on neurogenesis finally shifted.

In the social sciences and humanities, a certain threat to the freedom of research is posed by the fact that some research results can easily be misused by proponents of certain political views. So maybe it is better to leave some topics alone, rather than willingly provide them with ammunition? In the current political situation in Poland, is it possible to objectively conduct research on cultural gender, for example, or the participation of Poles in the pogroms of Jews?

Although access to knowledge and the freedom to conduct scientific research are now far greater than decades ago, the ideal is still a long way off. The freedom of research will probably remain a utopia. We should not, however, cease our efforts to strive to come as close to it as possible. ■