Received: 6 June 2019 | Accepted: 13 June 2019

DOI: 10.1111/eth.12920

EDITORIAL

ethology WILEY

# Editorial: On the importance of studying animal behaviour—Or any other kind of "blue sky" research

At the very beginning of my scientific career, I studied the social behaviour of Indian false vampire bats in a Hindu temple in a tiny village in southern India. Every evening, the temple watchman, dressed in a white dhoti, would quizzically nod his head and ask if I really came all the way from Germany just to study the behaviour of bats. To him, I must have seemed like a bizarre lunatic, or a temple raider? Luckily, every night, he would nevertheless unlock the gate so that I could enter the temple. But indeed, wouldn't the money for my ticket and accommodation in India have been better spent to improve the living conditions of the people in that small village, for instance? Don't we have more serious problems to solve than studying the social behaviour of bats?

This Hindu watchman was the first, but not the last person I met doubting that there are good reasons for doing basic research. "Don't you have a real profession?", "What is this good for?" and "Who pays for this?" are typical questions that may sound familiar to many of us. Admittedly, the tone of some critics suggests they may be jealous of people who were able to turn their passion and fascination for nature into a profession. However, the necessity to do basic research in biology, chemistry or physics is often questioned and since most of the funding comes from public money, we should be able to explain to the taxpayer why it is important what we do.

A common and very valid justification of doing and funding basic or "blue sky" research is that many discoveries lead to unforeseeable, novel and practical applications, and that every penny spent for basic research will multiply and result in economic growth. According to the NIH, for example, the investment into the human genome project generated a 178-fold economic return of the initial investment (https://www.nih.gov/about-nih/what-we-do/impact-nih-research/our-society). Animal behaviour research is unlikely to generate such huge effects, but our studies have other important practical applications, for example, for species conservation or to establish a scientific basis for the ethical treatment of wild, domestic and farm animals. Some findings even have potential medical value, such as the discovery of neurogenesis in the brain of songbirds (Goldman & Nottebohm, 1983). A medical treatment based on the observation that birds regrow the papillae of the hair cells in the cochlea and regain hearing after damage (Rubel, Furrer, & Stone, 2013), or a pill that prolongs life of humans based on the observation that flying birds and bats get much older than similar-sized non-flying birds or mammals (Healy et al., 2014) might even generate a Nobel Prize for Medicine involving a behavioural scientist (even though, I honestly doubt whether it is a good idea to seek even longer life, given that our sheer population size is already more than troublesome to our planet).

But the real value of basic science is more abstract. Humans are probably the most curious of all animals and have an innate quest for knowledge. To speak with Johann Wolfgang von Goethe's Faust: "*Dass ich erkenne was die Welt im Innersten zusammenhält*" (That I may know what the world contains in its innermost heart and finer veins). Blue sky research thus follows one of the basic needs of humans and that is to understand how the universe, the earth and nature work. This is the very basis of our evolutionary success—so far at least!

Similar to the arts, doing science is a basic need for humans and an expression of culture. Natural history and science museums belong to the most visited museums worldwide, and nature and science documentaries on TV are extremely popular. The basic need of humans to understand the world is so important that the freedom of research has made its way into the constitutions of many countries (in particular in Europe). The freedom of research and teaching is often mentioned alongside the freedom of arts. For instance, Article 13 of the Charter of Fundamental Rights of the European Union states "The arts and scientific research shall be free of constraint. Academic freedom shall be respected." Similarly, Article 27 of the Human Rights Declaration states "everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits." This freedom needs to be appreciated and defended against the anti-democratic political movement that is gaining influence and political power even in democratic countries. Proponents of these reactionary movements are not only trying to corrupt the division of powers and limit the liberty of the free press but they also deny basic scientific evidence and question the freedom of basic research: instead, funding should only go into research that is in their interest.

The arts need public and independent funding; otherwise, only mainstream will be produced. Similarly, basic science needs public funding and decisions as to which projects are supported have to be made by independent panels with the scientific quality of the project as the sole decision criterion (apart from ethical considerations, of course). Similarly, editorial decisions on the publication of a study should be based on the scientific quality of a study and no other criterion. Thus, just as doing art, being able to conduct and publish basic science is an expression of a free and progressive world and in the best sense of the constitutions of democratic countries and

W. Goymann

  

the Charter of Human Rights. It thus does not make sense to play off improving the living conditions of people against studying the behaviour of animals (or doing any other kind of basic research). If we confess ourselves to the principles of liberty, equality and basic human rights, we need to be able to do both!

Wolfgang Goymann

*Abteilung für Verhaltensneurobiologie, Max-Planck-Institut für Ornithologie, Seewiesen, Germany*

**Correspondence**

*Wolfgang Goymann, Abteilung für Verhaltensneurobiologie, Max-Planck-Institut für Ornithologie, Eberhard-Gwinner-Str. 6a, D-82319 Seewiesen, Germany.*

*Email: goymann@orn.mpg.de*

## ORCID

*Wolfgang Goymann* https://orcid.org/0000-0002-7553-5910

## REFERENCES

Goldman, S. A., & Nottebohm, F. (1983). Neuronal production, migration, and differentiation in a vocal control nucleus of the adult female canary brain. *Proceedings of the National Academy of Sciences*, *80*, 2390–2394. https://doi.org/10.1073/pnas.80.8.2390

Healy, K., Guillerme, T., Finlay, S., Kane, A., Kelly, S. B. A., McClean, D., … Cooper, N. (2014). Ecology and mode-of-life explain lifespan variation in birds and mammals. *Proceedings of the Royal Society B*, *281*, 20140298. https://doi.org/10.1098/rspb.2014.0298

Rubel, E. W., Furrer, S. A., & Stone, J. S. (2013). A brief history of hair cell regeneration research and speculations on the future. *Hearing Research*, *297*, 42–51. https://doi.org/10.1016/j.heares.2012.12.014