

Today is the third time that the Eduard Brückner price is awarded to a climate researcher, who has made outstanding achievements in the interdisciplinary field, called “climate science”. The first two recipients of the Eduard Brückner price were the historian Christian Pfister from Bern and the oceanographer Ernst Maier-Reimer from Hamburg.

Climate science is a cross-cutting issue and not a discipline. Various fields contribute to climate science – the classical ones are meteorology, oceanography, glaciology, geology and geography; others contribute now regularly, as for instance ecology but also economy and other humanities, in particular policy sciences.

To study climate, which is the statistics of weather, only from the view point of describing atmospheric variables such as temperature and precipitation, has been the classical approach which matured for instance in Vienna under the auspices of Julius Hann. It required the collection of many comparable measurements and resulted in large maps, which still cover the walls of many class rooms showing

climate zones. This work was mostly concluded in the 1930s, or so, was subject to teaching pupils and students all over the world, and became academically sterile.

Meteorology withdrew from the field, and went on to do physics, physics of the atmosphere, even if they were not admitted into the noble club of physicists. Geologists continued to collect evidence for climate variations primarily on very long time scales, but also on short term variations. Weather Services continued their good and sometimes boring work of recording weather variables.

The turning point came, when the view of climate as being variable on all time scales due to internal and external processes, was widely accepted. Then the activity in the field grew exponentially, with a large variety of challenges, which could not be met by meteorologists alone.

For the dynamics of the variations the climate system had to be considered, so that oceanographers entered the field; people who had

understanding for sea ice and vegetation followed. But not only were the dynamics of climate change of interest, but also the drivers – in particular human drivers. This need brought economists in.

At the same time, an old view came back, namely the view that climate would have an impact on humans and their societies, and on ecosystems. In the old days of climatic determinism, the stationary climate would do the job; a major element was providing the “centers of civilisation” with good feeling of living in the most benign and most prosperous climate! But, with the understanding that the statistics of weather, i.e., climate, would be variable – the understanding came that then all human activity which depends on a certain climate would be impacted by a variable climate. That is, climate impact studies entered the field – and thus many of the disciplines a university can offer, as for instance marine ecologists, coastal engineers, agronomists, economists or foresters as well as physicians.

The understanding of a variable climate and its significance for the social life were major achievements of Eduard Brückner, who published his key results in his dissertation in 1890. Later he became rector of the University of Bern and eventually a colleague of Julius Hann in Vienna. His tragic was that implicitly assumed that social conditions would be stationary, so that he considered it sufficient to analyze (his) present-day dependency of social processes, for instance related to health, trade, emigration, or national power, on climatic conditions. The rapid social development at the turn of the 20th century made most of his links obsolete.

But, even if the details of Brückner's analysis are not longer of relevance for present day climate science, his work resulted in two major conclusions – namely climate is not constant and climate variations matter for societies. Appropriate adaptation and technical progress can mitigate adverse climatic risk and developments.

What Brückner had no idea of was that mankind is able to change climate by in particular emissions of adversely acting greenhouse

gases and aerosols. Thus, a totally new dimension came into sight – how to deal with the emission of such emissions, how to implement mitigation strategies. And also the challenging question – how much of ongoing climate change is due to human action.

At this time, the political and economic system was faced with the need for decisions – decisions in the face of uncertainty, decisions about the right mix *auf laissez-fair*, of active adaptation and of active measures to reduce the emission of harmful substances into the atmosphere, which was considered a free dump in all times.

At this time, the time for policy science came. How to design climate policy? The analysis of the interaction of policy and science, which is certainly not following the naïve one-dimensional “science speaks to power” concept. The link of policy and politics. The politicization of science, and the scientification of politics.

This observation brings me to the end of my talk – to our recipient Roger Pielke, jr., policy scientists from Boulder, Colorado. Originally a mathematician, he went on to study Public Policy and Political

science and received his PhD for his dissertation “Completing the Circle: Global Change Science and Usable Policy Information” in 1994.

Roger Pielke has made many achievements – I just list a few. One achievement, with major impact, was the analysis of how different a key technical term is used – namely climate change—and which implications the different terminology has for the political process. Another aspect is the analysis of economic damage data and its alleged link to climate variability. The famous curve showing the dramatic increases of weather related damages in the past decades, which was often misunderstood and also often misrepresented as proof on an anthropogenic worsening of weather extremes, was successfully deconstructed by Dr. Pielke, when he demonstrated that social and economic change would be responsible for most of the effect. A third line of research is related to the role of science for the political decision process, which is often understood as to narrow down the options available to policy, and to almost prescribe which decisions have to be taken. Instead, Roger Pielke is arguing, the role

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of science is to broaden the range of options, and to provide decisions makers with information about the options, so that policy makers and the public can weight the different consequences in its full complexity across all problems. We expect his newest book, “The Honest Broker: making sense of Science in Policy and Politics”, which we expect to come out in early 2007 at Cambridge University Press.

Hans von Storch, 9 October 2007