

Antidote to angst

Wissenschaft gegen Zukunftsangst

by Hubert Markl

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Zukunftsangst is difficult to translate; it refers to amorphous feelings of concern and anxiety about the future. Although this book's title, *Wissenschaft gegen Zukunftsangst*, indicates its aims to show how science can overcome *Zukunftsangst*, the term is covered by only a few sentences. Perhaps 'Follow me' would be a more appropriate title for this collection of 16 public lectures given by Hubert Markl.

As a former president of the German research council and current president of the Max Planck Society, Markl is the most prominent and powerful voice of German science today. Throughout the book he relentlessly canvasses for a world guided by science. Markl claims that experience over the past three centuries has taught us that only the methods and insights of science are consistently reliable.

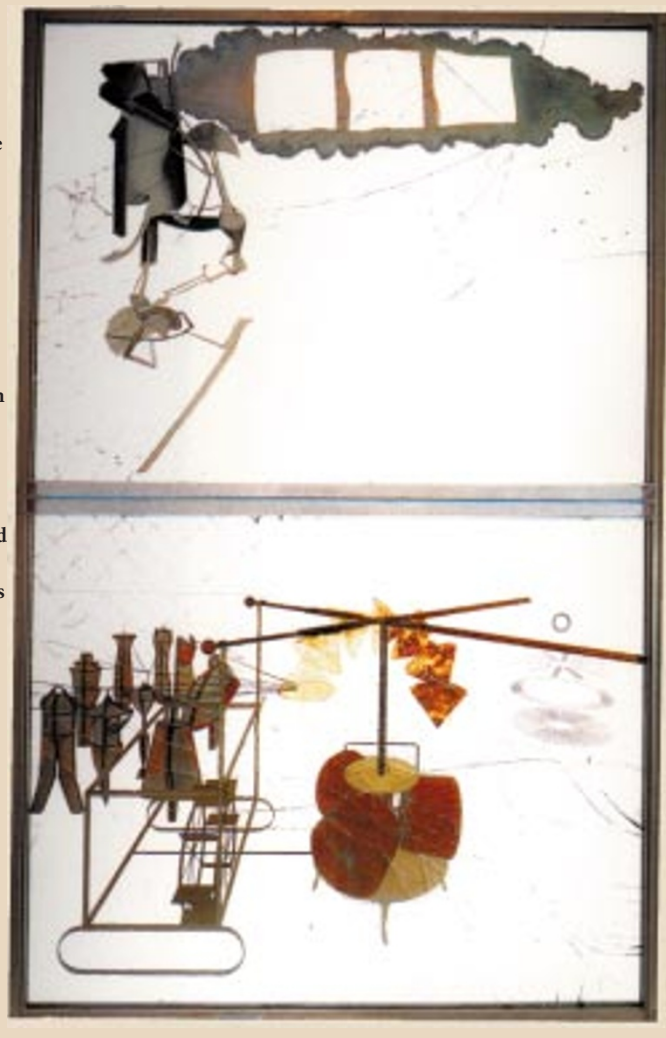
In support of this conviction, the first seven lectures present an array of facts and concepts from modern biology. We are told how man evolved from the animal kingdom through social learning and cognition, and why "there is no such thing as a free lunch" in an ecologically interconnected biosphere that will not dispense with mankind. This part of the book makes highly informative reading for physical scientists. The wealth of facts are lucidly presented. The language sparkles with colourful metaphors, inspiring analogies and references to historical events and classical literature. This is media science at its best, and these chapters should be compulsory reading for decision-makers in public affairs.

Markl identifies certain challenges that must be addressed if we are to achieve a sustainable future for humankind. Among these are control of human population size (underlined in red and repeated throughout the book); sustainable management of the biosphere; the fight against the lobbying power of special interest cartels; and support for science and technology.

Although we may agree with these aims, it is clear that progress requires brave cuts into a thick and dangerous jungle of competing interests. But, surprisingly, the book offers a plain highway to a promising future: keep to rationality, follow the signs of science and you will travel in the right direction and finally arrive at your destination. On this road there seems no place for philosophy, psychology and sociology, or for any science not brand-

A 'playful physics'

Marcel Duchamp wrote hundreds of preparatory notes for his main work: two panes of glass entitled "The Bride Stripped Bare by Her Bachelors, Even". He intended these notes — many of which discuss science in the early twentieth century — to accompany the glass "somewhat like a Sears Roebuck catalogue" and to equal it in importance. Later in his life he denied any serious interest in science and technology. From *Duchamp in Context: Science and Technology in the Large Glass and Related Works* by Linda Dalrymple Henderson (Princeton University Press, \$85, £60).



ed by the fire of experiment.

It is at this juncture that the book loses much of its power. Although the author acknowledges that mankind is also driven by irrational motivations, and that there are the arts, poetry and other creative human activities, these are not included in his framework for a future world. All the lectures remain strictly within the natural sciences with their spotless paths weeded by infallible logic.

This is why the second part of the book, which addresses interrelations between science and society, and power and politics, is less inspiring and informative. There is a lecture on science and power, a field in which Markl has been involved for decades. A discussion of how science deals with the political and economic power on which it depends would have been fascinating. The issue is not discussed, however. The gardener of science only passes on to these powers a list of fertilizers needed to keep the garden clean, flourishing and productive.

From an ethological viewpoint, *Zukunftsangst* is described as one of the costs of being human. "When this human trait becomes irrational (*sic*) and no longer differentiates between the possibility and

probability of imagined dangers, it provokes a pathological epidemic." The author does not discuss its nature nor why it has reached epidemic proportions in Germany. There is no reflection on aspects of German history that might explain the specific virulence of *Zukunftsangst* there, especially among intellectual groups anxious to prevent any disaster to humanity emanating again from this country.

In the book, *Zukunftsangst* is used merely as a punch-bag to demonstrate the power and strength of science. Although I agree with the author that the only effective antidote to an epidemic of *Zukunftsangst* is knowledge, when a fighter does not take his opponent seriously the fight loses its impact.

Consequently, when the reader closes this enlightening book, he might behave like the fabled Bavarian peasant, who leaves church moved by an inspiring sermon and goes straight to the nearest inn for a stein of beer over which to plan how to sell his ailing cow to an unsuspecting buyer. □

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