

**Book Review:**

*Wissenschaft, Parawissenschaft, Pseudowissenschaft [Mainstream Science, Parascience, Pseudoscience]*

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**A review of *Schulwissenschaft, Parawissenschaft, Pseudowissenschaft [Mainstream Science, Parascience, Pseudoscience]*, edited by Gerald L. Eberlein. S. Hirzel/Wissenschaftliche Verlagsgesellschaft, Stuttgart, Germany, 1991. 186pp. DM 29. ISBN 3-8047-1168-5.**

This is the first German language reader dealing with the thorny problem of how to describe similarities or dissimilarities between mainstream sciences, parasciences, and pseudosciences. Edited by Gerald L. Eberlein, a Munich sociologist, this collection comprises four areas of investigation: (1) dowsing; (2) homoeopathy; (3) parapsychology; and (4) astrology. The volume contains 13 articles. Six of them are written by 'critics' (posing as representatives of 'Schulwissenschaft'), five are authored by 'proponents' (posing as representatives of 'Parawissenschaft'), and two contributors take a somewhat 'neutral' stance regarding the basic issue of the volume.

In his introduction (pp. 7-21), the editor makes a rather superficial distinction between 'mainstream sciences' (comprising 'problems, theories, methods and results accepted and approved by academic research communities'), 'parasciences' which, viewed from the sociological perspective, exhibit social structures and processes comparable to those of orthodox sciences although their claim to be 'real' science ('Wissenschaftsanspruch') is still under dispute, and, finally, 'pseudosciences', which, viewed from the epistemological perspective, cannot be accepted (or accepted any longer) as 'established' (in German: 'anerkannte') statements, theories, methods or research programmes. Eberlein's intention as editor of this volume is not just to 'debunk' para-

scientific claims in a CSICOPian manner, but instead to facilitate more 'zetetic' dialogues between 'orthodox science' and 'parascience'. That means, in his own words:

...listening to the para-scientist, having a close look at his/her activities in order to figure out to which criteria, that is norms of scientific behaviour, he/she [the parascientist] is adhering to. (p. 9)

Eberlein then summarises the debates to follow and gives his personal evaluation regarding the problem if dowsing (or radiesthesia), homoeopathy, parapsychology or astrology are really dealing with genuine anomalies that cannot readily be explained by 'orthodox' or 'conventional' models.

The first chapter on 'dowsing' comprises three articles that deal mainly with a research project on dowsing carried out by a Munich group of experimental physicists directed by Hans-Dieter Betz and Herbert L. König. The project, sponsored by the German ministry for research, achieved a high

degree of public visibility and was chosen as a primary target by a newly founded group of German sceptics called GWUP (Gesellschaft zur wissenschaftlichen Untersuchung von Parawissenschaften [Society for the Scientific Investigations of Parasciences]). The contribution of Horst

Lob (pp. 23-44), a physicist from Gießen University and a member of GWUP, pre-sents the usual sceptical outlook of a natu-ral scientist when confronted with claims such as 'earth rays', 'radiaesthesia' or 'geopathy'. He gives a useful summary of what is known in physics on electromag-netic fields and makes some critical remarks on the validity of the Munich study. Its authors, Betz and König (pp. 53-70), give an outline of their study and take the German sceptics group to task for their unfair behaviour. For Betz and König, there is no doubt that some dowzers show reproducible bodily reactions that are both mainly location-dependent and inexplica-ble by recourse to known normal sensory perception of stimuli. Nevertheless, in their opinion, future attempts at explanation of the dowsing reaction should build from a basically conventional biophysica- l stimulus-response model. A further step in that direction is a careful documentation of the dowsing results with one selected subject, an engineer, who is apparently able to detect underground water with an aston-ishing success rate (for details see Betz, 1991). There is also a shorter contribution by Raimund Kaufmann (pp. 45-51), a clini-cal physiologist from Dusseldorf Univer-sity, who analyses the rhetoric of the con-troversy surrounding the Betz-König pro- ject (emotional dichotomy between 'believers' and 'doubters') and criticises some of the implicit assumptions of the 'Tugendwächter' ['guardians of virtue'] of the medical scientific establishment in Germany.

The next chapter is on homoeopathy and comprises three contributions. Karl-Heinz Gebhardt, a specialist in internal medicine and practising homoeopathic doctor, discusses in a lucid way the merits and shortcomings of homoeopathic therapy within the hierarchy of therapeutic approaches (pp. 71-82); for him, there exist clear-cut experimental proofs for the clini-cal efficacy of homoeopathy, a conclusion that is disputed by the following article written by Evarudus J. Ariens, a Dutch pro-fessor of pharmacology and toxicology (pp. 83-95). He argues that homoeopathy can be

compared with 'paranormal' healing: what works if it works is just a placebo effect. In his opinion, there are no 'scientifically acceptable controlled clinical studies'. Nevertheless, Gunther Harisch and Michael Kretschmer, two physiologists working in the field of veterinary medicine at Han-nover University, tested the enzymatic reactions of rats by administering a homoeopathic substance; in their rather technically written article (pp. 97-107) they present some preliminary biochemical data pointing to the fact that homoeopathic treatment of animals can indeed cause some objectively measurable effects. In principle, their article is a plea that basic research into homoeopathy should follow the usual rigorous approach of the natural sciences.

The third chapter is devoted to para-psychology proper and consists of three articles. The editor, sociologist Gerald L. Eberlein, proposes in his article (pp. 109-117) ten hypotheses that should characterise 'mainstream sciences' in contrast to 'parasciences' (for an English version of his approach see Eberlein, 1993). In general, his evaluation of parapsychology is rather negative. He maintains that parapsychologists believe in 'psi phenomena' in a way comparable to cultists. In my own contribution (pp. 131-146), written as a direct rejoinder to Eberlein's theses (when applied to psi research), I tried to give a balanced picture of the current status of parapsychology and to cite some promising research directions. My main point is that for doing empirical work in parapsychology with established methods you need not adopt a 'new' paradigm. Eberlein, in his position as editor of this volume, adds a short postscript (pp. 147-148) where he maintains that I failed to understand his 'science-sociological research hypotheses' by adopting the position of the Parapsychological Association (which mirrors the orthodox norms of a research community) and he ends by citing Hyman's credo that parapsychology (despite its 130 years of history) has failed so far to present convincing evidence to the scientific community. In this reviewer's opinion, Eberlein exhibits a

remarkable unwillingness to come to grips with the technical literature of experimental parapsychology. There is also a somewhat incoherent and sketchy article (pp. 119-129) on the history and subject-matter of parasciences written by the Austrian clergyman Andreas Resch, Chairholder for paranormology and clinical psychology at Lateran University in Rome (Resch prefers to use the term 'paranormology' instead of 'parapsychology').

The final chapter deals with astrology. Bernulf Kanitscheider, a philosopher of science from Gießen University, has an easy task to show (pp. 149-162) that there are a lot of empirical and theoretical arguments undermining the claims of astrology when taken at face value (e.g., that stars could 'influence' our personality or character in a causal way); astrologers, at best, can have a modest function as 'good amateur psychologists' counselling their clients but they should give up their claim to be 'scientific'. There is a rejoinder written by the psychologist and practising astrologer Peter Niehenke (pp. 163-177). In his opinion, Kanitscheider failed to show a deep understanding of the essentials of astrological thought. Astrology, in fact, is no science, but some of its statements are nevertheless 'true' in an empirical way. Astrology should rather be compared with 'altes Menschheitswissen' ('ancient knowledge of mankind'). It does not come as a surprise when Kanitscheider, in his final comment (pp. 179-186), seems unimpressed by Niehenke's arguments. For him, astrology remains a pseudoscience: it offers solutions only to such problems that do not exist without astrology itself. There is no gap in our knowledge that could be closed only by astrology.

On the whole, the book is a good illustration of what Daryl Bem observed when he remarked in his review of *Advances in*

*Parapsychological Research*, Vol. 5: 'As with many other controversial areas of research... one's evaluation of the data depends heavily on one's a priori beliefs' (Bem, 1989, p.649). So, one possible benefit for the uncommitted reader could be that he or she could become more conscious of his or her own 'belief systems' when confronted with 'unorthodox' scientific claims. Although the Eberlein anthology offers no in-depth treatment of the demarcation issue comparable, for example, with Patrick Grim's *Philosophy of Science and the Occult* (Grim, 1990), it is, at least for the German reader, a welcome addition to the serious literature dealing with the epistemological intricacies that beset our field.

#### References

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