

*Bias in Human Reasoning. Causes and Consequences*, by Jonathan St.B.T. Evans, *Essays in Cognitive Psychology*, LEA, Hove and London, 145 p., 1989.

Jonathan Evans has succeeded to present an excellent overview of the problem of bias in human reasoning in the mere space of 145 pages. All the relevant material is covered, and Evans finds the necessary space as well to present his own proposals and modifications to existing theories, or better, outlines of theories. Deductive reasoning as well as statistical and probabilistic reasoning is dealt with. Thus, chapter 2 treats *Selective Processing*, chapter 3 deals with *Confirmation Bias*, chapter 4 covers *Effects of Content and Context*, and chapter 5 is on the problem of *Self-knowledge*. Finally, in a last chapter, *Implications and Applications*, Evans formulates some ideas and opinions about the prospect and possibility of debiasing.

The most pleasing characteristic of Evans' approach - that is, pleasing to a philosopher - is his carefulness. Each experiment reported is carefully analyzed, the different, often mutually exclusive hypotheses are presented and discussed. One might even say, that Evans has the remarkable habit of countering each experiment by a counter-experiment. Thus, I was quite impressed by his analysis of the Wason card experiment, showing that rather the presence of positive information and not the confirmation bias as such, is responsible for the 'deviant' behaviour. His understanding of the Wason experiments indicates that failure to properly understand or deal with negations seems to be the root problem. Many philosophers familiar with the logical difficulties that an understanding of the concept of negation necessarily generates, will very likely tend to agree.

The least pleasing characteristic of Evans' approach - that is, pleasing to the same philosopher - is that he declines to enter into the rationality debate. Perhaps it is somewhat unfair to criticize a specialist of cognitive psychology for not behaving as a philosopher. On the other hand, it cannot be denied that the rationality debate lies at the very heart of the bias research. The mere fact that the term bias is being used, points in that direction. This remark does not imply that Evans is not aware of the problem. I agree fully when he writes: "Psychologists are perhaps insufficiently aware of the range of alternatives to standard logics which are discussed in the philosophical literature" (p.9). Indeed, so! But I do not believe that his proposal - "In essence, I define an error as failure to make an inference that *any* reasonable normative theory would classify as neces-

sary" (p.9) - will do the job. Given the wide range of alternative systems, quite reasonable and all, the probability is quite high that the global intersection will be empty. In other words, whether one enjoys it or not, one will have to face up to the rationality debate. No easy solutions allowed!

I have to emphasize that this is the only critique I could formulate on this otherwise excellent study that is to be recommended to anyone interested in the field.

It must be mentioned that the *Essays in Cognitive Psychology* itself is a quite interesting and stimulating series. The editors, Alan Baddeley, Max Coltheart, Leslie Henderson, and Phil Johnson-Laird guarantee an excellent choice. Besides the volume reviewed here, let me just mention the quite intriguing contribution by Willem A. Wagenaar, *Paradoxes of Gambling Behaviour*. Wagenaar succeeds in convincing the reader that understanding gambling behaviour is a very complicated business where standard responses such as 'They do it for the fun or the kick' provide only a marginal insight, if any at all, into the problem.

It must also be mentioned that the publishers - Lawrence Erlbaum Associates - seem to have decided to launch themselves firmly into the cognitive science 'market'. A new journal, *The European Journal of Cognitive Psychology*, (editor: Michael W. Eysenck of the University of London), related to The European Society for Cognitive Psychology, is now being published by LEA. Volume 1, issue 1, appeared March 1989. This first issue includes contributions, among others, by J.T.E. Richardson (*The Practical Benefits of Cognitive Psychology*) and E. Tulving (*Memory: Performance, Knowledge, and Experience*). A welcome addition to the already existing journals *Cognition* and *Cognitive Science*.

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