THE IMPORTANCE OF THE FICTIONAL FOR THEORIES OF KNOWLEDGE
Some remarks on the symposium's impact on cognitive psychology

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The quest of Tversky, Kahneman, and others for persistent biases in human judgment (for overviews see KAHNEMAN, SLOVIC, and TVERSKY, 1982, or NISBETT and ROSS, 1980) is reminiscent of HELMHOLTZ's (1896) approach to the investigation of human perception: in both cases discrepancies between the "real" on the one hand and the "perceived" or "judged" on the other hand have been used as starting points for the investigation of the differences between human information processing and the way the world is described in terms of physics or logic. HELMHOLTZ's analysis of optical illusions influenced him to postulate the theoretical construct "unconscious inferences" which in turn led to the interpretation of perception as the result of processes analogous to computation (PULLYSHYN, 1980). The approach to human decision making taken by TVERSKY and others follows an analogous research program by investigating under which circumstances human (unaided) judgment fails either to process all the necessary aspects of information available or to represent them veridically.

GIBSON (e.g. 1979) has challenged the HELMHOLTZian paradigm by pointing out that from an evolutionary point of view it is not the mismatches between the given and the perceived that are of interest but the matches. That is, the veridical usage of the affordances provided to us by our environment are of interest. I have suggested (ZIMMER, note 1) that these seemingly opposing
views can be regarded as different aspects of the same process, in one case from a bottom-up perspective and in the other case from a top-down perspective. Both aspects seem to be necessary for a complete understanding of complex perceptual or judgmental tasks. Complementary to the approach taken by Tversky and others, I propose to take the conditions for veridical judgments as a framework in which biases can be traced back to the conditions under which such judgments are ecologically valid. (see Lopes, 1982)

In order to develop a theory of knowledge in this framework one has to account for an aspect of human knowledge that is usually disregarded: the capacity to generate virtual experiences by using idealized models of the reality, which are more or less fictional. This fictional aspect of knowledge can be used in order to sketch future outcomes of decisions or to derive other consequences. The matching of such virtual experiences derived from fictional knowledge in turn seems to underly what has been termed the expectancy effect in perception. That is, what we see is strongly influenced by expectations we have about the regularities of our environment, which are at least partially fictions of our mind. Relying on these expectancies allows for a very fast processing of information. The cost for processing information so fast is that there sometimes are deleterious side effects, which become especially apparent in the tricks magicians play (Gregory, 1970, Mulholand, 1927), where the audience is tricked into expecting an action which does not happen, but which works as a camouflage for what is really happening. Virtual experiences due to the fictional aspects of knowledge may influence the selection of conjectures and predictions. Virtual experiences may also play an important role in hindsight explanations.

These ideas follow in some respect Vaihinger (1911) who in his "Philosophy of 'as if'" developed a theory of knowledge founded on "theoretical, practical, and religious fictions of mankind". He showed how knowledge can be expanded by pretending "as if". For instance "Let's pretend as if there were two truly parallel lines" or "Let's pretend all the mass of a body were in its center of gravity." As we know these "as if" pretensions have been crucial for the development of geometry or physics, were idealizations abound. What is missing in Vaihinger's theory is a connection between fictional knowledge and knowledge due to experiences. Theories on the subjective assessment of one's
ing: "Imagine a situation where the following is true: ...".  

Reference Notes

1. What makes the eye intelligent? manuscript, Stanford University, Department of Psychology, 1981

References


2 These rather theoretical considerations about the connection between knowledge and subjective probabilities permit the deduction of educational consequences concerning the use of fallacies in human judgment as a means of teaching statistics or decision theory. Among others one beneficiary effect might be the demonstration that immediate impressions tend to be misleading because of the expectancy effect. But inducing students to produce judgmental fallacies might have unwanted negative effects too, because students might experience this behavior as a kind of non-cooperative discourse. This in turn might lead to the consequence that it is not the sensitivity for matches vs. mismatches of one's own virtual experiences with real situations that is heightened. It might be that instead of this merely the vicarious experience is made how somebody can be tricked into inconsistency.
own knowledge (How good are my reasons for assuming that a given idealization or a fictional scenario turns out to be an apt tool for describing or predicting events?) might be able to bridge this gap.

Such subjective assessments of the fictional aspects of knowledge can be done in terms of possibility (ZADEH, 1978), plausibility (RESCHER, 1973), or subjective probability. Therefore they should be accounted for by models for human information processing and theories of action. I have argued (ZIMMER⁵) that it is plausible to assume that "knowledge about knowledge" is represented internally by means of a propositional language-like code. The interpretation of verbal expressions for this knowledge plays therefore an important role in the understanding of such elements of conversation which cannot be reduced to demonstrative procedures and consecutive observations.

Up to this point only the individual knowledge has been taken into account but much of the knowledge used in mastering the environment is not due to the individuals' own experiences but is due to vicarious experiences made by other people and shared afterwards. How the necessity to share knowledge imposes constraints upon information processing has been investigated in shareability theory (FREYD, in press). One important consequence of this theory for the investigation of the effectiveness or biasedness of human judgment is that it forces us to distinguish between the effects due to a lack of knowledge (content and procedures) and those due to the fact that certain real and virtual experiences do not follow shareability constraints. The kind of repairs in conversation used in order to overcome the misunderstandings caused by these effects might provide an empirical approach to this problem. For instance if one assumes that a misunderstanding is due to a lack of knowledge then an appropriate repair would be to give a definition, on the other hand if the misunderstanding is assumed to be due to disregarding shareability constraints an appropriate repair could consist in suggest-

⁵see ZIMMER, A. Verbal vs. numerical processing of subjective probabilities, in this volume.