# 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' (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' analysis of optical illusions influenced him to postulate the theoretical construct " unconcious inferences " which in turn led to the interpretation of perception as the result of processes analogous to computation (PYLYSHYN, 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 judmental 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 ac-
count for an aspect of human knowledge that is usually disregarded: the ca-
pacity to generate virtual experiences by using idealized models of the re-
ality, 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 expectan-
cy effect in perception. That is, what we see is strongly influenced by ex-
pectations 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 deletirious side effects, which become
especially apparent in the tricks magicians play ( GREGORY, 1970, MULHOL-
LAND, 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 tru-
ly 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 miss -
ing 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: ...".[2]

## Reference Notes

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

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[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 pre-
dicting 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 (ZIM-
MER[1]) that it is plausible to assume that this "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 misunder-
standings 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 disregard-
ing shareability constraints an appropriate repair could consist in suggest-

[1]see ZIMMER, A. Verbal vs. numerical processing of subjective probabilities,
in this volume.

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