Grasping Reality

An Interpretation-Realistic Epistemology

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An Interpretation-Realistic Epistemology

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Preface

“If quantum mechanics were right, the world must be mad”, thus that was what Albert Einstein, one of the greatest physicists of humankind, used to say. By this — and many other arguments and *Gedanken* experiments — he wanted to criticize the completeness of quantum theory claimed by the so-called Copenhagen School, notably by Niels Bohr. More recently, some physicists like Daniel Greenberger and Richard Feynman would add that Einstein was right — yet only with regards to his conclusion: “The world *is* mad” (Greenberger) and “nobody” — not even a most eminent theoretical physicist would “really understand quantum mechanics” (Feynman). At least, the most impressive experimental success of quantum mechanics thwarted any attempts thus far to falsify quantum theory. (Einstein, however, turned out *not* to be right in his conceiving of a reality, separably to be captured by us — independently of our acting, grasping or theorizing.)

Yet, perhaps the world is still not *that* “mad” if we take into account not only our mathematical and scientific talents proper, but also take our pragmatical ones more seriously, i.e. action-shaping and activity-based, as well as our interpretative talents in dealing with general methodology (including a methodological interpretation of quantum theory and its measurement problems). With the onset and ever-growing confirmation of quantum theory the traditional

problems of realism and of knowing and grasping reality took on new fascinating facets and a quite novel relief. May the circumstances governing the understanding and devising of quantum experiments turn out to be rather the general case characterizing to some degree all the ways of capturing and grasping, knowing and manipulating “realities”?

In this book, I shall outline an action- and interpretation-oriented epistemological approach by trying in a sense to reconcile realism and a sort of constructivism relying on what I call a methodological scheme-interpretationism centering around the concept of “*grasping*”. The meaning of this concept is explicitly intended to combine the rather active as well as passive connotations implied. (We actively “grasp” a thing or an abstract object(ive); or we rather passively “grasp” the latter’s content, reference, or meaning.) Such a duplicity or intended double meaning seems to me to characterize most phenomena of knowledge and actions. Both are necessarily structured, i.e. schematic or schematized. They can be understood and have to be interpreted by ourselves as knowing *and* acting subjects or in same such ways as observers.

From a rather general methodological point of view I shall try indeed to tackle the tenacious problems of knowledge and of scientific theories as well as of theoretical concepts etc. by using the methodological concepts of schemata or scheme-interpretation.

The main insight is that any theoretical and practical knowledge whatsoever is structured by means of schemata or schemes which may be interpreted as (being materialized by or supervening on) activated neuronal assemblies leading to a new at the same time realist and constructivist approach in epistemology. Some philosophical roots of such a scheme-interpretationism are to be found in Kant’s epistemology and Nietzsche’s interpretationism as well as in hypothetical realistic views entertained by critical rationalism (after Kuelpe, Popper and others) and by interactionism (after Harré regarding and “*hunting*” references in nature) as well as by a technology-oriented view of theoretical instrumentation and the meaning of concepts and theories (like Hacking and Giere). In some sense the present approach is action- and technology-oriented,

i.e. not only an interpretationism, but an interpretive interactionism. The approach combines passive and active meanings of conceptualizing by using the concept and metaphor of “grasping” reality. Indeed, a critical review of many recent realistic approaches is supplemented by this schema-interpretationist and action- as well as technology-oriented realism of a new provenance combining fundamental structures of structuring action and knowledge with the same or at least a quite similar perspective.

An intriguing idea to be followed will simultaneously cover epistemological problems of the natural and social sciences from a unified vantage point as well as maintaining a realistic approach, though a methodologically speaking indirect (“non-directistic”) and sophisticated one. By sketching out an interpretation of the meaning of “reality” and the interpretive interactionism in quantum theory it will be argued that such an approach can be considered an extant example of general scientific and epistemological importance. The idea is that the characteristic experimentalistic preparation of the experimental situation in quantum mechanics is not a very special and rare case but rather the usual and common situation in gaining, structuring, and interpreting experiential and especially experimental knowledge. Thus, schema-interpretationism in its interactionist and action-oriented as well as its technology-oriented form can be combined with realism and also with an understanding of theoretical approaches in any science and systematic discipline whatsoever including even day-to-day knowledge.

But what about the usual understanding of knowing, manipulating, shaping, or making reality? Here, the quite general and at first sight rather abstract methodological approach should also turn out to be feasible indeed. Common-sense realism already played a significant role in the history of philosophy in and since antiquity — particularly in rejecting skeptical arguments criticizing “the” naively hypostatized ontological “real”. These arguments have been pretty successful to date. Indeed, there is no absolute logical or conceptually analytical proof for the existence of a real external world: The existence of the external world cannot be conjured up by magic out of the sorcerer’s hat so to speak by pure logics and logical or analytical semantics alone.

With regards to the traditional problem(s) of realism we may and should however distinguish from ontological realism the rather epistemological question of *epistemological realism* properly characterized by the claim that we do reliably know something about reality. The epistemological question therefore is whether or not we can gain and develop “true” or at least reliable and acceptable or even exact and precise information about reality and the really existing world. One may imagine something like reality as being described and explained by the natural sciences like many natural scientists do, if they think that the world as such is structured in the same manner or in congruence to how science tries to recognize and explain reality by means of “true” or truth-oriented theories. An epistemological realism may amount to a far-fetched realism claiming to be able to gain a comprehensive recognition of the world as such, or it may represent but a partial epistemological realism implying that we are only to a certain degree in a condition to gain reliable or precise information about (external) reality. (Here, we shall confront the problems of the so-called scientific realism also to be addressed in this book.)

We have indeed no absolutely description-free, language-free and interpretation-free access to reality as such to test the adequacy of descriptions and statements of truth with respect to different approaches by referring to an independent method not availing itself of any theory, language etc. i.e. of schematization and interpretation of whatever sorts.

Natural scientists today have given up the naive mirror theory regarding the description of reality. In addition, most scientists gave up the claim of deducing all statements from just one ultimate principle of matter which traditionally amounted to an explicit reduction to statements of pure physics. Instead, nowadays many people defend a sort of non-reductionist physicalism or eliminative materialism, claiming that all statements or knowledge as well as recognition of mental and psychical phenomena could be eliminated without being explicitly definable in terms of materialistic or directly physicalist expressions. This is not necessarily implied by our more abstract i.e. higher-level, metatheoretical, methodologically more sophisticated epistemological approach as we shall see.

The more refined doctrine of critical realism like the one defended by Karl Popper and his disciples and followers is indeed closely related to the methodological and pragmatic realism to be sketched out here. Certainly, they are both indirect realisms, since they intersperse the formation of (theoretical) hypotheses between sense perception, the respective experience and the testing or confirmation (corroboration) of recognition and knowledge. Furthermore procedures, preparations, and action structures of experimentations take on a greater significance than ever considered by the mainly theory-minded Popperians.

Stimulated by a modernized version of the Kantian epistemology, by the insights of neuroscience, neuropsychology and by a pragmatic interpretation of the active and interactive gaining of knowledge in quantum mechanics I shall try to develop an “activistic” pragmatic epistemology combining an ontologically realistic with an interactionist constructivist and interpretationist methodology. To be sure, it is claimed that we may in some sense correctly recognize the world and its “structures”. One would not only presuppose the existence of a human- and mind-independent world, but also state that we would be able to recognize and know it or its structured reactions or part of its basic constitutional set-up or “framework” to be rather reliably captured by our schematizations and interpretations (both theoretical and practical), if only in an approximate but ever-improving manner.

According to the rather sophisticated epistemological and differentiated methodological interpretationist approach taken here the established — well established! — *façons de parler* of “the reality”, of “the reference” of expressions to “the reality” or “the real” are to be seen as stylized and shaped not only by the necessary pragmatic preparation and “make-up” of the arrangement and somewhat pefabricated “situation” of the extant experiments but also by interpretational constructs on a higher level of theorizing, interpreting and action forming. One could and should integrate the different conceptions of a sort of quasi “direct” reference to the world and the epistemological insight of a methodologically speaking necessary “indirectism”. Also any conceiving and distancing of “world” patterns

of the respective order (structured or reconstructed by us) would have to be integrated into the hierarchy of metalevels of interpretation and on the different levels involved. (These will be presented and discussed in due course.) In this way, the well-established everyday talk regarding a “directistic” reference to things on the one hand and also the acknowledgment of the unavoidably interpretational character of the respective interpretative model constructs will be combined in a rather sophisticated manner. From a higher methodological (meta)level we see references and relationships from the vantage point of a more differentiated perspective.

Nevertheless, it will be shown that a *realistic interpretationism* may be pragmatically defended, if mainly, but not only, for life-practical reasons. We all have to take off from a realistic model by using everyday language, but even this is to be conceived of as a sort of model construct from a higher methodological level. Any restrictive realism of whatever kind is epistemologically speaking (from a higher level), always to be understood as interpretation-mediated, scheme-bound or as an interpretation or (re)construction only to be “grasped” as such. This is true in any case for the kind of pragmatic realism to be developed here. However, we can with good reasons defend a realistic interpretation of epistemological approaches and the respective requirements of a meaningful background realism, if we combine both of them with a language-analytic and sophisticated (i.e. scheme-interpretationist) methodological critique. One may indeed be at the same time a realist and an interpretative constructionist. Therefore, in what follows I shall speak about and develop a *scheme-interpretationally* moderated, i.e. limited, *pragmatic realism*.

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