Introduction

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One of the chief characteristics of contemporary philosophy of mind consists in the orientation toward the sciences of the mind. This feature stands in marked contrast to traditional philosophy of mind whose primary allegiance was to philosophy of language. Linguistic analysis was supposed to clarify what could sensibly be meant by the ascription of mental states. The issue was what sort of talk about the mental has a clear meaning and what, by contrast, is to be considered meaningless. This type of philosophical approach to the mind has now gone out of fashion. It was replaced by a science-based approach in whose light philosophical questions about the nature of the mind and the mind-body relationship are to be posed and answered within a scientific framework. This means that the cognitive structure and dynamics is clarified via a philosophical interpretation of psychological and neurophysiological theories, and that the mind-body problem is recast as the question as to the conceptual relations between these two types of theories. Modern philosophy of mind is thus a branch of philosophy of science.

This is by no means intended to imply that conceptual clarification no longer constitutes a significant task in the philosophy of mind. It only means that this task is addressed in view of what the sciences have to say on the subject. For instance, the proper concept of "folk psychology" is elaborated with an eye on what empirical psychology has identified as explanatory strategies among the folk (as is done in Von Eckardt's paper). Likewise, an appropriate concept of "consciousness" is developed by drawing on psychological and neuropsychological insights (as in the contributions of Prinz and Lahav). Conceptual clarification thus
goes hand in hand with the philosophical interpretation of the pertinent scientific theories.

The chief emphasis of present philosophy of mind lies in the field of cognitive architecture and psychodynamics. Here, the attempt is to clarify what are the central elements of cognitive systems and how they interact. It is asked, for instance, what are the characteristics of mental representations, and how do they come about and do their work. The majority of the papers in this volume reflect this orientation toward cognitive structure.

In his opening paper on “Folk Psychology and Its Liabilities” WILLIAM G. Lycan presents and elaborates the multitude of possible conceptual relations between folk psychology and scientific psychology. After a survey of a host of distinct notions of folk psychology, Lycan focuses on the one that characteristically attributes a causal role to propositional attitudes, since that notion is the most interesting and controversial of the lot. Lycan then similarly surveys versions of the “Theory’ theory” of folk psychology and focuses on the version that takes folk psychology to be a causal theory. He goes on to draw a detailed landscape of the debate among the various proponents of this approach and their respective opponents. Lycan devotes particular attention to the arguments for and against Eliminative Materialism and concludes by adjudicating some of the debates between “Theory” theorists and the recent Simulation View of folk psychology.

BARBARA VON ECKARDT likewise dwells on the issue of folk psychology. In her paper on the “Empirical Naivete of the Current Philosophical Conception of Folk Psychology” she argues that the philosophers’ standard view on folk psychology is too narrow and empirically uninformed. Folk psychology should be defined as the sort of psychological theory ordinary people use for explaining and understanding their own and each other’s behavior. The received conception amounts to the claim, then, that this sort of theory is centered around propositional attitudes. Folk psychology, as standardly conceived, consists in imputing propositional-attitude states to persons, possibly supplemented with the ascription of emotional and perceptual states. As Von Eckardt argues, this conception flies in the face of a vast array of empirical research on the explanatory concepts and generalizations invoked by ordinary people for understanding behavior. Studies in social psychology, for instance, make it clear that these explanatory strategies are much less obvious and much more implicit than is usually thought in philosophical quarters, and
that emphasis lies on dispositional properties such as traits and abilities rather than on propositional attitudes. Like its content, the adequacy of this expanded notion of folk psychology is an empirical question. That is, neither the possibility of integrating folk psychology into neuroscience nor the entrenchment of folk psychology in everyday life should be regarded as exclusive arbiters on its appropriateness.

PETER GÄRDENFORS, in his article on “Meanings as Conceptual Structures,” develops the outline of a philosophically oriented cognitive semantics. According to such an approach, meaning has nothing to do with the truth conditions of sentences in possible worlds. Rather, meaning is constituted by a mapping from linguistic expressions to cognitive structures. Meanings “are in the head”; words primarily refer to mental entities. The fundamental semantic relation is not the connection of linguistic expressions to elements of the external world (or of possible worlds) but rather to elements of the cognitive structure. Gärdénfors sets out to elaborate this approach by invoking the notion of conceptual spaces which are supposed to form the basis for cognitive semantics. Conceptual spaces are multi-dimensional geometric constructions that express the relations among a family of concepts (such as color predicates). Gärdénfors argues that the meaning of linguistic expressions can in large measure be reconstructed by drawing on conceptual spaces of this kind. Such spaces form the fundamental cognitive structures required by this semantic theory.

In “Reinverting the Spectrum” CLYDE L. HARDIN deals with the problem of the inverted spectrum, already envisaged by Locke and more recently invoked as an argument against the functionalist interpretation of mental states. If color perceptions are systematically interchanged, so the argument runs, the pattern of relations among the relevant perceptual states remains unaltered; only the qualitative features associated with them are different. This thought experiment was construed as demonstrating that a spectrum inversion would go unnoticed empirically. In addition, it was employed so as to show that the qualitative similarities and differences among color perceptions cannot adequately be captured in functionalist terms. Hardin militates against both these claims. His argument is based on empirically detectable inhomogeneities or irregularities of the phenomenal color space. Some colors are perceived as unitary, others as mixed; some are rated as “warm,” others as “cool”; some as
“light,” others as “dark.” These inhomogeneities should allow for an empirical detection of any interchange in the sensory qualities. Consequently, the inverted spectrum is not functionally equivalent to its original. Moreover, experiments using such techniques as preferential looking make it possible to track color categorizations in non-linguistic organisms (such as infants or monkeys). The results coincide with the conceptual categorization of colors among adult human beings. Hardin concludes that color categorization is based on an innate mechanism and is, thus, of biological rather than cultural nature.

Whereas Hardin’s argument is mostly concerned with the similarities and differences among color qualities, MARTINE NIDA-RÜMELIN examines the options for an appropriate conceptual capturing of such qualities themselves. She addresses the question whether “The Naturalization of Qualitative Experiences is Possible or Sensible” entering into a discussion of the qualia problem. This problem involves the search for an adequate linguistic expression of qualitative experiences. Nida-Rümelin’s claim is that there is an epistemically important kind of knowledge about these experiences that can only be conveyed by using phenomenal terms (such as “appears red” or “is experienced as red”) and cannot be conveyed by exclusively relying on physical terms. For this reason phenomenal terms are indispensable for an epistemically satisfying scientific theory of sentient beings. Nida-Rümelin develops her position with special emphasis on color predicates; she focuses in particular on a modified version of Frank Jackson’s thought experiment that deals with the identification of previously unseen colors. Her conclusion is that the naturalization of qualia is neither possible nor sensible.

WOLFGANG PRINZ’S essay “Explaining Voluntary Action: The Role of Mental Content” takes up the venerable philosophical problem of free will. Relying on psychological findings on the mechanisms of mental processing, Prinz argues for the limited significance of mental content and conscious decision-making for picking one’s choices. Within the folk psychological framework, deliberate actions are explained by recourse to preceding mental states that allegedly cause the action in question. This account of action is closely tied up with the notion of a person’s responsibility for his or her actions and with the conception of free will as conceived in the incompatibilist vein. According to this conception, freedom of the will requires that under equivalent circumstances one could have willed otherwise. Prinz
claims that this notion is based on a misconception of the status of introspective reports. As psychological experiments make clear, such reports provide only specious access to the underlying mental operations. Psychology shows the way to the actually efficacious states, which are not introspectively observed. The subjective feeling of freedom and autonomy derives from this apparent lack of determining factors. If, by contrast, these factors are taken into account, relying on psychological theory, it becomes clear that the underlying mechanisms are in fact determinate, and that the results of processes carried out below the threshold of conscious awareness are subsequently construed as outgrowth of a personal, free decision. Prinz concludes that we don’t do what we want because we want to do so; rather, we want what we do.

Whereas Prinz argues for abandoning the idea of a causal influence of conscious mental states, RAN LAHAV wishes to retain their causal efficacy. In his “The Conscious and the Non-Conscious” Lahav aims at providing a conception of consciousness that is at once in agreement with the relevant scientific knowledge about the relevant phenomena and preserves most of the philosophical intuitions traditionally associated with that concept. Lahav argues that consciousness is best viewed as a central junction of information. At this junction occurrence information is expressed that is available for global, integrated, and flexible behavior. This characterization of consciousness is in particular suitable for coping with neuropsychological findings that might otherwise be seen as undermining the adequacy of the concept of consciousness. This approach suggests that consciousness is not a special quality attached to mental events. Rather, the difference between conscious and non-conscious mental events consists in their integration, or disintegration, respectively, into the central complex of experiences which constitutes each person’s subjective point of view.

In her article “Cognitive Luck: Externalism in an Evolutionary Frame” RUTH G. MILLIKAN approaches cognitive representation from a biological point of view. The two strategies thriving species take advantage of are multiplication and division. A large number of offspring is produced so that some organisms happen to escape environmental adversity; and the offspring exhibit variety to such a degree that some environmental conditions can be expected to be suitable for some individual or other. On the level of the interaction of individual organisms with the environment the same two principles are operative. Multiplicity
is manifested in a large number of tries, and division in the employment of redundant mechanisms. Cognitive representation likewise involves an interaction between the cognitive system and its environment; consequently, cognitive psychology is an essentially ecological study. So, emphasis is placed on the external conditions and their contingencies. The central task of a cognitive system consists in recognizing that different pieces of information are actually about the same object. The successful identification of the referent of different perceptions is the essential prerequisite of its proper functioning. The point is, then, that this task is fulfilled by again relying on the principles of multiplication and division. A number of distinct, redundant methods, each fallible in itself, are used for determining reference equality. Cognition rests on the realization of different environmental conditions to which the variety of cognitive skills can properly be applied.

COLIN ALLEN, in his paper on “Animal Cognition and Animal Minds,” likewise addresses the issue of representation or mental content. He draws a distinction between cognitive states, which involve representation simpliciter, and mental states, which are in addition distinguished by a “consciousness of content,” i.e., by the awareness of one’s own representations. The critical indication for the latter feature is the ability to detect one’s own misrepresentations. This ability is an important pre-condition for behavioral flexibility. Organisms endowed with mental states are capable of overriding, say, optical illusions and act in accordance with the actual situation, whereas mere cognitive systems respond rigidly to certain triggering conditions and can thus easily be deceived. Attributing undetected misrepresentations to such cognitive systems serves an important explanatory purpose in that it accounts for behavior that is inappropriate in light of the actual circumstances. The capacity to correct such errors may be explained by drawing on how the situation appears consciously to the respective organism.

TIM VAN GELDER argues in “Connectionism, Dynamics, and the Philosophy of Mind” that connectionism has no interesting consequences for the philosophy of mind, since it is not in fact a coherent research program. Facing computationalism across the deepest rift in cognitive science is not connectionism but rather the dynamical approach, and that approach does have major implications for the philosophy of mind. In this context, a computational system is one whose processes are effective,
i.e., which operates by digital symbol manipulation. Traditional cognitive science maintains that cognition is computational in this sense. Dynamical systems, by contrast, are essentially quantitative, i.e., are sets of quantities changing in time-dependent ways. Roughly corresponding to these two kinds of systems are computer science and the theory of dynamics, respectively. Connectionist networks are dynamical systems of a certain sort. This suggests that they would be best understood in dynamical terms. Nevertheless, many connectionists cast their networks in a computational mold, and this is why connectionism is incoherent and of little significance for philosophy. Van Gelder then proceeds to elaborate some of the implications of dynamic cognitive science. First, it dissolves the traditional mind-body problem, namely, the problem of locating ontologically problematic mental entities with respect to the physical world. The descriptions that dynamical cognitive science provides for aspects of the mind are of the kind that, in other branches of science, are taken to legitimate the domain described as both physical and ontologically respectable. The mind-body problem is transcended, since there is no longer an interesting theoretical contrast between mental and physical. Second, dynamical cognitive science poses radical challenges to traditional views on the nature, and even necessity of mental representation. Third, it calls into question the traditional assumption that the mind is somehow unified and the assumption that it is located internally in the head. This last step leads to an externalist view which squares well with Millikan's approach.

In his paper on “Supervenience, Emergence, and Realization in the Philosophy of Mind” JAEGWON KIM takes up the issue of the mind-body relationship by elaborating the conceptual framework of inter-level property correlations. Kim's claim is that the relation of supervenience is too unspecific for the characterization of the relation between mental and physical states. A host of otherwise incompatible positions share the commitment to mind-body supervenience. The differences between these positions only show up when the grounds for the existence of mind-body supervenience are taken into consideration. One such account for the supervenience relation is provided by physical realizationism. According to this view, mental properties are characterized by their functional profile and can be instantiated in physically distinct ways. Kim argues that a psychophysical relationship of this kind is well in accordance with a reductionist approach —
provided that reduction is taken in a more liberal sense than allowed by the standard model. In fact, Kim’s point is that functionalization constitutes an important step towards reduction. Accordingly, the functionalist conception of mental properties serves to enhance, rather than to thwart, the prospects of mind-body reductionism. By contrast, denial of the realization view leads to anti-reductionist emergentism which in turn ushers in property dualism.

ADOLF GRÜNBAUM’s paper, “One Hundred Years of Psychoanalytic Theory: Retrospect and Prospect,” considers some of the topics treated by other authors earlier in the book but mostly breaks new thematic ground. Thus, the philosophy of psychoanalytic theory addresses various general topics in the philosophy of psychology discussed, for example, in Von Eckardt’s essay, and also such problems as the nature of the mental and of consciousness, which figure in the contributions by Prinz, Lahav, and others.

Grünbaum presents an epistemological scrutiny of one of the most influential exemplars of psychological theorizing during roughly the period of 1893 to the present: Freud’s psychoanalytic enterprise and its legacy. After setting the stage by a précis of Breuer and Freud’s proto-psychoanalytic cathartic method of treating neuroses and of Freud’s work as a neurologist, Grünbaum examines (i) the logical differences between the “dynamic” and “cognitive” species of unconscious, (ii) the purported epistemic vindication of psychoanalysis qua staple of Western Culture, (iii) the central tenets of Freudian and post-Freudian psychoanalysis: (a) the alleged well-nigh universal tendency to forget or repress painful experiences, (b) the purported ability of Freud’s method of free association to identify the unconscious causes of neuroses, dreams, and slips, (c) Breuer and Freud’s specious therapeutic hypothetico-deductive confirmation of the founding pillar of the theory of repression, (d) the much-extolled explanatory unification provided by Freud’s subsumption of neuroses, dreams, and slips as each being a compromise between the demands of a repressed impulse and the resistance of a censoring force in the ego, (iv) the “hermeneutic” reconstruction of psychoanalysis by Jaspers, Ricoeur, Habermas, and A. Stephan, (v) the merits of post-Freudian psychoanalysis, and (vi) the future prospects of psychoanalysis.

It is evident from these introductory remarks that the contributions to this volume exhibit numerous thematic interconnections.
Folk psychology is addressed both by Lycan and Von Eckardt. The issue of qualia is taken up by Hardin and Nida-Rümelin. Mental content and mental representation is approached by Gärdenfors, Millikan, Allen, and van Gelder. Consciousness is treated by Prinz, Lahav, and Allen. The mind-body problem, finally, is addressed by Kim and van Gelder. Thus, a number of papers can be grouped together to form larger thematic blocks. The order of the papers in this volume is intended to reflect as much as possible these thematical interrelations.

Most of the main articles in the volume are accompanied by commentaries. At a conference, commentaries serve the purpose of stimulating the discussion. The decision to include some of them in the published proceedings is based on two different reasons. First, a commentary often provides an improved access to the content of its main text and to the intentions of its author; second, commentaries frequently make substantial claims worthy of being considered. Well-written commentaries constitute contributions in their own right. In particular, some of the commentaries in this volume develop a sort of counterpoint to the claims entertained in the articles and thus provide a kind of living proof for the assessment that philosophy is essentially characterized by debate and controversy. Good philosophy is contentious philosophy. Unanimous agreement only testifies that the relevant field has lost its appeal and is pronounced dead. We trust that the present volume gives sufficient evidence for the fact that the philosophy of mind is very much alive.