Overcoming the Myth of the Mental: How Philosophers Can Profit from the Phenomenology of Everyday Expertise

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Back in 1950, while a physics major at Harvard, I wandered into C.I. Lewis’s epistemology course. There, Lewis was confidently expounding the need for an indubitable Given to ground knowledge, and he was explaining where that ground was to be found. I was so impressed that I immediately switched majors from ungrounded physics to grounded philosophy.

For a decade after that, I hung around Harvard writing my dissertation on ostensible objects -- the last vestige of the indubitable Given. During that time no one at Harvard seemed to have noticed that Wilfrid Sellars had denounced the Myth of the Given, and that he and his colleagues were hard at work, not on a rock solid foundation for knowledge, but on articulating the conceptual structure of our grasp of reality. Sellars’ decision to abandon the old Cartesian problem of indubitable grounding has clearly paid off. While Lewis is now read, if at all, as a dead end, Sellars’ research program is flourishing. John McDowell, for example, has replaced Lewis’ phenomenalist account of perceptual objects with an influential account of perception as giving us direct access to reality.

But, although almost everyone now agrees that knowledge doesn’t require an unshakeable foundation, many questions remain. Can we accept McDowell’s Sellarsian claim that perception is conceptual “all the way out,” thereby denying the more basic perceptual capacities we seem to share with prelinguistic infants and higher animals? More generally, can philosophers successfully describe the conceptual upper floors of the edifice of knowledge while ignoring the embodied coping going on on the ground floor; in effect declaring that human experience is upper stories all the way down?

This evening, I’d like to convince you that we shouldn’t leave the conceptual component of our lives hanging in midair and suggest how philosophers who want to understand knowledge and action can profit from a phenomenological analysis of the nonconceptual embodied coping skills we share with animals and infants.

I. The Failure of Cognitivism

One promising proposal for understanding human intelligence, while bypassing the body and, indeed, experience altogether, seems to have run its course. In mid-twentieth century,
philosophers, linguists, psychologists, and computer scientists joined in proposing a new discipline called Cognitive Science that promised to work out how the logical manipulation of formal, symbolic representations enabled minds and suitably programmed computers to behave intelligently. Marvin Minsky, head of MIT’s Artificial Intelligence Laboratory, declared in a 1968 press release for Stanley Kubrick’s movie, 2001, that “in 30 years we should have machines whose intelligence is comparable to man’s.” Hilary Putnam and I were both teaching at MIT during that optimistic functionalist era, and I remember Hilary’s asking me earnestly over coffee when I would admit to being a Turing machine.

In the early seventies, however, Minsky’s AI lab ran into an unexpected problem. Computers couldn’t comprehend the simple stories understood by four-year-olds. Minsky suggested that giving the computer the requisite common sense knowledge would merely require representing a few million facts. But it seemed to me that the real problem wasn’t storing and organizing millions of facts; it was knowing which facts were relevant.

One version of this relevance problem is called the frame problem. If the computer has a representation of the current state of the world and something changes, how does the computer determine which of the represented facts stay the same, and which representations have to be updated? Minsky suggested that to avoid the frame problem AI programmers could use descriptions of typical situations like going to a birthday party to list and organize the relevant facts. Influenced by a computer science student who had taken my phenomenology course, he suggested a structure of essential features and default assignments, which, like Husserl, he called a “frame.”

But a system of frames isn’t in a situation, so how, I wondered, could the computer determine which of the millions of facts in its database were relevant for recognizing the relevant frame? It seemed to me obvious that any AI program using frames to solve the story-understanding problem by organizing millions of facts was going to be caught in a regress, and that therefore the project was hopeless. And, indeed, Minsky has recently acknowledged in Wired Magazine that AI has been brain dead since the early 70s when it encountered the problem of common sense knowledge.

Jerry Fodor nails the point with characteristic clarity: “The problem,” he writes, is to get the structure of an entire belief system to bear on individual occasions of belief fixation. We have, to put it bluntly, no computational formalisms that show
us how to do this, and we have no idea how such formalisms might be developed. … If someone --a Dreyfus, for example-- were to ask us why we should even suppose that the digital computer is a plausible mechanism for the simulation of global cognitive processes, the answering silence would be deafening.6

II. The Phenomenological Alternative

How, then, do we manage to organize the vast array of facts that supposedly make up commonsense knowledge so that we can retrieve just those facts that are relevant in the current situation? The answer is: “We can’t manage it any more than a computer can, but fortunately we don’t have to.” Only if we stand back from our engaged situation in the world and represent things from a detached theoretical perspective do we confront the frame problem. That is, if you strip away relevance and start with context-free facts, you can’t get relevance back. Happily, however, we are, as Martin Heidegger and Maurice Merleau-Ponty put it, always already in a world that is organized in terms of our bodies and interests and thus permeated by relevance.

As I said in What Computers Can’t Do: “[T]he meaningful objects ... among which we live are not a model of the world stored in our mind or brain; they are the world itself.”7 So, for us embodied agents, keeping track of changes in relevance is not the intractable problem it was for Symbolic AI. Recently Rodney Brooks, Minsky’s successor as director of MIT’s AI Lab, has adopted the slogan “the best model of the world is the world itself” and he gives me credit for “being right [back in 1972] that the way in which people operate in the world is intimately coupled to the existence of their body.”8 He now says, looking back at the frame problem:

And why could my simulated robot handle it? Because it was using the world as its own model. It never referred to an internal description of the world that would quickly get out of date if anything in the real world moved.9

But Brooks’ robots respond only to fixed features of the environment. That is, his robots don’t feed back into their world what they have learned by acting in it. Such ant-like “animats,” as he calls them, lack what Merleau-Ponty calls an intentional arc – the way our successful coping continually enriches the way things in the world show up. Our experience of finding our way around in a city, for example, is sedimented in how that city looks to us so that we see new opportunities for action. Brooks’ animats, it turns out, finesse rather than solve the frame problem.
It seems that our everyday coping can’t be understood in terms of symbolic representations, as Minsky’s intellectualist approach assumed, nor in terms of responses caused by fixed features of the environment, as in the empiricist approach of Brooks. We need to consider the possibility that embodied beings like us take as input energy from the physical universe and process it in such a way as to open them to a world organized in terms of their needs, interests, and bodily capacities without their minds needing to impose a meaning on a meaningless Given, as Minsky’s frames require, nor their brains converting the stimulus input into reflex responses, as in Brooks’ animats.

Fortunately, there are models of how the embodied brain could provide a causal basis for the intentional arc without doing any symbolic information processing and without instantiating a causal chain from input to response. For example, Walter Freeman, a founding figure in neuroscience and the first to take seriously the idea of the brain as a nonlinear dynamical system, has worked out an account of how the brain of an active animal can, in effect, categorize inputs significant to the organism by forming an attractor landscape. Freeman’s model exhibits a kind of top-down governing causality. As the organism responds to what is significant to it, the overall pattern of attractor activity “enslaves” the activity of the individual neurons the way a storm enslaves the individual raindrops. Freeman considers the philosophy underlying his work close to Merleau-Ponty’s, and, indeed, Merleau-Ponty seems to anticipate an attractor account when he says:

> It is necessary only to accept the fact that the physico-chemical actions of which the organism is in a certain manner composed, instead of unfolding in parallel and independent sequences, are constituted… in relatively stable “vortices.”

Time will tell whether Freeman’s Merleau-Pontyian model is on the right track for explaining the functioning of the brain; meanwhile, the job of phenomenologists is to get clear concerning the phenomena that need to be explained.

**III. Are perception and action conceptual?**

In his book, *Mind and World*, John McDowell champions a seemingly similar view to Merleau-Ponty’s when he says: “An experiencing and acting subject is …herself embodied, substantially present in the world that she experiences and acts on.” And he sounds as if he is channeling Heidegger when he speaks of “our unproblematic openness to the world” and how “we find ourselves always already engaged with the world.” Like these existential
phenomenologists, McDowell makes the bold claim that “this is a framework for reflection that really stands a chance of making traditional philosophy obsolete.”

But, unlike the existential phenomenologists, McDowell goes on to speak of this engagement in the world as a “conceptual activity.”

To suggest how impingements received from nature can be conceptual through and through without the mind imposing meaning on a meaningless Given, McDowell introduces an account of Aristotle’s idea of second nature:

Human beings are … initiated into … the space of reasons by ethical upbringing, which instills the appropriate shape into their lives. The resulting habits of thought and action are second nature.

McDowell then generalizes Aristotle’s account of the production of second nature:

Imposing a specific shape on the practical intellect is a particular case of a general phenomenon: initiation into conceptual capacities, which include responsiveness to other rational demands besides those of ethics.

The phenomenon McDowell has in mind is clearest in phronesis, usually translated “practical wisdom.” He tells us:

"Practical wisdom” is the right sort of thing to serve as a model for the understanding, the faculty that enables us to recognize and create the kind of intelligibility that is a matter of placement in the space of reasons.

McDowell concludes that, given our second nature, we can “see ourselves as animals whose natural being is permeated with rationality.” Thanks to our inculcation into our culture, we become sensitive to reasons, which then influence our “habits of thought and action.”

One can easily accept that in learning to be wise we learn to follow general reasons as guides to acting appropriately. But it does not follow that, once we have gotten past the learning phase, these reasons in the form of habits still influence our wise actions. Indeed, a phenomenological reading suggests that Aristotle’s account of phronesis is actually a counter example to McDowell’s conceptualism.

Heidegger, like McDowell, is interested in Aristotle’s account of phronesis as a paradigm case of human perception and action, but he has a decidedly different take on it from McDowell’s emphasis on the role of reasons. Heidegger describes phronesis as a kind of understanding that makes possible an immediate response to the full concrete situation:
[The *phronimos*] … is determined by his situation in the largest sense. … The circumstances, the givens, the times and the people vary. The meaning of the action … varies as well.

It is precisely the achievement of *phronesis* to disclose the [individual] as acting *now* in the *full* situation within which he acts.²²

Of course, there will be problematic cases of conflicting goods where the *phronimos* does not see immediately what must be done. Thus, Aristotle says the *phronimos* must be able to deliberate well.²¹ But, according to Heidegger, most of our ethical life consists in simply *seeing* the appropriate thing to do and responding without deliberation, as, when we help a blind person cross the street or when, after years of experience, we unreflectively balance, case by case, the demands of our professional and personal lives. As Aristotle says:

*Phronesis*… involves knowledge of the ultimate particular thing, which cannot be attained by systematic knowledge but only by “perception.”²⁴

Heidegger thus claims that Aristotle’s account of *phronesis* does not assume, as McDowell does, that, ethical expertise can be conceptually articulated. On the contrary, *phronesis* shows that socialization can produce a kind of master whose actions do not rely on habits based on reasons to guide him. Indeed, thanks to socialization, a person’s perceptions and actions at their best would be so responsive to the specific situation that they could not be captured in general concepts.

Relative to such specificity, all reasons advanced to justify an action could only be retroactive rationalizations. McDowell seems to agree when he notes, “I construe Aristotle's discussion of deliberation as aimed at the reconstruction of reasons for action not necessarily thought out in advance.”²⁵ But speaking of a *reconstruction*, rather than a construction, of reasons suggests that these reasons must have been implicit all along, whereas, for Heidegger, the *phronimos’ actions* are not in the space of reasons at all. As Heidegger sums it up:

In [*phronesis*] there is accomplished something like a pure perceiving, one that no longer falls within the domain of logos.²⁶

McDowell, however, would no doubt reply that there couldn’t be any such logos-free pure perception. So, in taking perception out of the space of reasons, Heidegger can only be imposing on Aristotle a version of the Myth of the Given. Heidegger could counter, however, that in assuming that all intelligibility, even perception and skillful coping, *must be, at least*
implicitly, conceptual – in effect, that intuitions without concepts must be blind, and that there
must be a maxim behind every action – Sellars and McDowell join Kant in endorsing what we
might call the Myth of the Mental.

Merleau-Ponty makes a similar point playing off the intellectualist against the empiricist.
For the intellectualist, “judgment is everywhere pure sensation is not, which is to say
everywhere.” For McDowell, mind is everywhere the pure given is not, that is to say, “all the
way out.” Precisely because the myth of the pure Given is dead, we must understand our
experience as conceptually permeated through and through. Thus, like a vulture, the Myth of the
Mental feeds off the carcass of the Myth of the Given.

IV. What is expertise?

McDowell and Heidegger both agree with Aristotle that practical wisdom is a kind of
expertise acquired as second nature. So I suggest that to decide who is right as to whether skilled
perception and action must be permeated by conceptual rationality we turn to the phenomena and
take a look at how one becomes an expert in any domain, and at what capacities an expert
thereby acquires.

While infants acquire skills by imitation and trial and error, in our formal instruction we
start with rules. The rules, however, seem to give way to more flexible responses as we become
skilled. We should therefore be suspicious of the cognitivist assumption that, as we become
experts, our rules become unconscious. Indeed, our experience suggests that rules are like
training wheels. We may need such aids when learning to ride a bicycle, but we must eventually
set them aside if we are to become skilled cyclists. To assume that the rules we once consciously
followed become unconscious is like assuming that, when we finally learn to ride a bike, the
training wheels that were required for us to be able to ride in the first place must have become
invisible. The actual phenomenon suggests that to become experts we must switch from
detached rule-following to a more involved and situation-specific way of coping.

Indeed, if learners feel that they can act only if they have reasons to guide them, this
attitude will stunt their skill acquisition. A study of student nurses, for example, showed that
those who remained detached and followed rules never progressed beyond competence, while
only those who became emotionally involved and took to heart their successes and failures
developed into experts. This finding suggests that, if something goes wrong, the way to
achieve expertise is to resist a disinterested, objective examination of the problem and the
temptation to formulate sophisticated rules to prevent it from happening again, and, instead, to stay involved, taking failures to heart and glorying in one’s successes. Such emotional involvement seems to be necessary to facilitate the switchover from detached, analytical rule following to an entirely different engaged, holistic mode of experience—from left to right hemisphere processing one might say.

If the learner stays involved he develops beyond competence by sharpening his perceptual ability to make refined discriminations. Among many situations, all seen as similar with respect to a plan or perspective, the expert learns to discriminate those situations requiring one reaction in order to succeed from those demanding another. That is, with enough experience in a variety of situations, all seen from the same perspective but requiring different tactical decisions, the expert, without awareness of the process, gradually decomposes this class of situations into subclasses, each of which requires a specific response. This allows the successful intuitive situational response that is characteristic of expertise.

A chess Grandmaster facing a position, for example, experiences a compelling sense of the issue and the best move. In a popular kind of chess called lightning chess, the whole game has to be played in two minutes. Under such time pressure, Grandmasters must make some of their moves as quickly as they can move their arms—less than a second a move—and yet they can still play Master level games. When the Grandmaster is playing lightning chess, as far as he can tell, he is simply responding to the patterns on the board. At this speed he must depend entirely on perception and not at all on analysis and comparison of alternatives.

Thus phenomenology suggests that, although many forms of expertise pass through a stage in which one needs reasons to guide action, after much involved experience, the learner develops a way of coping in which reasons play no role. After responding to an estimated million specific chess positions in the process of becoming a chess master, the master confronted with a new position, spontaneously does something similar to what has previously worked, and lo and behold, it usually works. In general, instead of relying on rules and standards to decide on or to justify her actions, the expert immediately responds to the current concrete situation.

Recent brain imaging research confirms that amateur and expert chess players use different parts of their brain. Researchers concluded that:
The distribution of focal brain activity during chess playing points to differences in the mechanisms of brain processing and functional brain organization between grandmasters and amateurs.\(^{30}\)

To make this point clear, we need to distinguish between two kinds of rules. There are first of all *the rules of the game*. In chess, these rules include the particular moves each piece is allowed to make, the time limit placed on the game, rules against cheating, etc. There are secondly, *tactical rules*. These heuristic rules provide guidelines for how one can best respond to each type of situation. They are acquired through lessons and coaching.

It is misleading to think that the rules of the game must be *internalized*, that is, stored in the mind. Rather these rules are normally experienced in the background as a limit on what appears as worth doing. In this way the expert is *sensitive* to the rules of the game even if he is not following the rules consciously or unconsciously. Even if he can’t remember the rules, they nonetheless govern his coping by determining what looks permissible. But he normally can be led to remember or at least acknowledge the rules when he is told them, and he knows he must conform to them or be penalized.

In the special case of games, then, we can profit from McDowell’s suggestion that we think of such rules as having become second nature. But we should bear in mind that, when they function as second nature, they do not function as rules we consciously or unconsciously follow but as a landscape on the basis of which skilled coping and reasoning takes place. Only in this sense can the rules of the game be said to guide thought and action.

In the case of tactical rules, however, the master may make moves that are entirely intuitive and contrary to any preconceived plan. In such instances, when asked why he did what he did, he may be at a loss to reconstruct a reasoned account of his actions because there is none. Indeed, as we have seen, the phenomena suggest that an expert has long since abandoned general rules as bikers sets aside their training wheels. Thus, when an expert is forced to give the *reasons* that led to his action, his account will necessarily be a retroactive *rationalization* that shows at best that the expert can retrieve from memory the general principles and tactical rules he once followed as a competent performer.

Consequently, if one followed the reconstructed rules articulated by an expert, one would not exhibit expertise but mere competence, and that is exactly what has happened. “Expert Systems” based on the rules so-called knowledge engineers elicited from experts were at best
competent.\textsuperscript{31} It seems that, instead of using rules they no longer remembered, as the AI researchers supposed, the experts were forced to remember rules they no longer used. Indeed, as far as anyone could tell, the experts weren’t following any rules at all.\textsuperscript{32}

So it seems clear that rules needn’t play any role in producing skilled behavior. This is bad news for Cognitivists, but McDowell is not a cognitivist. He rightly rejects the idea that skilled behavior is actually \textit{caused} by unconscious rules. His view is much more subtle and plausible, namely that, thanks to socialization, experts conform to reasons that can be retroactively reconstructed. After all, there must be one structure in common to situations that reliably solicit one type of tactical response, and another to those situations that reliably solicit another. It seems one ought to, at least in principle, be able to articulate this structure in terms of reasons. But all we have a right to conclude from our phenomenology of expertise is that there must be some detectable invariant features in what J. J. Gibson calls the ambient optic array and that human beings and animals can learn to respond to them. \textit{These features, although available to the perceptual system, needn’t be available to the mind.}

We can understand this inaccessibility if we consider the way simulated neural networks can be programmed to produce reliable responses. For example, nets have been programmed to distinguish sonar echoes from mines from those from rocks. Such nets are given no rules, nor are they told what features of the signal are relevant. They are simply exposed to tens of thousands of examples and their at-first-random correct responses are reinforced.

In one very limited sense, any successfully trained multilayer neural net can be interpreted in terms of features -- not everyday features but highly abstract ones. But in the case of multilayered nets that are devoted to implementing expertise, these highly abstract features are not interpretable as features that a mind could possibly experience. To construct a semantic account of what a network that has learned certain discriminations has learned, each node one level above the input nodes could, on the basis of connections to it, be interpreted as detecting when one of a certain set of input patterns is present. (Some of the patterns will be the ones used in training and some will never have been used.) If the set of input patterns that a particular node detects is given an invented name (it almost certainly won't have a name in our vocabulary), the node could be interpreted as detecting the highly abstract feature so named. Hence, every node one level above the input level can be characterized as a feature detector. Similarly, every node a level above these nodes can be interpreted as detecting a higher-order feature that is defined as
the presence of one of a specified set of patterns among the first level features detectors. And so on up the hierarchy. The top features could be those in an ambient optic array that corresponded to the significance of a situation, and the net’s output would then correspond to the response solicited by that situation.

Herbert Simon has estimated that an expert chess player can distinguish roughly 50,000 types of positions. This estimate presupposes the unsupported assumption that the master perceives an alphabet of chunks that he puts together by rule in order to recognize types of positions. But the speed of lightning chess suggests rather that the master isn’t following rules at all. She is able to directly discriminate perhaps hundreds of thousands of types of whole positions. I say “perhaps” since there is, in principle, no way to count the types. If there were, we would have to define the types in terms of their features, but, since these would have to be very high order invariants in the optic array detected by high level hidden nodes in our neural net, we, in principle, have no access to them except to see that a certain position solicits a certain move.

Phenomenologists therefore disagree with conceptualists in that phenomenologists claim that a study of expertise shows that nameable features are irrelevant to the current state of mind of the master when he acts. Granted one could in principle name each position or at least point to it, there is no reason to think that one could name or point to what it is about a position that makes it the type of position that requires this particular response. Abstract higher-order features detected by the hidden layers of a neural network would explain that if we could understand them. But, as we have just seen, there is no reason to believe that these higher-order features must be the sort of features we can think. Nothing about the position need be nameable and thinkable as a reason for acting. If this is so, expert coping needn’t be even implicitly rational in the sense of being responsive to reasons that have become habitual but could be reconstructed.

If, as Robert Brandom claims "Sellars' principle [is] that grasping a concept is mastering the use of a word" then, according to Sellarsians, master chess play is nonconceptual. Yet clearly, what is given to the chess master in his experience of the board isn’t a bare Given. In being solicited to respond to a chess-position, the chess master has a take on “the layout of reality.” It follows that he can be mistaken. Thus, the pure perceiving of the chess master, as well as that of the phronimos and, indeed, the expert in any skill domain, even everyday coping, has a kind of intentional content; it just isn’t conceptual content. A “bare Given” and the
“thinkable” are not our only alternatives. We must accept the possibility that our ground-level coping opens up the world by opening us to a meaningful Given -- a Given that is nonconceptual but not bare.

How, then, should we characterize this conceptually pure yet meaningful given? Heidegger and Merleau-Ponty hold, in effect, that embodied copers directly respond to what Gibson, who was influenced by Merleau-Ponty, calls affordances. Food affords eating, doors afford going in and out, floors afford walking on, etc. Charles Taylor describes the phenomenon:

As I navigate my way along the path up the hill, my mind totally absorbed in anticipating the difficult conversation I'm going to have at my destination, I treat the different features of the terrain as obstacles, supports, openings, invitations to tread more warily, or run freely, and so on. Even when I'm not thinking of them these things have those relevancies for me.

As Taylor makes clear, responding to affordances does not require noticing them. Indeed, to best respond to affordances (whether animal or social, prelinguistic or linguistic) one must not notice them as affordances, but rather, as Heidegger says, they “withdraw” and we simply ‘press into’ them.

Note too that the affordances detected and responded to by active, involved beings are situation specific. This door does not simply afford going in and out, but affords going in and out cautiously, and/or quickly, and/or silently, and/or unobtrusively, that is, in whatever way is called for by the whole situation. Or, to take another example, given our socialized second nature, in dealing with people, we are drawn to the right distance to stand from this specific person, in this light, in this room, with this background noise, and so forth. It is this necessary situational specificity of skillful coping that Aristotle and Heidegger noted in the case of the phronimos, and which led Heidegger to conclude that skillful coping is nonconceptual. We respond to affordances in this situation-specific way when we are intensely involved in what we are doing, as when negotiating a dangerous intersection, and also, as Taylor’s example makes clear, when we are completely absorbed in something else. In either case, we are capable of coping concretely without thinking at all. Indeed, in their direct dealing with affordances, adults, infants, and animals respond alike.
V. The Space of Motivations

But what room could there be for such a nonconceptual given between the space of causes and the space of reasons? It seems that, either one is pushed around like a thing by meaningless physical and psychological forces, or else one’s reasons, explicit or implicit, motivate one’s actions. Merleau-Ponty faces this challenge by introducing a third way one can be led to cope -- a way he calls *motivation*.

This is not a psychological concept for him but a perceptual one. It names the way we are directly responsive to the other-than-rational demands of our situation. In short, it is a name for the way affordances solicit one to act. As Mark Wrathall, who makes this important point, puts it:

> The fundamental workings of motivations are found in the way that our environment and body work together to dispose us to particular ways of acting and experiencing. The world works by drawing on our skillful bodily dispositions.\(^{39}\)

Or, as Merleau-Ponty tells us:

> In perception we do not think the object and we do not think ourselves thinking it, we are given over to the object and we merge into this body which is better informed than we are about the world, and about the motives we have and the means at our disposal.\(^{40}\)

My body, according to Merleau-Ponty, is drawn to get a maximal grip on its environment. As he puts it:

> My body is geared into the world when my perception presents me with a spectacle as varied and as clearly articulated as possible, and when my motor intentions, as they unfold, receive the responses they expect from the world.\(^{41}\)

Thus, perception is, in its own way, normative. As Sean Kelly puts its:

> [I]t is part of my visual experience that *my body is drawn to move*, or, at any rate, that *the context should change*, in a certain way. These are inherently normative, rather than descriptive, features of visual experience. They don't represent in some objective, determinate fashion the way the world *is*, they say something about how the world *ought to be* for me to see it better.\(^{42}\)

Or, more generally:
[W]e are constantly sensitive not only to what we perceive but also, and essentially, to how well our experience measures up to our perceptual needs and desires. More generally still: As we cope, we experience ourselves to be getting a better or worse grip on the situation. Such coping has satisfaction conditions but it does not have success conditions. Rather it has what one might call conditions of improvement. Its satisfaction conditions are normative rather than descriptive. True to the phenomenon of affordance and response, plus the tendency to achieve maximal grip, Merleau-Ponty is led to introduce, between the space of causes and the space of reasons, what one might call the space of motivations.

Animals, prelinguistic infants, and everyday experts like us all live in this space. Of course, unlike infants and animals, we can deliberate. When a master has to deliberate in chess or in any skill domain, it's because there has been some sort of disturbance that has disrupted her intuitive response. Perhaps, the situation is so unusual that no immediate response is called forth. Or several responses are solicited with equal pull.

In such cases, there are two types of deliberation available to the expert. In the first type, the expert stays involved and tests and refines her intuition. For example, if the situation does not solicit an immediate intuitive response because certain aspects of the situation are slightly, yet disturbingly, different from what would make one completely comfortable with a specific move, the master chess player contemplates the differences, looking for a move that keeps all intuitively desirable options open while reducing his sense of uneasiness. This type of deliberation yields no reasons. It is useful precisely because it clears the way for an immediate intuitive response.

If no response is forthcoming, however, the only alternative is a kind of rational deliberation in which one becomes detached and views the situation as an object with decontextualized features and then reasons out what to do. In chess such analysis involves counting out the consequences of each reasonable move. In more general terms, it might mean making a list of options and their utilities and calculating which action is optimal. Such responses, however, lose the situational specificity of expertise, and so are inferior to an expert’s intuitive response.
Fortunately, the expert usually does not need to calculate. If he has had enough experience and stays involved, he will find himself responding in a masterful way before he has time to think. Just as Aristotle, Heidegger, and Merleau-Ponty saw, such mastery requires a rich perceptual repertoire -- the ability to respond to subtle differences in the appearance of perhaps hundreds of thousands of situations -- but it requires no conceptual repertoire at all. This holds true for such refined skills as chess, jazz improvisation, sports, martial arts, etc., but equally for everyday skills such as cooking dinner, crossing a busy street, carrying on a conversation, or just getting around in the world.  

VI. Nonconceptual Coping and the Justification of Judgments

So far we have seen that, if we understand concepts as context-free principles or rules that could be used to guide actions or at least make them intelligible, a phenomenology of expert coping shows concepts to be absent or even to get in the way of a masterful response to the specific situation. Nor can such thinkable content be reconstruction after the fact by deliberation. More basically, if concepts must be linguistic, Gibson’s account of our direct pick-up of affordances as high order invariants in the optic array, and neural net considerations as to how the brain might detect such invariants, suggest that expertise does not require concepts. Indeed, the basis of expert coping may well be the sort of features that the expert could not be aware of and would not be able to think. In both cases, then, masterful action does not seem to require or even to allow placement in the space of reasons.

But these objections may seem to miss McDowell’s basic point that, in so far as perception justifies our judgments, it must be conceptual all the way out. As McDowell puts it:

> When we trace justifications back, the last thing we come to is still a thinkable content, not something more ultimate than that, a bare pointing to a bit of the Given.  

Lewis was, indeed, fundamentally mistaken in thinking that the Given had to be ineffable and indubitable in order to ground judgments, but, as we have seen, the Given needn’t be understood as bare. It can be pure in the sense of nonconceptual, and yet, like affordances, still have motivational content. Conceptualists like McDowell point out, however, that the idea that any nonconceptual given, be it intuitive, practical, normative, skillful, or what have you, could make a contribution to justification is unintelligible. This is an important objection to the view Lewis
defended, but not to the phenomenologists claim that to perform its world-disclosing function perception must be nonconceptual.

In so far as McDowell speaks of “our unproblematic openness to the world”\textsuperscript{49} and of how “we find ourselves always already engaged with the world”\textsuperscript{50} — he seems to agree with the phenomenologists that perception has a function more basic than justification. As Heidegger and Merleau-Ponty (as well as Wittgenstein) have argued, we can only relate to objects and make judgments about them insofar as they show up on the background of the world — and the world is not a belief system but is opened to us only through our unthinking and unthinkable engaged perception and coping.

McDowell, however, only \textit{seems} to be in agreement with these existential phenomenologists. For McDowell, the world can only be the totality of objects, events, and states of affairs. Many of these are, indeed, directly perceivable and we do depend on beliefs based on perception to justify our judgments about them. But this sort of openness to the world is not the most basic function of perception. We directly perceive affordances and respond to them without beliefs and justifications being involved. Moreover, these affordances are interrelated and it is our familiarity with the whole context of affordances that gives us our ability to orient ourselves and find our way about. As Heidegger puts it:

\begin{quote}
[W]hat is first of all "given"…is the "for writing," the "for going in and out," … "for sitting." That is, writing, going-in-and-out, sitting, and the like are what we are \textit{a priori} involved with. What we know when we "know our way around."\textsuperscript{51}
\end{quote}

Heidegger might seem to be a conceptualist himself since he continues: “My being in the world \textit{is} nothing other than this already-operating-with-understanding.”\textsuperscript{52} But when he introduces the term “understanding,” Heidegger explains (with a little help from the translator) that he means a kind of know-how:

\begin{quote}
In German we say that someone can vorstehen something—literally, stand in front of or ahead of it, that is, stand at its head, administer, manage, preside over it. This is equivalent to saying that he versteht sich darauf, understands in the sense of being skilled or expert at it, has the know-how of it.\textsuperscript{53}
\end{quote}

Merleau-Ponty also appeals to a non-intellectual kind of understanding:
We understand the thing as we understand a new kind of behavior, not, that is, through any intellectual operation of subsumption, but by taking up on our own account the mode of existence that the observable signs adumbrate before us. And, of course, such givens are not bare givens. As Heidegger insists:

Every act of having something in front of oneself and perceiving it is, in and of itself, a "having" something as something. … However, this as-structure is not necessarily related to predication. In dealing with something, I do not perform any thematical predicative assertions.

VII. Where Concepts Come In

If nonconceptual perception and coping is necessary for world disclosing, and there is no way nonconceptual perceiving could ground judgments, then we must ask how the nonconceptual given is converted into a given with conceptual content so that perception can do its justificatory job. McDowell, seems to rely on the Myth of the Mental, the idea that pure perception is impossible so perception and coping must somehow always already be conceptual, to avoid facing this question. In his book, Body and World, Samuel Todes, however, sees the question of how conceptual content arises from nonconceptual content as the central puzzle bequeathed to philosophers by Kant. He, therefore, proposes to work out a detailed phenomenological account of how our embodied, nonconceptual perceptual and coping skills open a world, and then to suggest a possible answer to how such skills could be transformed into skills with conceptual content.

To begin with, Todes goes beyond Merleau-Ponty in showing how our world-disclosing perceptual experience is structured by the actual structure of our bodies. As we have seen, for Merleau-Ponty, the lived body is the source of the motor intentionality whereby we move to get a better and better grip on our surroundings. But Merleau-Ponty never tells us what our bodies are actually like and how their structure affects our experience. Todes notes that our body has a front/back and up/down orientation. It can move forward more easily than backward, and can successfully cope only with what is in front of it. He then describes how, in order to explore features of our surrounding world and orient ourselves in it, we have to be balanced within a vertical field that we do not produce, effectively directed in a circumstantial field (toward one aspect of that field rather than another), and appropriately set to respond to the specific thing we
are encountering within that field. Perceptual receptivity is thus an embodied, normative, skilled accomplishment.

Todes then works out twelve perceptual categories that correspond to Kant’s conceptual categories, and suggests how our nonconceptual coping categories can be transformed into the conceptual ones. But this makes all the more urgent the question: Granted that, when we are transparently responding to affordances, we do not encounter context-independent objects with reidentifiable properties about which we can then make judgments, how can our transparent coping with affordances become explicit coping with objects?

Heidegger briefly takes up the question in Being and Time. He points out that we have skills that enable us, step by step, to transform our perception of affordances into the perception of context-free objects, and the content of our skilled responses to perceived whole patterns into articulable conceptual content. Heidegger notes that when there is a problem with an affordance we can change our relation to it. For example, when hammering is going well, the hammer is not what I focus on. The hammer simply affords hammering; the less I perceive it the better. If, however, the hammering is unusually difficult, I may experience the hammer as having the situational aspect of being too heavy under these conditions. And should things go even more badly so that I have to abandon my activity, the hammer may appear as an object that has the context-free property of weighing five pounds.57

What makes us special, then, isn’t that, unlike animals, we can respond directly to the conceptual structure of our environment; it’s that, unlike animals, we can transform our unthinking nonconceptual engagement, and thereby encounter new, thinkable, structures. It is important to be clear that, pace the rationalist tradition that runs from Hegel to Brandom, these conceptual structures are not implicit in our involved experience any more than reasons for our actions are implicit in our expert coping, or than the detached attitude is implicit in the engaged one. Rather, according to existential phenomenologists like Heidegger, Merleau-Ponty and Todes, analytic attention brings about a radical transformation of the affordances given to absorbed coping. Only then can we have an experience of objects with properties, about which we can form beliefs, make judgments and justify inferences. At the same time, however, this transformation covers up the nonconceptual perception and coping that made our openness to the world possible in the first place.
This cover-up may account for the fact that McDowell does not attempt to explore the content of nonconceptual coping that opens us to the layout of reality. If he did, he might be led to shake off the Myth of the Mental and agree with the existential phenomenologists he cites approvingly that our opening a world — and much of our coping in it — need not be thinkable, but, rather, is nonlinguistic and nonconceptual. That would, indeed, be a framework for reflection that stood a chance of making traditional philosophy (including Hegelian rationalism) obsolete!

Conclusion

McDowell has taught us a lot about what is special about human experience and he has raised the crucial question as to how perception grounds knowledge. But he has left aside how the nonconceptual perceptual and coping skills we share with animals and infants open us to a reality more basic than knowledge. Given the availability of rich descriptions of perceptual affordances and of everyday know-how, however, couldn’t analytic philosophers profit from pursuing the question of how these nonconceptual capacities are converted into conceptual ones — how minds grow out of being-in-the-world — rather than denying the existence of the nonconceptual?

Conversely, phenomenology needs help from the analysts. Phenomenologists lack a detailed and convincing account of how rationality and language grow out of nonconceptual and nonlinguistic coping. Heidegger made a start and Todes sharpened the question and made important suggestions, but he didn’t live to work out the details. The lack of any worked out step-by-step genesis of the conceptual categories that structure the space of reasons from the perceptual ones that structure the space of motivations might well encourage all philosophers to contribute to the task, but so far it seems to have encouraged analytic philosophers to continue their work on the upper stories of the edifice of knowledge, perfecting their rigorous, fascinating, and detailed accounts of the linguistic, conceptual, and inferential capacities that are uniquely human, while leaving the ground floor -- the nonlinguistic, nonconceptual discriminations of everyday perceivers and copers such as infants, animals, and experts -- to the phenomenologists.

The time is ripe to follow McDowell and others in putting aside the outmoded opposition between analytic and continental philosophy, and to begin the challenging collaborative task of showing how our conceptual capacities grow out of our nonconceptual ones — how the ground floor of pure perception and receptive coping supports the conceptual upper stories of the edifice.
of knowledge. Why not work together to understand our grasp of reality from the ground up? Surely, that way we are more likely to succeed than trying to build from the top down.

1 I would like to thank Stuart Dreyfus for his contribution to my understanding of skill and of neural networks. I am especially indebted to Sean Kelly, Joe Rouse, Charles Taylor, and Mark Wrathall, for important suggestions, as well as to Corbin Collins, William Blattner, Taylor Carman, Dagfinn Føllesdal, Beatrice Han, Alva Noë, David Cerbone, Rick Canedo, John Schwenkler, Martin Stokhof, John Haugeland, Ted Schatzki, Iain Thomson, Dan Turner and Charles Spinoza for their helpful comments on earlier versions of this paper.


7 See What Computers Still Can't Do, 265-266.


9 Ibid. 42.


12 Mind and World, 111.

13 Ibid. 155.

14 Ibid. 134.

15 Ibid, 111.

16 Ibid, (My italics.)

17 Ibid. 84.

18 Ibid.
Ibid. 79.

Ibid. 85.

Ibid. 84.


23 *The Ethics of Aristotle*, J. A. K. Thomson, Trans. (The Penguin Classic, 1955), 180 (1141b10). Charles Taylor has suggested that, even when the phronimos does deliberate, “his actions will be ‘post’ or ‘ultra’ conceptual, because his training has opened him to situations with refined meanings that he can sense and respond to, way beyond his ability to articulate them conceptually.” (Personal communication.)

24 Ibid. 182. (1142a25) Translation slightly modified.


27 McDowell notes: “Kant says…‘intuitions without concepts are blind.’ Similarly … movements of limbs without concepts are mere happenings, not expressions of agency,” *Mind and World*, 89.


31 Computers performed miserably at chess when they operated exclusively with heuristic rules. They couldn’t play Grandmaster chess until they were powerful enough to look at a million moves a second and calculate all possible moves and responses as far as ten moves into the
future, and only then use rules to evaluate the end positions. Grandmasters, in contrast, facing an unfamiliar situation, can count out and analyze only a few hundred moves.

32 For example, when Air Force instructor pilots teach beginning pilots how to scan their instruments, they teach the rule that they themselves were taught, and, as far as they know, still use. At one point, however, Air Force psychologists studied the eye movements of instructors during simulated flights and found, to everyone’s surprise, that the instructor pilots were not following the rule they were teaching. In fact, as far as the psychologists could determine, they weren’t following any rule at all. (See, J. DeMaio, et al., “Visual Scanning: Comparisons Between Students and Instructor Pilots,” AFHRL-TR-76-10, AD-A023 634, Williams AFB, AZ, Flying Training Division, Air Force Human Resources Laboratory, June. 1976.)


34 Mind and World, 26.

35 There are cases when the affordance is relative to the disembodied mind. To Kasparov, but not to a merely competent player, a specific situation on the chessboard affords checkmate.

36 Charles Taylor, "Merleau-Ponty and the Epistemological Picture," Taylor Carman & Mark B.N. Hansen, Eds, The Cambridge Companion to Merleau-Ponty, (Cambridge: Cambridge University Press, 2005), 34. There are things in the world to which one is responding, but it is misleading to suggest, if Taylor is suggesting it, that you experience these things as things to which you are responding. One merely responds to the solicitations. That is, while involved in coping, one perceives only the invitation; not the source of the invitation.

37 This specificity of coping activity corresponds to the situational specificity of perception that Sean Kelly uses to demonstrate that perception is nonconceptual. See, "The Non-Conceptual Content of Perceptual Experience: Situation Dependence and Fineness of Grain," Philosophy and Phenomenological Research (with response by Christopher Peacocke) 62, no. 3 (May, 2001): 601-608.

38 Since, such a response is clearly possible for animals, it can’t be conceptual in McDowell’s sense of the term since, according to McDowell, animals don’t have concepts.


40 Phenomenology of Perception, 238.
41 Ibid, 250.
43 Ibid. 97.
45 Merleau-Ponty calls the sort of intentionality definitive of the space of motivations, motor intentionality. Sean Kelly works out the special features of this kind of intentionality, as opposed to the conceptual kind, in his paper, “The Logic of Motor Intentionality.” The paper is available on his web site at /~skelly/Research/LogicMI.pdf.
47 Sellarsians might counter that all coping, even the immediate response to the perceived situation in chess, is, nonetheless, conceptual, in that the master’s play is crucially informed by an understanding of what it is to “win,” to “capture” a piece, legal and illegal moves, etc. Someone who did not understand these concepts, including having the ability to use them properly in other contexts, would not be appropriately regarded as playing chess. But it is not obvious that the discrimination of positions, legal from illegal moves, etc. must be linguistic, and so conceptual by McDowell’s Sellarsian standards. See, John Haugeland’s imaginary counter example of super-monkey’s that play chess but don’t have language in, Having Thought: Essays in the Metaphysics of Mind, (Cambridge, MA: Harvard University Press, 1998), 249-257.
48 In any case, the conceptuality of the rules of the game falls legitimately under McDowell’s account of second nature, but it doesn’t show that there need be any thinkable content underlying the execution of the skill of playing the game that can be reconstructed in deliberation.
49 Mind and World, 28-29. (My italics.)
50 Ibid. 155.
50 Ibid. 134.
This disclosing function of perception we share with animals and infants. Heidegger, however, connects such understanding with our understanding of our identity. In that connection we should note that mere coping with affordances gives animals what Heidegger calls an environment, but not a world. To open a \textit{world} in Heidegger’s sense requires that the affordances that matter to us and draw us in depend not merely on our needs and previous experience, as with animals, but on what matters to us given our identities, and we are capable of changing our identities and so our world. This is an important difference between human beings and animals, but since we are focusing on the role of perception in giving us a background on the basis of which we can perceive objects and justify our beliefs about them, we needn’t go into it here.

\begin{itemize}
  \item \textsuperscript{51} Martin Heidegger, \textit{Logik: Die Frage nach der Wahrheit, Gesamtausgabe}, Band 21 (Frankfurt am Main: Vittorio Klostermann, 1976), 144. (Thomas Sheehan, Trans., Manuscript.)
  \item \textsuperscript{52} Heidegger, \textit{Logik}, 144.
  \item \textsuperscript{53} Martin Heidegger, \textit{The Basic Problems of Phenomenology}, 276.
  \item \textsuperscript{54} Richard M. Jay, \textit{Phenomenology of Perception}, 319.
  \item \textsuperscript{55} Heidegger, \textit{Logik}, 144.
  \item \textsuperscript{56} See, Samuel Todes, \textit{Body and World}. (Cambridge, MA: The MIT Press, 2001).
\end{itemize}