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Normative Concepts

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1. Introduction

A central debate in the psychology of concepts is whether mental representations are just records of frequency distributions, or whether there is something more to them. The concept DOG may be characterized as a memory trace or record of the features that have tended to be associated with the term. Barking is part of the concept because the label dog and barking tend to co-occur. In contrast, other accounts hold that concepts involve some modal content in addition to frequencies. That modal content can be semantic: Barking is a feature of the abstract kind or concept of dog, not (or not just) a feature of individuals (Khemlani, Leslie, and Glucksberg 2012; Prasada and Dillingham 2009). The modal content can also be causal: Something about being a dog causes barking (Gelman 2003; Keil 1989). The purpose of this chapter is to consider another sort

of modal content: Normativity. There is some obligatory or normative constraint on what goes into a concept: Concepts are not just records of what happens to be experienced.

The issue of the normativity of meaning is well recognized (and debated) in Philosophy (Boghossian 1989; Davidson 1984; Kripke 1982). However, norms have not been a central focus of psychological research on concepts. This chapter will introduce two senses in which normativity may play an important role in the psychology of concepts. First, concepts are subject to normative evaluation. This is the sense in which one's concept of dogs ought to include barking and ought not to include meowing. Second, NORM is itself an important concept, especially developmentally. How do concepts acquire a normative structure, and how do children acquire the concept of *NORMATIVITY*? Humans clearly have capacities to make judgments of obligations, permissions, and prohibitions. Such capacities would seem to depend on possessing certain kinds of concepts. Theories of concepts must explain and accommodate normative content. Moreover, studying norms may also shed new light on the nature and acquisition of concepts.

Although the concept of *NORM* is addressed later in the chapter, it is useful to provide a bit of description to start. In the broad sense, norms involve evaluative standards: they concern how things ought to be rather than how they are. Normative evaluations contrast with descriptions. There can be many types of evaluation. For example, a simple judgment of liking or pleasurableness is

normative in the broad sense. "I like that," is a standard against which experiences can be measured. More narrow senses of NORM involve specific types of evaluation. In particular, many hold that there is a special standard of moral norm distinct from likes and preferences. To judge that killing is wrong is different than judging that anyone dislikes killing. Exactly how this might be different is the subject of the second part of the chapter: Roughly, how do children acquire norms that go beyond likes and dislikes? At that point it will be important to distinguish broad evaluations from more narrow norms. To begin, though, it will suffice to consider norms without specifying the kind of evaluation involved.

2. Empirical and Descriptive Concepts

Most psychological theories identify concepts with representations of feature co-occurrences (see Murphy 2002 for review). A concept can be a parametric description of associations that is stored and recalled across situations (e.g., a prototype). A concept can be a set of stored exemplars, or a distributed pattern of activation in a network, dynamically changing with context. This large family of theories may be characterized as descriptivist (Millikan 1998). Although descriptivist concepts could be innately specified, they are usually understood to be records or memory traces of experience. After a number of experiences with

objects in the environment, the learner might notice that animals called "whale" live in water and have fins. The representation of these (and other) associations is the WHALE concept. The concept is a kind of description, a record, of those associations.

Concepts give rise to expectations and perceptions of relatedness. Upon hearing an animal labeled as a whale, people expect the animal to have fins. The concepts of whale and fish encode many of the same associations so people perceive the two to be similar. The similarities and expectations generated by concepts are kinds of experiences; they are features of the conceptualizer's mind. They are not, in and of themselves, expectations or beliefs about objects in the world. As such the similarities are neither right nor wrong. People perceive many associations. For example, Paul Rozin and colleagues (Rozin, Millman, and Nemeroff 1986) have noted that people prefer not to eat fudge shaped in the form of feces. People would also rather wear a well-laundered sweater that once belonged to a loved one, rather than one that once belonged to Hitler. Such reactions reflect mental associations. Although the actions taken based on the mental associations are subject to evaluation as rational or mistaken, the associations are not. One cannot object that, "It is a mistake to associate that fudge with filth." The perceived similarities are not defeasible because they are not claims or inferences about anything. In the same way, the similarity between

whales and fish is a kind of mental experience. The human conceptual system delivers such experiences.

Of course, the reason that perceptions of association and similarity are of such interest is that they are used to guide behavior and inference. From the perception that whales are similar to fish, people tend to expect that they eat the same foods, reproduce in the same manner, etc. As in the case with disgust, associations might lead to maladaptive actions or mistaken predictions. There is a temptation to say that the concepts are mistaken, especially as concepts are often modified in response to failures of prediction (as in error-driven learning). However, such modifications are best understood as updating: A new association is incorporated into the concept. The concept, as a record of past associations, cannot be wrong. In the same sense, a weather forecaster's data cannot be wrong. When the forecaster states, "There is an 80% chance of rain today." he is reporting that rain has occurred on 80% of the past days like this one. The inference based on that record might be wrong (it may not rain), but the record is not.

Of course, there is a sense in which weather forecasters may be wrong. Their data may be understood not as records of historical events, but as models of reality. A model is correct or incorrect (or correct to some degree). As models, concepts have an empirical character (Millikan 1998) as well as a descriptive character. Concepts are representations, not simply records.

The empirical sense of concepts implies a connection to an external reality. The concept of whale is not (just) a memory trace of experiences; it is somehow connected to a real kind in the world. The concept whale is a representation of whales. As a representation, a concept may be correct or incorrect. If the concept misrepresents the kind or property it is connected to, then it should be changed. A person whose concept of whale contains the feature "is a fish" does not just have a particular association (that may be more or less useful or consistent with future experience), the person has a mistaken representation. Given that the person understands his concepts to be representations, he has an interest in keeping them accurate. Here is the normative aspect of concepts: The world provides a standard against which the content of concepts may be evaluated.

The empirical sense of concepts is most evident with respect to natural kinds. To understand some kind or property as natural is to believe it is real and objective. The function of a concept is to link the conceiver to that property (Margolis 1998). However, the empirical quality of concepts extends beyond natural kinds. Concepts may be linked to descriptions (Burge 1979). For example, a child's concept of uncle will be evaluated against the community's definition. If the child believes that all uncles are adults, and thus their father's two-year-old brother is not their uncle, the child's concept is wrong (Keil and Batterman 1984). Children and adults believe that some concepts are representations of real kinds in the world, while others are representations of more or less arbitrary conventions

(e.g., what counts as a “touchdown”? Kalish 1995, 1998a; Rhodes and Gelman 2009). The key feature of an empirical concept is not what it represents (natural kind, artifact) but that it is understood as a representation.

2.1 Psychological Differences Between Empirical and Descriptive Concepts

The difference between an empirical and descriptive concept is one of attitude: What does the possessor think about the concept? Having empirical concepts requires treating or taking concepts as representations. That is, it is not sufficient to have representational mental states, some understanding of representational relations is required as well. The idea of understanding concepts as empirical raises a number of psychological questions. For example, are there distinct systems of empirical and descriptive concepts in the mind (Smith and Grossman 2008)? Which tasks involve which kind (or sense) of concept? It seems plausible that descriptive concepts are more basic: Do children and non-humans have empirical concepts? At least part of the difference in attitude is whether concepts are evaluated against a normative standard. Thus one avenue for research on the psychology of concepts is exploring when people treat concepts as matters of right and wrong.

One difference between empirical and descriptive attitudes is the disposition to defer to experts regarding the content of one's concepts. If a concept is an empirical representation of reality, then possessors have an interest in keeping their concepts accurate. As any individual's experience with the world will be limited and potentially misleading, it makes sense to rely on expert judgments about the concepts. Experts know what is true. This empirical attitude underlies ideas about division of cognitive labor and external determinants of reference (Kripke 1980; Putnam 1982). In contrast, experts have no special claim or power to determine descriptive concepts. Of course, an expert's usage may be part of the associations encoded in a concept, perhaps a very salient or significant part.

Consider a child who believes that whales are fish who now hears a teacher say that whales are mammals. If the child has an empirical concept of whale he has reason to change his concept, at least to the extent that the teacher is believed to have more accurate beliefs. What about a descriptive concept of whale? The teacher has provided a new association with the concept: whale and mammal become connected. The strength of that connection depends on the child's past history of associations. If fish was only weakly associated, mammal may come to dominate. If teachers have been very influential sources in the past, mammal may also become a dominant association (see Rogers and McClelland 2004 on context effects). When someone asks, "What is a whale?" the child hears the teacher's voice and replies "a mammal." To be an expert just is to be influential. While

empirical concepts imply deference to experts, descriptive concepts imply responsiveness to experts. In practice it may be difficult to distinguish these two types of effect. In principle, though, what makes a source an expert is very different for descriptive and empirical concepts.

Both descriptive and empirical concepts are subject to revision based on experience. How that revision is understood or motivated represents an important difference between the two kinds of concepts. For empirical concepts, experience is evidence. A concept is a kind of hypothesis about a population or generative process. Experience provides evidence about the nature of that population or process. The individual whales one has encountered, or the statements about whales one has heard, constitute the evidence one has available to form a hypothesis, concept, about whales. This idea that concepts are hypotheses and responsive to evidence is central to theory-based (Murphy and Medin 1985) and Bayesian (Xu and Tenenbaum 2007) accounts of concepts and concept acquisition. Experts, or any other experiences, are influential to the degree they are understood to provide good evidence. Conceptual change is an inferential process (Kalish, Kim, and Young 2012). One of the most active areas of research and debate in the psychology of concepts is whether people are sensitive to evidential properties of experience (e.g., relations between samples and populations, see debate in (Chater et al. 2010; McClelland et al. 2010).

Descriptive concepts change in response to experience just because they are descriptions of that experience. The change in description associated with a particular experience need not be simple or additive. In some models concepts are represented as distributed patterns of activation within a network (see Rogers and McClelland 2004). The network is set up to maintain some sort of consistency or constraint-satisfaction among descriptions. If the world is saying “mammal” but one’s conceptual system is delivering “fish” then there is a conflict. One way to respond to the inconsistency is to modify the conceptual system so that it becomes more likely to deliver “mammal”. Such modifications can have unexpected and non-linear consequences throughout the network. Although it is tempting to view the system as developing a more accurate representation, and becoming better at prediction, representation and prediction really play no role in the process. We can suppose that evolution selected for this particular way of recording descriptions of experience because it tends to produce more accurate predictions than does some other way of forming descriptions. Accuracy and representation are the designer’s’ goals, not the network’s.

2.2 Development of Descriptive and Empirical Concepts

Adult humans seem to have goals not just to describe their experience but also to form accurate representations. Proponents of descriptivist models of

concepts hold that the concern with accurate representations is a rarified metacognitive attitude: That is what scientists worry about. However, even regular folk seem to worry about the accuracy of their beliefs and representations of the world, at least at times. Among cognitive developmentalists, many feel that young children are adopting empirical attitudes and actively testing and evaluating their concepts against reality. It is unclear how deeply or generally this empirical attitude is to be ascribed. Do infants have empirical concepts? Non-humans? We can characterize this as the developmental question. It seems plausible that descriptive concepts are more basic, simple cognitive systems have descriptive concepts. What does it take to have empirical concepts?

One hypothesis is that empirical concepts are products of language. On this view, empirical concepts are more properly characterized as word meanings. Concepts are descriptive records of associations; word meanings are conventionalized sets of such associations. For example, the concept of bottle involves a large and unstable system of associations, related to, and overlapping with, jar, can, and glass (Sloman and Malt 2003). Conceptualizers are not attempting to represent some kind in the world. However, when using the word ‘bottle’ people are required to bring some order to their associations and conform to a conventional set of meanings. It is as the meaning of the word ‘bottle’ that a network of associations becomes a representation: a representation of the meaning of the word. It does seem that there is a close connection between language and

empirical attitude. Anyone who could not adopt an empirical attitude could acquire descriptive concepts, but not word meanings (see Clark 1992). Whether language provides the ability to adopt empirical attitudes, or vice versa, is unclear. However, it seems acquisition and use of language is one important indicator of empirical concepts.

Some evidence bearing on the developmental question is that young children seem to distinguish descriptive and empirical applications of concepts and words. For example, preschool-aged children accept that people may differ in their judgments about which objects are most similar (is a novel animal more like a dog or a cat?). However, these children reject diversity in judgments of identity. If one person asserts that an unfamiliar animal "is the same kind of thing" as a dog, while the other asserts it is the same kind as a cat, children believe one of the people must be wrong (Kalish 2007). Judgments of labeling (which two should have the same name?) are intermediate. The hypothesis is that the identity judgment is understood as a claim about reality, and such a claim is either correct or incorrect. In contrast, a judgment of similarity is taken as a subjective report. Presumably these children would see an obligation for one party to change their beliefs in the identity condition, but not in the similarity condition. However, it is something of an open question just when and how children hold people responsible for their thoughts and judgments (Chandler and Lalonde 1996; Koenig 2002; Pritchard and Kalish 2001). For example, young children may not

recognize that people have control over their beliefs. If having empirical concepts requires engaging in normative evaluations, then only beings able to understand and reason about norms will have such concepts.

3. Concept(s) of Norms and Evaluations

The cognitive requirements for descriptive concepts seem fairly minimal; most creatures have such concepts. Many philosophers have argued that true concepts must be something more than collections of associations. Moreover, the conditions for possessing such concepts are quite stringent. Having a concept involves being able to give and appreciate reasons for belief, to have some notions of justification and warrant. For an individual to have mental states to which it is possible to ascribe meaning, such as the concept of X, the individual must understand the conditions under which the state is an accurate representation of X (Boghossian 1989; Kripke 1982). The individual must appreciate the normative constraint to have adequate reasons for his or her beliefs and representations (e.g., why believe that whales are mammals rather than fish?) (Brandom 1998; McDowell 1994). On this account, concepts require acting (or believing) according to epistemic norms. Empirical concepts as described above seem to fit with this epistemic norms account of concepts. The concept holder takes the

world as the standard against which concepts are evaluated. That one's concepts match the world is a reason for believing one thing rather than another. This suggests that the ability to give and understand reasons is necessary for empirical concepts. When do children acquire this understanding: When do they acquire normative concepts?

3.1 Norms and Other Evaluations

Even young infants can make instrumental evaluations: They prefer some states to others. We often think that the concepts involved in instrumental evaluation, like and dislike, are foundational. Such evaluations are normative in a very broad sense. Liking and disliking however, are not sufficient to provide a foundation for empirical concepts. That one likes or dislikes the associations produced in the mind, or the consequences of those associations, does not make them empirical. For example, a child's concept of whale might lead to the expectation that whales breathe water (like fish). When she later learns that whales breathe air, there is some conflict or disequilibrium. Most theories of concepts ascribe motivational significance to such conflict. The cognitive system works to maintain equilibrium and reduce conflict. This is not the same however as seeking to maintain accurate concepts. That is, a child with an empirical concept of whale would revise her

concept because it is inaccurate. This account differs in two ways from a dispreference for conflict: It involves a concept of accuracy and the idea of acting “because” of accuracy. Both these components involve more complex normative concepts.

3.2 Accuracy and Inaccuracy

Understanding a concept as empirical seems to require the ability to distinguish between accurate and inaccurate: That is, the concept can match or mismatch the world. Recognizing truth or accuracy as an evaluative standard provides a kind of norm. Infants seem sensitive to such norms. For example, they react to mismatches between labels and referents (Koenig and Echols 2003). Toddlers will correct speakers who make mistakes (Pea 1982). These children also prefer to learn new words from speakers who have previously been accurate rather than inaccurate (Harris 2007; Koenig and Woodward 2010). Preschool-aged children can identify failures of communication, but have difficulty identifying the form of an utterance as the source (Robinson and Robinson 1976). For example, an ambiguous message that leads to successful performance is not seen as problematic (Robinson and Whittaker 1986). Although young children seem to make evaluations of accuracy, it is not clear exactly what is involved in such

evaluations. In particular, an ability to identify matches between words and referents, along with a preference for matches over mismatches seem sufficient to account for the data.

The concept of accuracy involves or depends on some additional concepts, notably the concept of representation. It is only as a representation that an utterance can be accurate or not. The concept of representation, that one thing can stand for or symbolize another, emerges over the first few years of life. Preissler and Carey (2004) found that 18-month-old infants who learned a novel word by seeing pictures of the referent identified the actual object (e.g., a real whisk) rather than the picture as the referent (also Ganea et al. 2009). Children understand the word (and picture) to represent the real thing. However, young children often have difficulty focusing on the representational content of symbols, especially when the symbols are complex concrete objects (DeLoache 2004). For example, a scale model of a room is not seen as representing the real room, because the scale model is interesting and significant in its own right.

With age children get better at identifying when and how one thing represents another. In particular, they come to understand referential claims. For example, preschool-aged children often conflate pretending and lying (Taylor, Lussier, and Maring 2003). Three-year-olds (but perhaps not two-year-olds) distinguish the “direction of fit” of descriptions and commands (Rakoczy and Tomasello 2009): They recognize that only the former are to be evaluated by their

match to the current state of the world. Some of the most difficult representational relations are those involving belief: Not until age four-years or so do children appreciate that beliefs may misrepresent (Wellman, Cross, and Watson 2001; though see Onishi and Baillargeon, 2005). One influential account of the “false-belief error” holds that it is the empirical possibility of misrepresentation that poses the problem (Wellman 1992). Children recognize that people think “about” objects in the world, but their understanding is that the causal process producing such thoughts cannot result in errors. Clearly, there is a protracted process of learning about representations, but the basic concept seems present quite early. Thus young children seem to have the conceptual capacities to make judgments of accuracy and inaccuracy, even if they may not be expert in knowing when and how to deploy such evaluations.

Part of having empirical concepts is understanding them as representations that can be evaluated as more or less accurate. A second part of an empirical attitude is seeing accuracy/inaccuracy as a motive, as a reason for changing one’s beliefs. When a symbol is seen to be inaccurate, it is often also understood to be wrong. Indeed, much of the evidence that children make evaluations of accuracy depends on their recognition and response to error. For example, part of recognizing an inaccurate statement is the sense that it ought to be changed to be accurate. However, judgments of correctness and error, of right and wrong, are a distinct kind of evaluation. A representation can be inaccurate without being an

error. An old photograph might be an inaccurate representation of the current state of the world without being an error or mistake. A Picasso portrait may not look much like its subject. It seems possible to evaluate accuracy and inaccuracy, without understanding the result of the evaluation as a reason for action (e.g., changing beliefs).

3.3 Reasons

One of the central prerequisites for fully normative concepts is the concept of a reason. Explaining or evaluating behavior using normative concepts involves treating the behavior as part of a particular kind of causal process. Only individuals who understand themselves (and/or others) as having or being subject to reasons may understand themselves (and/or others) in normative terms. A natural disaster may be terrible, but it cannot be wrong: Natural disasters are not caused by or subject to reasons. Similarly, conceiving of whales as fish may lead to disastrous (or at least dispreferred) outcomes. Those outcomes provide a reason to change the concept, but only for certain kinds of agents. Having normative concepts requires having concepts of those special kinds of agents.

Research on developing theories of mind provides some insight into how and when children come to understand people as acting for reasons. Interestingly

though, most work has focused on concepts of representational mental states with little discussion of the related concept of reason. Gergely and Csibra (2003) have argued that quite young infants understand rational action, which would seem to involve understanding of reasons (see also Perner 1991). For example, infants view certain kinds of agents as goal-directed (Woodward, Sommerville, and Guajardo 2001). If an agent has a goal, say to reach a piece of food, then the agent would seem to have reasons to do some things rather than others: approach (rather than avoid) the food, alter its path to avoid obstacles, etc. A theory of rational action is understood to be distinct from a theory of mind. There are no mental state ascriptions, just a kind of logic of goal-directed action. This logic provides a basis for evaluation. There are numerous studies showing that infants are surprised when agents behave “unreasonably” (Gergely and Csibra 2003). It is irrational for an agent to alter its path in the absence of a barrier to a goal, for example. Such evaluations are part of the concept of goal (or goal-directed behavior).

Evaluations of goal-directed behavior may not be sufficient to demonstrate the concept of reason. The reasons involved in rational action seem importantly limited. A full concept involves understanding how reasons relate to action. In particular, reasons can only affect behavior via mental states: The effects of reasons are mind-dependent. This is not to say that reasons are mental states. People may have reasons they unaware of. Sally has a reason not to touch the hot

stove, whether or not she is aware of the danger. However, reasons themselves are causally inert, they need to get into people's heads to do anything. For people to act on reasons, they must have the kind of heads reasons can get into. Sally may not be aware of any particular reason (that the stove is hot) but her behavior is guided by some reasons, and potentially affected by others. The theory of rational action is a model that can be applied irrespective of underlying causal structure, akin to using a mathematical model for physical phenomena. However, there does seem to be an important distinction between actually having reasons, acting on reasons, and just being interpreted as such. That distinction turns on an understanding of mental causation.

The false-belief task (Wimmer and Perner 1983) was designed as test of children's understanding of the representational nature of mental states. The task also provides information about children's understanding of mental causation, of the mind-dependent nature of acting for a reason. One interpretation of behavior on false-belief tasks is that preschool-aged children do not appreciate that reasons must be represented (believed) in order to affect behavior. When Maxi's chocolate is moved from the cupboard to the basket without his seeing, he has a reason to search in the basket (that's where the chocolate is) but he is unaware of this reason. Nonetheless, young children predict Maxi will look in the basket. It is as if the state of the world is directly influencing his behavior, without having to go through his mental states. If that is how a preschooler understands causes of

behavior, then the preschooler lacks a concept of reason. The presence of chocolate in the basket exerts some influence on Maxi's behavior, but it is not a reason.

However, there is an alternative interpretation of failures on false-belief tasks. Perhaps young children just misunderstand the conditions under which people are aware of their reasons: If Maxi has a reason to look in the basket, then he probably represents that reason and can act on it. Some evidence for this interpretation is that children do understand ignorance (Wellman 1992).¹ If Maxi walks into a room where chocolate is hidden, without ever being "cognitively connected" (Flavell 1988) to the treat, children do not expect him to find it. In this condition, Maxi's reason for looking in the basket is not expected to drive his behavior. Reluctance to ascribe false beliefs could reflect a kind of "cognitive charity": Generally it is good practice to ascribe true rather than false beliefs. Young children may take this charity to a greater extreme. For example, when

¹ Further support for this interpretation comes from evidence that even infants may recognize false belief (Onishi and Baillargeon, 2005). Perhaps the developmental story is not one of coming to understand representation, but rather of developing more sophisticated and flexible abilities to reason about how represented and non-represented (but nonetheless true) information actually affects people's behavior.

confronted by a mistake, such as an actor pouring the contents of an orange juice box on their cereal, children tend to invent good reasons: The person probably likes orange juice on his cereal (Schult and Wellman 1997). Young children may have different ideas than adults about which reasons people recognize, but the basic concept of a reason, as only causing behavior via representation, may be shared.

The same sort of ambiguous evidence of understanding the mind-dependence of reasons occurs in the context of normative evaluations. It often seems that children think that norms have direct causal influences on behavior. Piaget (1965) described the classic error of “immanent justice.” For example, a thief who steals food will become sick (Jose 1990). The natural operation of the world tends to reward good behavior and punish bad. Rules inform predictions of behavior independent of ascriptions of belief (Clement, Bernard, and Kaufmann 2011). For example, preschool-aged children believe that actors will follow rules the actors are unaware of (Kalish 1998b; Kalish and Cornelius 2007). Similarly, young children often deny that people can avoid following rules, even if they intend not to (Kalish 1998b; Kushnir, Wellman, and Chernyak 2009). However, such findings may reflect further operations of charity. The expectations that people know the rules and want to follow them may override the explicit instructions in an experiment.

As in other contexts, children may show more appreciation of reasons in their explanations or responses to violations (Wellman 2011). They recognize that a violator may be called upon to give an account of his or her actions, and can evaluate the quality of the reasons provided (though younger children seem to find apologies more important than excuses, (Banerjee, Bennett, and Luke 2010). Young children will often inform violators of correct rules with the goal of changing their behavior (Rakoczy, Warneken, and Tomasello 2008). These behaviors suggest a recognition of the role that mental states play in reason-guided behavior. Of course, the same responses could reflect learned scripts or patterns of discourse. Perhaps children just know that when someone violates the rule the thing to do is teach or tattle. One direction for future research is to more carefully assess children's responses to norm violations (see below). For example, do they teach only ignorant violators, but tattle on knowing?

Understanding behavior as governed by reasons involves a complex set of concepts and causal beliefs. A full account of the development of concepts of reasons will go beyond conceptions of representational mental states. The general question is how children come to understand mental causation, which involves conceptions of mind-dependence and perhaps even ideas about free will (Kalish 1998b; Kushnir et al. 2009). If the possession of empirical concepts requires understanding reasons, then there is a fairly high bar for such concepts. However, it is possible that the bar for empirical concepts is even higher. Empirical concepts

were characterized as motivated by a particular kind of reason: a criterion of accuracy or truth. There is a reason to believe that whales are mammals, and that reason is that whales really are mammals. There may be many other reasons to hold the belief, for example, it may be more functional (leads to useful predictions about whales) or more socially acceptable. However, those reasons do not seem empirical. To believe something because it is true is to adhere to a particular kind of norm, an epistemic norm. Thus a further constraint or requirement for empirical concepts is having concepts of norms distinct from other reasons. Only individuals who can understand themselves (and others) not just as having reasons, but as having normative reasons, will have empirical concepts.

3.4 Normative Concepts

The acquisition of normative concepts has been the focus of considerable research in the area of moral development. Kohlberg's classic theory (1981) described a series of stages in which children's concepts moved from utilitarian (will I/others benefit?) to conventional (is this legal?), to principled (is this just?). More recent theories hold that quite young children distinguish different domains of normative evaluation: They recognize that stealing is wrong because it violates a moral principle, while eating spaghetti with one's fingers is wrong because it violates a

conventional practice (Turiel 1998). There has been considerable debate concerning just how to distinguish different types of normative evaluations (Sripada and Stich 2006). However, there has been little discussion about just what makes any of these evaluations truly normative. For example, why is the judgment that stealing is “wrong” (because it is unfair) indicative of a normative evaluation? Couldn’t the child be making a more basic evaluation of disliking? To judge stealing as “wrong” is to report disliking stealing. Note this is not to suggest that stealing is wrong *because* people dislike it (a utilitarian norm). The question is whether evaluations of wrong (and right) involve distinctly normative concepts rather than some other kind.

The challenge is to identify some behavior or judgment that is evidence of normative evaluation that cannot be accounted for by ascribing the agent more basic evaluative concepts (such as liking or accuracy). There is some reason to believe that there will be no definitive evidence forthcoming. Normative evaluations may just be types of preferences (as in the stealing example above). For example, perhaps people’s sense that they ought to have accurate concepts stems from a preference for accuracy (including both expected outcomes as well as a possible preference for rule-following in its own right). In this case the person recognizes accuracy as a reason for holding certain beliefs, however that reason is not an norm.

In his analysis of social facts, Searle (1995) develops an account of what is distinctive about normative evaluations. He argues that normative evaluations cannot be identified with subjective states such as likings or preferences. Similarly, Sripada and Stich (2006) identify norms as ultimate ends: People are motivated to comply with norms because they are norms, not because doing so will achieve some other goal (such as satisfying a desire). Searle imagines a case in which one enters in to an obligation with no desire to fulfill it, for example ordering a beer at a bar but not wanting to pay. Having the obligation is different from any preferences about its fulfillment. It seems possible to have absolutely no desire to fulfill one's obligations. That (alone) does not dissolve the commitments; the drinker still has a reason to pay her tab. An epistemic norm involves a commitment to believe something because it is true, not because the belief will lead to other outcomes (e.g., conformity, utility) (Kornblith 1993; Stich 1990). For Searle, the distinctive feature of normative evaluations is that they involve "desire-independent reasons": People recognize reasons that are not grounded in preferences. The challenges are to identify such reasons, and to explain what they may be based on if not preferences. This characterization provides a basis for exploring the development of normative concepts: Does the child have a concept of desire-independent reason?

3.5 Desires and Norms

Having to do things you do not want to is more or less what childhood is all about. Children are frequently constrained by reasons that seem not their own. They readily recognize the force of norms, even norms governing behavior that has no obvious significance. For example, young children who see a person demonstrate a particular way to play a game will object when a different person uses a different strategy (Rakoczy, Werneken and Tomasello 2008). The exact conditions that lead a child to object, to believe the actor has a reason to conform, are unclear, but they do not seem to require any expectation of benefit either to the child or the actor (Kenward 2012; Schmidt, Rakoczy, and Tomasello 2011).

Importantly, children will not always object to non-standard behaviors. For example, if a group has established a joint pretense, members of the group are expected to adhere to the pretense stipulations, but non-group members are not (Kalish, Weissman, and Bernstein 2000; Schmidt, Rakoczy, and Tomasello 2012). These results suggest that children do not have a simple preference for conformity. Similarly, norms cannot be identified with pleasing others. Kalish and Cornelius (2007) asked children about changed desire scenarios. During school a teacher requests one behavior (do your homework in pen). After school, the teacher changes her mind and comes to prefer another behavior (homework in pencil). Does this change in preference change her students' obligation? Young

school-aged children (7-year-olds) recognized that the students have a reason to perform the old behavior (pen) even though the teacher would be happier with the alternative. Preschool-aged children thought the students were supposed to do what the teacher wants. In these stories the students have reasons for both pen and pencil. Younger children may have been less sensitive the particular evaluation requested: The language of evaluations is complex and generally ambiguous. Empirical work suggests that young children do recognize desire-independent reasons. However, such results are not definitive. It is always possible to impute a desire that could be motivating children's evaluations (e.g., prefer conformity by game-players but not non-players). But note that this ambiguity cuts both ways. Is it clear that young children recognize desire-based reasons? Perhaps all of their reasons are desire-independent. The key feature of a desire-based reason is subjectivity. Norms are objective, or at least inter-subjective (Searle 1995). Young children tend to objectify the sources of mental states (another interpretation of the false-belief task). Perhaps it is the idea of a subjective reason that requires development. Although desire is often thought to be a more basic concept than norm, this may not be the case in terms of reasons.

Young children do appreciate something of the subjectivity of desires. They know that people may have different, even conflicting, motives (Rakoczy, Warneken, and Tomasello 2007; Repacholi and Gopnik 1997). Such motives are usually glossed as desires or preferences, but could just as likely reflect

conflicting obligations.² Kalish and Shiverick (2004) found that preschool-aged children often conflated preferences and obligations: They expected that a person would want to follow a rule rather than want to do what she liked. There is some suggestion that young children look to norms and expectations in the environment to identify their desires. For example, they state they do not like forbidden toys (Costanzo, Grumet, and Brehm 1974). Desirability is often seen as an objective feature of the environment, rather than a subjective response (Yuill et al. 1996). Things are desired because they are good, not good because they are desired. The hypothesis is that the sources of motivation are not reliably distinguished as either subjective or objective. That something is good or right is not distinct from whether it is liked or desired.

4. Summary: Norms and Other Evaluations

This review of the developmental literature has not provided any definitive answers about the course of acquisition of normative and evaluative concepts.

² For example, the language used in Rakoczy, Werneken, and Tomasello, 2007 was suggestively normative (at least in English translation). Characters expressed opinions about what should be done.

There is, however, a consistent theme: It is very difficult to sort out just how children appreciate the mind-dependent nature of reasons and motives. Quite young children have concepts that are at least important precursors of norms. Infants understand goal-directed actions (Gergeley and Csibra 2003) and can evaluate behaviors as effective or efficient means to achieve goals. Toddlers have some conception of representation, and seem able to evaluate accuracy (e.g., correct speakers' mistakes). And, of course, infants make positive and negative evaluations, likes and dislikes. Such evaluative abilities do not add up to a concept of NORM, however. Norms are reasons, and understanding reasons requires understanding mental causation. In particular, reasons are not themselves mental states, but only influence behavior via mental states. A similar issue of mind-dependence arises when distinguishing different types of reasons. Norms are special types of reasons: reasons that do not depend on subjective evaluations of liking (desires). In neither case is it completely clear just when young children come to understand the relation between mind-dependent and mind-independent aspects of rational action.

Two points follow from this argument. First, more work needs to be done to understand young children's concepts of mental causation. The false-belief task has become caricatured as just a litmus test for "having" a theory of mind. In reality, this task, and others like it, are parts of a complex account of a wide range of conceptual abilities. Indeed, children's abilities to serve as moral agents, to

make and be subject to normative evaluations, depends critically on their conceptions of mental causation. The second implication is that characterizing early conceptions of reasons as a “belief-desire” psychology is potentially misleading. Work on belief has pointed out that children’s concept may be quite different from adults’. Young children emphasize objective determinants and have a narrower view of the conditions of misrepresentation. The same seems true of the concept of DESIRE. Young children may have a more general concept of PRO-ATTITUDE which does not distinguish (clearly) between objective and subjective determinants. If this is the case, then young children would seem to appreciate “desire-independent” reasons, in virtue of lacking the concept of DESIRE. It may be that the concept NORM requires contrast with DESIRE: One can only appreciate a normative ‘should’ by comparing with an instrumental ‘should.’ In any case, it may be incorrect to think of young children as understanding themselves and others as motivated by intrinsic, personal, desires. Young children may begin their thinking about reasons with a much more objective focus (Kalish, in press).

5. Back to Concepts

Normative concepts are among the most important and distinctive components of the human cognitive repertoire. Arguably, what distinguishes human cognition

from that of other animals is our ability to engage in cooperative interactions with normative structure (Tomasello and Rakoczy 2003). Some philosophers have taken the centrality of norms even further, arguing the very possession of any concepts at all requires norms (Davidson 1984).

This chapter began by distinguishing two different senses of concepts and concept possession. Descriptive concepts as traces of past experiences seem very basic: Almost any organism with memory would qualify as having concepts. In contrast, the conditions for empirical concepts ultimately involved rich understandings of norms and reasons. Indeed, empirical concepts involved so many components or prerequisite concepts it may be useful to think of a continuum of concepts. Each sense of concept involves increasingly complex understanding of norms and evaluation. The first step along the continuum is treating concepts as representations, or at least as systems of belief that may match or mismatch an external standard. The concept of whale is not simply a record of associations, but it taken to be a more or less accurate record. A second step is appreciating that accuracy provides a reason for belief or conceptual change. Someone who learns that his concept of whale is inaccurate has a reason to change his belief. Finally, the reasons motivating beliefs and concepts can be understood to be normative (epistemic norms) rather than prudential.

It is not clear exactly what level of empirical conception is required for various psychological functions of concepts. For example, when do concepts

serve as or support word meanings? What level of concept underlies deference to experts? The more complex functions seem to depend on increasingly complex understanding of norms and reasons. Similarly, it seems plausible that conceptual development involves increasing appreciation of the empirical nature of concepts. Young children clearly have some evaluative concepts. They recognize inaccuracies and correct their own (and others') behavior. Certainly young children are active and responsive learners, and give evidence of trying to adapt their beliefs to standards provided. Whether they are fully "reasonable" creatures, understanding rational action and normative evaluations is less clear.

It may be that a simple divide between descriptive and empirical concepts is too simple. There may be many ways to possess concepts, many different types of concepts. Understanding concepts as representations may not always involve understanding reasons for belief. Understanding reasons for believe may not always entail understanding normative commitment (versus instrumental goals). At least part of what distinguishes different types of concepts are the normative commitments and evaluations they entail. It is in this sense that norms are not just important examples of concepts, norms are central to the study of concepts at all.

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