

# Ayn Rand's Theory of Concepts

## Rethinking Abstraction and Essence

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One notable change in the philosophical literature of the last thirty years has been the extent of attention to the nature of *concepts*. Although philosophers have been concerned with “conceptual analysis” and related issues since the early twentieth century (and in fact since Kant), sustained attention to what concepts are, to their “possession conditions,” to their acquisition and—especially—to their epistemic role is quite recent. The problem of the nature of concepts is, of course, much more ancient, since the traditional problem of universals, today thought of as primarily a metaphysical issue, originally had as an important component the explanation of the universality of our knowledge. In this connection, I should say at the outset that I am using the term “concept” as Rand does, to refer not to an object of thought but to a retained grasp of objects of thought, where the grasp is of the appropriate unitary sort.<sup>1</sup>

1. Compare, for example, Geach (1957, 18–19), who cites for the former “Russell’s use of [the term ‘concept’] in *The Principles of Mathematics* and again . . . the use of it to translate Frege’s *Begriff*”; Russell’s ‘concepts’ and Frege’s *Begriffe* were supposed to be objective entities, not belonging to a particular mind.” As Geach and others have pointed out, viewing concepts as “mental particulars,” and thus your concept of electricity as a distinct existent from mine, does not preclude speaking of you and me as having the *same* concept of electricity. “Mental

A number of philosophers, including, for example, John McDowell in *Mind and World* (1994) (building especially on the writings of Wilfrid Sellars), have come to speak of the role of concepts in the justification of propositional knowledge.<sup>2</sup> Now, if one thought of perceptual awareness as preconceptual, and justification of perceptual judgments as noninferential, one would need, it seems to me, a normative theory of concepts as the bridge. On this view, the proper application of the subject and predicate concepts in a judgment would be crucial to the justification of perceptual judgments employing those concepts. McDowell, of course, does not think such a picture is plausible, and views the relationship of concepts to perceptual experience quite differently. He speaks of the picture of concept-formation I have just pointed to as “a natural counterpart to the idea of the Given,” and argues that such a view would require the abstraction of “the right element in the presented multiplicity.” But, he writes, “this abstractionist picture of the role of the Given in the formation of concepts has been trenchantly criticized, in a Wittgensteinian spirit, by P. T. Geach” (McDowell 1994, 7; referring to Geach 1957, §§ 6–11).

The view that Geach criticizes under the name of “abstractionism” involves, however, a crude, Lockean notion of abstraction.<sup>3</sup> Those of us disinclined to think that the “Given” is a myth should consider the possibility that a more sophisticated view of abstraction could provide just

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particulars” is Jerry Fodor’s term (see, for example, Fodor 1998, 23); Rand speaks (with some reservation) of “mental entities” (*ITOE* 10, 157–58). Throughout this essay, I follow Rand in putting terms for particular concepts in quotation marks.

2. In McDowell 1994, see, for example, Lecture I, sec. 2, where he refers to Sellars’s “Empiricism and the Philosophy of Mind” in Sellars 1963; see also the index in McDowell 1994, s.v. “Sellars, Wilfrid.” Both McDowell and Sellars acknowledge the Kantian source of their views on this topic (McDowell 1994, 1). Sellars is not explicit in “Empiricism and the Philosophy of Mind” about its Kantian roots, but, as McDowell observes at the opening of his 1997 Woodbridge Lectures, “In his seminal set of lectures, ‘Empiricism and the Philosophy of Mind,’ Wilfrid Sellars offers (among much else) the outlines of a deeply Kantian way of thinking about intentionality—about how thought and language are directed toward the world. Sellars describes *Science and Metaphysics: Variations on Kantian Themes* (1967), his major work of the next decade, as a sequel to ‘Empiricism and the Philosophy of Mind.’ (vii). The later work makes explicit the Kantian orientation of the earlier; Sellars now shows a conviction that his own thinking about intentionality (and, indeed, about everything) can be well expounded through a reading of Kant” (McDowell 2009b, 3).

3. “I shall use ‘abstractionism’ as a name for the doctrine that a concept is acquired by a process of singling out in attention some one feature given in direct experience—*abstracting* it—and ignoring the other features simultaneously given—*abstracting from* them” (Geach 1957, 18). Compare the accounts of *abstraction* and the coming to have a general idea in John Locke’s *An Essay Concerning Human Understanding* (Nidditch 1979), e.g., II.iii.7, II.xi.9.

the bridge between preconceptual perceptual awareness and conceptually structured perceptual judgments (and in general between perceptual awareness and conceptual knowledge) that is needed to put knowledge on a perceptual foundation.<sup>4</sup>

It is my view that this is, in fact, the case, and that Rand has produced just such an account of abstraction, concept-formation, and knowledge. In this chapter I will not be focused on the issue of propositional justification per se, though I will say something about norms for the formation of concepts and definitions. My aim here is rather to sketch out Rand's theory of concepts and their formation, including its more sophisticated, non-Lockean view of abstraction, sufficiently to show its appeal and to provide a basis for further work.<sup>5</sup> I will take us through the theory of concepts and definitions, and the new view of essences that goes with the theory of definitions. The chapter will conclude with a brief account of the key normative concept in Rand's epistemology—*objectivity*—the concept that provides the bridge between Rand's theory of concepts and her views on issues of justification.

Rand (1905–82) presented her theory of concepts in a monograph titled *Introduction to Objectivist Epistemology (ITOE)*. It was first published in installments in 1966–67, then as a single volume later in 1967. An expanded edition, including edited transcripts of portions of several workshops on *ITOE* she held in 1969–71, was published posthumously in 1990.<sup>6</sup> The heart of the theory itself she had developed in the late 1940s (*ITOE* 307).

4. Recent work in the philosophy of science has suggested that a proper theory of concepts is important as well to the understanding of the process of discovering and justifying scientific theories. See, for example, the work on “exploratory experimentation” by Friedrich Steinle and Richard Burian, among others. A good place to start is Steinle 2006. (Thanks to Dick Burian for bringing work on this topic to my attention.) An understanding of the role of concept-formation in the reaching and justification of both propositional judgments and scientific theories helps one to see the unified epistemological character of issues (and work) that tend today to be divided among philosophy of mind, epistemology, and philosophy of science.

5. The implications of this theory of concepts for questions of justification will be discussed in detail in the next essay, by Gregory Salmieri, and to some extent in the chapter that follows his, by Onkar Ghatge. See also Bayer 2011 and forthcoming.

6. “Introduction to Objectivist Epistemology,” *The Objectivist*, July 1966–January 1967, reissued as a single volume by *The Objectivist* later in 1967. The monograph was reissued by Mentor Books in 1979 with a companion essay, “The Analytic-Synthetic Dichotomy,” by Leonard Peikoff (first published in *The Objectivist*, May–September 1967). The 1990 expanded second edition was edited by Harry Binswanger and Leonard Peikoff, and was published by Meridian Books. All citations herein are from the 1990 edition (cited as *ITOE*; all italics in

The issue of concepts is for Rand primarily an *epistemic* issue. Concepts for her are cognitive vehicles, and more, are themselves cognitive grasps: they are *forms of awareness* of an indefinite number of individuals, and an account of them will be a crucial part of a general theory of the nature and means of knowledge. They are best understood by contrast with perceptual awareness, on which, she holds, they are built.

Her theory of concepts thus depends on a theory of perception, and both theories depend on a key proposition of her metaphysics, pertaining to the general relation between consciousness and existence, between mind and world. This is the thesis which has often been called “metaphysical realism,” and which she calls “the primacy of existence.” It is the thesis that existence has metaphysical priority over consciousness: that things exist and are what they are independent of consciousness, and that consciousness is a faculty of *discovery*—it neither creates its objects nor contributes in any way to their constitution. Consciousness, as Rand has put it, is *metaphysically passive*. It is, however, she says, *epistemologically active*.

“Consciousness, as a state of awareness,” Rand writes, “is not a passive state, but an active process that consists of two essentials: differentiation and integration” (*ITOE* 5). This is true, she holds, at all levels of awareness: sensation,<sup>7</sup> perception, conceptual knowledge. But at each of these levels, consciousness is directed outward, at objects (or aspects thereof) that have an existence and a nature independent of that act of consciousness.

Perception is for Rand a distinct form of awareness, different from both sensation and conceptual awareness. It is a direct awareness of persisting things, of entities, discriminated from each other and from their backgrounds. The integration of sensory data into *perceptual* awareness, Rand holds, is done automatically by the brain and nervous system. Con-

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quoted passages from this work are in the original. Peikoff’s “The Analytic-Synthetic Dichotomy” will be cited as such, from *ITOE*, using the 1990 pagination. Peikoff’s *Objectivism: The Philosophy of Ayn Rand*, especially chapters 3 and 4, is also an important resource for Rand’s theory of concepts; it will be cited as Peikoff 1991.

7. Rand characterizes a sensation as “produced by the automatic reaction of a sense organ to a stimulus from the outside world; it lasts for the duration of the immediate moment, as long as the stimulus lasts and no longer” (*VOS* 19). She views it as a scientific, not philosophical, question whether human beings pass through a distinct sensory level of awareness prior to perception (as here explained). Even in the case of pre-perceptual sensory awareness, the sensory mechanism still isolates incoming stimuli from a background of stimuli and unites it into a single (if only momentary and sensory) awareness.

cepts are not required for perceptual awareness as such (though once acquired on the basis of prior perception, they may, of course, facilitate perceptual recognition).

There are various features of Rand's account of perception that should be underscored here. First, perceptual awareness is a form of *awareness*. Perception is the product of a causal interaction between perceiver and independent entity (with its attributes), but this product is irreducibly a state of awareness of the independent entity (not to be analyzed, for example, functionally or information-theoretically) and as such is a form of knowledge, a form of cognitive contact with the world. But—secondly—it is a *nonpropositional* form of awareness. Rand held that philosophers often confuse the character of the content of perceptual awareness with the character of our (inevitably conceptual) description of the content of perceptual awareness. Perception is not an awareness *that* (say) this ball is red, nor of a ball *as red* (which is to classify the perceived attribute), but is, rather (to the extent that one can describe a nonconceptual awareness conceptually), an awareness *of* the red ball, as discriminated from other objects in one's field of view and noticed perceptually as *different* from, say, the blue ball next to it.

Thirdly, such awarenesses, Rand says, are unerring: they are neither true nor false, they just are. But, as cases of awareness, they are forms of knowledge that provide evidence, once one has reached the conceptual level, for or against perceptual *judgments* (for example, *that* this ball is red), which do have truth values. On Rand's view, for instance, perceptually grasped similarities and differences between perceived entities (and their attributes), though nonpropositional, support the claims regarding those similarities and differences that are implicit in the formation of concepts such as "ball," "red," "blue," and of subsequent propositions such as "This ball is red." This understanding of perception will get further elaboration and defense in subsequent chapters in this volume, but part of the elaboration is precisely the theory of concepts that I go on to present in this essay.<sup>8</sup>

8. See the essays in this volume by Salmieri and, especially, Ghate. Rand's view of perception is outlined in Peikoff 1991, 37–48. See also Kelley 1986, who builds on her theory of perception. Robert Efron's Rand-influenced "What Is Perception?" (Efron 1969) builds an account of perception similar to Rand's upon a fascinating analysis of a case of visual object agnosia. Efron also discusses how attributes of consciousness are to be scientifically measured, and in that connection introduces the notion of the "specificity" of perceptual awareness, by reference to thresholds of perceptual discrimination. On perceptual awareness as a form of knowledge, see the opening portion of Salmieri's essay, which follows this one. On perception

All but the most primitive animals are not able to survive by isolated sensory data alone; they need the perceptual awareness that their brain's automatic integration of sensory data provides. Likewise, human beings are not able to survive by perceptual awareness alone. In order to live, we need to *integrate perceptual data into concepts*, and these concepts into a vast body of hierarchically structured, higher-order concepts, thereby permitting a correspondingly vast body both of propositional knowledge and of conceptually based skills.

It is worth seeing in simple terms some of the ways, according to Rand, in which concepts vastly expand our cognitive power and thereby our ability to deal with reality. With this in mind, we can ask what sort of mental entities, formed by what sort of process, makes these cognitive achievements possible. The answers will shed light on why Rand called a monograph on her theory of concepts an introduction to her *epistemology*.<sup>9</sup>

To start, concepts extend our cognitive reach well beyond perception to things not directly accessible to the senses. For instance, via concepts we can grasp things (and properties) that are too distant in space from us, too large or small in size, too many in number, to be perceived. Concepts also allow us to grasp differences that are too subtle, and similarities that are too remote, to be grasped perceptually. They give us cognitive access, in short, to an enormous range of things, attributes, actions, relationships, and so forth, not directly available to perception. In fact, a developed system of concepts allows a *classification* of the things, attributes, actions, relationships, and so forth, in the world, grouping these myriad particu-

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as nonrepresentational and thus neither true nor false, see Ghate's essay and, among others, Brewer 2006; Brewer 2011a, chap. 5; Travis 2004; and, of course, Austin 1962, esp. 11. For discussion of the idea of nonpropositional justification, see, in addition to Ghate's essay, e.g., Pryor 2001 and 2005.

Central to Rand's view of perception is her insistence that what we perceive—both entities and their characteristics—is *particular*. Universality is not for her a feature of the objects of awareness, but of the form in which, on the conceptual level, we are aware of particular objects. This distinction between the object and the form of perceptual awareness, properly understood, provides the basis for a rejection of one of Sellars's main arguments against the "Given," as Ghate briefly discusses in the latter part of his essay in the present volume. On this distinction between the form and the object of perception see, in addition to discussion elsewhere in this volume, my *On Ayn Rand* (Gotthelf 2000), chaps. 6 and 7; Peikoff 1991, 44–55; and Kelley 1986, chap. 3.

9. See *ITOE* 1–3 and Salmieri's essay, following this one. In the next paragraph I draw on my presentation in Gotthelf 2000, 57. See also Peikoff 1991, 73–74.

lars into manageable cognitive units. And this classification allows us to organize and condense the vast amount of knowledge we acquire, according to the relevant subject matters and predicates; it is analogous, Rand says, to a complex file-folder system with extensive cross-references. This makes possible, among other things, specialized study; by studying some members of a properly conceptualized group, Rand observes, we are able to learn about all members of the group, and thus to apply that knowledge to new individuals of that group that we encounter.<sup>10</sup> That is, concepts make possible induction, and thus science and technology and, indeed, all rational action.<sup>11</sup>

The integration distinctive of concept-formation begins with multiple perceptual grasps of a small number of individuals (for example, a child's noticing of some tables similar to one another and different from some nearby chairs), and moves to an *open-end* grasp of all relevantly similar individuals, past, present, and future (for example, a grasp of *all* tables, past, present, and future) (*ITOE* 17–18, 26–28).<sup>12</sup> Later concepts will be formed from earlier ones. In some cases several earlier concepts will be integrated into a wider concept (for example, “furniture” from “table,” “chair,” “dresser”). In others, an initial concept will be subdivided into narrower ones (for example, when “beagle” and “greyhound” are formed from “dog”). In yet other cases a body of observation and theory, made possible by earlier concepts, establishes the existence of unobserved (or unobservable) particulars that need to be conceptualized (for example, “electron”). And so on. But the principle that the formation of a new concept is a move to a *single* grasp of all the relevantly similar particulars remains the same.

10. “The concept ‘man,’ for example, enables us to think and learn about all men (past, present and future) at once; and to call someone a man is to bring the whole of our knowledge about men (medical, psychological, philosophical, etc.) to bear on them” (Salmieri and Gotthelf 2005, 1996); see also *ITOE* 27–28. On the file-folder metaphor, see *ITOE* 66–67, 69.

11. This is a point that has also been stressed, to a greater or lesser degree, by “natural kind” theorists. See, for instance, Griffiths 1997, chap. 7, and the exchange between Ian Hacking and Richard Boyd at the Twenty-Ninth Oberlin Colloquium in Philosophy (Hacking 1991a, Boyd 1991, Hacking 1991b). See also note 4 above concerning recent work on “exploratory experimentation.” Leonard Peikoff has developed an approach to induction based on Rand’s theory of concepts. For references (and a brief discussion), see Salmieri’s essay, which follows this one.

12. Rand typically uses “open-end” rather than “open-ended,” perhaps because she has in mind a point that is more about the object (or content) of the grasp than about the grasp itself.

To understand this process, and the concepts that result, and the cognitive powers they make possible, we have to ask what is the nature of that integration. Indeed, says Rand, because concepts are *products of a certain kind of integration*, we will not understand the product—the concept—unless we understand the process—concept-formation. But, given the primacy of existence discussed above, to understand the process we will have to understand the *basis in reality* for the groupings that concepts ought to supply us with. Because conceptual groupings start from a grasp of *similarity*, we need an understanding of the nature of similarity, and this is where we will start, contrasting Rand’s distinctive account of similarity with those of traditional realism and nominalism. This will address the heart of her view of the metaphysical basis of concepts, from which we will be best able to see her distinctive theory both of the process by which concepts are formed, and the nature of a concept once formed. This will be the subject of my first section: “Nature, Basis, and Formation of Concepts.”

The process of concept-formation is not complete, Rand maintains, without proper definitions, and such definitions must specify the essential distinguishing characteristic(s) within the conceiver’s context of knowledge. Understanding Rand’s view of definitions and essences (including their contextual character) is thus crucial to understanding her theory of concept-formation and its implications for understanding the development both of human knowledge in general and of science in particular. This will be the subject of my second section, “Definitions and Essences,” which will provide an account of Rand’s views on these matters.

Rand’s theory of concepts has both descriptive and normative dimensions—the theory not only seeks to identify how concepts are formed, but also, where there is choice, how (and when) they ought to be formed. This normative dimension of Rand’s theory will be the focus of my final section—“Norms of Conceptual Activity”—in which I show how the character and basis of conceptual norms point us toward Rand’s general theory of objectivity, which is at the center of her epistemology.

### **Nature, Basis, and Formation of Concepts**

Traditional realists have held that the basis of proper conceptual grouping is a mind-independent universal or abstract element—an identical Form or essence or property which the individuals of a group somehow share (or otherwise stand in the same relation to). Conceptual groups come, in



effect, ready-made.<sup>13</sup> Similarity is *identity within difference*. On this view, a concept is essentially a retained intuitive gaze at, or grasp of, that identical element. The acquisition of that grasp (or reacquisition, in Plato's version of realism) might involve a complex process of dialectic, or even a scientific discovery of causes, but at its final stage is the successful direction of cognitive attention to that preexistent identical element.

Traditional nominalists have held that they can find no such mind-independent universal or abstract element, nor is any such universal necessary to explain the groupings required for knowledge of general truths. Reality is through and through particular and determinate. Conceptual groupings, most nominalists hold, are based on *resemblances*—primitive, unanalyzable similarities, which we select arbitrarily or pragmatically from the myriad of similarities we find in experience. A concept for nominalism is either the *word* we select to represent the class of resembling individuals (or a capacity to use such a word), or some sort of mental image or images (or construct thereof) of a typical (or prototypical) instance, or small set of instances, with which we associate the word. The formation of such a concept is often viewed as a psychological and not a philosophical matter. On that view, the only thing of philosophical significance is the alleged fact that the selection of which resemblance-classes will serve as cognitive units is arbitrary, or merely pragmatic.<sup>14</sup>

Rand agrees with realists that there is a basis in reality that determines conceptual groupings, but disagrees that this basis is any sort of mind-independent universal or abstract element. Similarity is not, for her, shared identity within difference. She agrees with nominalists that reality is irreducibly particular and determinate, and that members of a proper conceptual grouping might vary in every particular respect. But she rejects their view that similarity is unanalyzable and that conceptual groupings are either arbitrary or merely pragmatic. In a given context, how groupings are to be made is, in most cases, mandatory, if our knowledge is to be retained, organized, and systematically expanded.

13. Such mind-independent kinds are often referred to as “natural kinds,” although this terminology is sometimes used by those who do not subscribe to realism as here defined. See the discussions of natural kinds by Paul Griffiths and Ghate in part 2 of this volume.

14. Analytic metaphysicians have taken to defining “nominalism” as the thesis that denies that universals exist—that is to say, as *anti-realism*. I do not follow this practice because it packages together under “nominalism” theories that are radically different from one another both in their metaphysical and epistemological dimensions. There is a very good argument against this practice in Salmieri 2008, 52–55.

Rand begins by observing that we can detect similarity only against a background of difference. For example, we can detect that two tables are similar to each other only against the background of other, different objects, such as chairs. Or, to take another example, once a child has reached the stage of isolating colors, two shades of blue will be experienced as different, until put up against something red, in contrast to which the blue shades can now be experienced as similar. Some philosophers have claimed that similarity cannot be grasped without concepts (and in particular without the concept “similarity”). This is untrue: similarities and differences at the first levels of conceptualization are perceived directly, and at very early ages.<sup>15</sup>

As to the nature of the similarity relationship itself, in looking back and forth from one table to another and from each to the chairs, the child is not, Rand holds, responding to some identical, *universal* element shared by the tables. Each table has a particular shape, for instance, that in most cases will differ detectably from table to table. Likewise, there is no identical “blueness” shared by, for example, the light blue and royal blue shirts. But the similarity experienced is not an unanalyzable primitive either, she says. Rather, the similarity of the tables relative to the chairs, or the blues relative to the red, is a matter of *lesser difference* along some quantitative, or more-and-less, axis.<sup>16</sup> The tables experienced as similar are perceived to be less different from one another than any is from the chairs, the blues to be less different from one another than any is from the red.

The similar items must therefore share with the contrasting items a *commensurable* characteristic, “such as shape in the case of tables, or hue in the case of colors” (*ITOE* 15). In connection with its role in concept-

15. See Kelley and Krueger 1984. The assumption that similarity can be perceived without the use of previously acquired concepts for the respects in which the items are perceived to be similar seems widespread in the cognitive science literature, though the thesis is rarely argued in precisely those terms; see, e.g., Quinn, Eimas, and Rosencrantz 1993; Quinn and Eimas 1996; and Smith et al. 1996. A valuable survey by D. H. Rakison and Y. Yermolayeva (2010) is somewhat more explicit on this front. The articles just cited contain extensive references to other work by these authors as well as useful scholarship by other authors. For a broad representative survey of the range of psychological study of early category and concept development, see Rakison and Oakes 2003. Thanks to David Rakison for providing many of these references.

Of course, as will be made clear shortly, the grasp of similarities at a more abstract level does require concepts of various sorts (including, in some cases, the concept “similarity”).

16. The explanation of similarity by reference to “lesser difference” is clearly implied in *ITOE*, but this terminology may have first been used in print to explain Rand’s view of similarity in Kelley 1984.

formation, Rand calls this commensurable characteristic “the Conceptual Common Denominator” (and abbreviates it as “CCD,” a practice I will follow).

The grasp of similarity, Rand thus holds, is a matter of implicit *measurement*, a relating of existents along an axis of quantitative, or more-and-less, comparison: “The element of *similarity* is crucially involved in the formation of every concept; similarity, in this context, is the relationship between two or more existents which possess the same characteristic(s), but in different measure or degree” (*ITOE* 13; see also *ITOE* 143–47).<sup>17</sup>

17. Rand argues that this essential condition on similarity applies as well to the similarity that is the basis of higher-level concepts, although there the similarity must be grasped conceptually. For instance, tables, chairs, beds, and so on—*furniture*—will not be experienced as similar, prior to the formation of the concepts of “table,” “chair,” “bed”; they are too different for their similarity, against the background, say, of walls, floors, and windows, to be noticed perceptually. One would need first to form the lower-level concepts. But once one is positioned to notice the similarity of pieces of furniture, one can do so only against the background of other parts of a human habitation that vary in quantity or degree from them along one or more commensurable characteristics, one or more axes, such that the pieces of furniture are less different from one another than they are from the contrasting items. As this case illustrates, the grasp of the similarities that underlie the formation of a concept typically depends on the possession and use of other, already-formed concepts. This fact is the basis of Rand’s thesis that concepts are *hierarchical*—that, for the most part, they must be formed in a certain order. For more on the hierarchical character of concepts, see the discussion later in this section.

The similarities involved in higher-order theoretical concepts, such as, for example, the concept “nominalism,” will be able to be grasped only on the basis of substantial propositional knowledge, for example, about the problem of universals, about theories thereof, and about the fundamentality of that issue to epistemology, all held in terms of prior concepts. As a concept of a certain range of theories produced by a human consciousness, “nominalism” can be fully understood, on Rand’s theory, only against the background of her general account of “concepts of consciousness” (*ITOE* chap. 4); but, we can at least note what the “Conceptual Common Denominator” (CCD) in the case of “nominalism” would be, and what range of measurements along that CCD is given to the distinguishing characteristic of nominalism. Thus, she would have us note that the grasp of the similarity across the range of particular nominalist theories (for example, Thomas Hobbes’s or Hume’s or Ludwig Wittgenstein’s) requires identifying (conceptually) these theories as varying in quantity or degree along at least one commensurable characteristic shared by these theories such that the theories are less different from each other along that axis or axes than they are from, for example, the realist theories from which they are differentiated when we form the concept “nominalism.” This CCD might be, for instance, *degree of resemblance of particulars in virtue of which they are (or are to be) grouped*. The range across that CCD is from zero degree of resemblance (in the case of wholly arbitrary Hobbesian nominalism) to multiple partial resemblances each shared by only some of the particulars (in the case of Wittgenstein’s family-resemblance nominalism) to whole resemblances (in the case of Hume’s resemblance-nominalism) to the sameness of qualitatively indistinguishable, numerically distinct essences (in the case of one interpreta-

This reference to “the same characteristic” is not an endorsement of realism about universals. Characteristics exist only as particular and determinate. Their sameness is real but is not itself a particular property or attribute, just as those who speak of *determinates* and *determinables* might insist that the ultramarine and the blueness of something are not two properties or attributes of it, sitting side-by-side, as it were, in the entity, even if (and indeed precisely because) the ultramarine is a determinate form of blueness. In the process of forming the concept “blue,” starting from the light blue and the royal blue shirts against the background, say, of a red one, what one is aware of are the two noticeably different but similar hues, standing in a relation to each other *along an axis that allows one to relate them as each more or less close to the other*. It is the commensurability of the two blue hues that is perceived—their “sameness” (in Rand’s sense) is something graspable only abstractly and subsequent to the concept-forming process. The bases in reality for the formation of concepts, according to Rand, are these commensurability relationships across particular, determinate attributes.<sup>18</sup>

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tion of Aristotelian realism) to the sameness of numerically one and the same essence (in the case of another interpretation of Aristotelian realism). It is no accident, then, as Gregory Salmieri has pointed out to me, that we often view such theories as existing on a continuum, sometimes speaking of one theory of universals (e.g., Aristotle’s) as *between* two others (e.g., nominalism and Platonic realism).

Each of the concepts of the actions and products of consciousness involved in there being such a thing as a nominalist theory, and each of the concepts of the particulars that are the object or content of those actions of consciousness, would likewise be formed from similarities analyzable in terms of commensurable characteristics possessed both by the particulars integrated by the concept and by the particulars from which those particulars are differentiated. For discussion of some of these issues, see *ITOE* 215, 217–22.

18. As this discussion suggests, Rand’s view of the similarity relationship (and of the relationships both of lower-level concepts to particulars and of higher-level concepts to lower-level ones) has some parallels with (and differences from) the notion of similarity implied by the traditional accounts of the determinable-determinate relationship; however, those parallels are best examined after Rand’s conception of “objectivity” is explained, and so I will not discuss them in this essay.

In thinking of Rand’s account of the relation of lower-level concepts to particulars and of higher-level concepts to lower-level ones, and of the use she makes of this account to explain the abstractness of concepts, some readers will benefit (as I have) from a comparison of her views with Aristotle’s conception of the similarity (or, as Aristotle says, “sameness”) involved in things under the same *genos* (which I will translate as “kind”). In the opening lines of *History of Animals* (*HA*), where he is identifying ways in which the parts of animals can be the same or differ, Aristotle speaks first of *sameness in form*, and then of *sameness in kind*. In introducing the latter, he says of animal parts (and of the animals that possess them) that “others, while the same, differ with respect to the more and the less” (*HA* 1.1.486a21–23). At

How, then, is the perceptual (or prior conceptual) awareness of a small number of similars integrated into an “open-end” concept, one that subsumes all relevantly similar instances, past, present, and future? By a process, Rand says, of *measurement-omission*. She introduces this idea as follows:

Let us now examine the process of forming the simplest concept, the concept of a single attribute (chronologically, this is not the first concept that a child would grasp; but it is the simplest one epistemologically)—for instance, the concept “length.” If a child considers a match, a pencil and a stick, he observes that length is the attribute they have in common, but their specific lengths differ. *The difference is one of measurement.* In order to form the concept “length,” the child’s mind retains the attribute and omits its particular measurements. Or, more precisely, if the process were identified in words, it would consist of the following: “Length must exist in *some* quantity, but may exist in *any* quantity. I shall identify as ‘length’ that attribute of any existent possessing it which can be quantitatively related to a unit of length, without specifying the quantity.” . . .

The same principle directs the process of forming concepts of entities—for instance, the concept “table.” The child’s mind isolates two or more tables from other objects by focusing on their distinctive characteristic: their shape. He observes that their shapes vary, but have one characteristic in common: a flat level surface and support(s). He forms the concept “table” by retaining that characteristic and omitting *all* particular measurements, not only the measurements of the shape, but of all the other characteristics of tables (many of which he is not aware of at the time). (*ITOE* 11–12)<sup>19</sup>

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*Parts of Animals* I.464a14–20, he says, “those animals that differ by degree and the more and the less have been brought together under one kind. . . . I mean, for example, that bird differs from bird by the more or by degree (for one has long feathers, another short feathers)” (trans. Lennox 2001b). Aristotle’s nonrealist but nonsubjectivist account of the unity of the instances under a kind is instructive here. On the Aristotle-Rand relationship, see Gotthelf 2013; and for a fuller discussion of Aristotle’s views on the type of unity possessed by a *genos*, Salmieri 2008, 71–98, and Salmieri, unpublished. On these Aristotelian topics, including difference in the more and the less, see also Lennox 1987.

19. We may think of this reference to omitting measurements of characteristics of which the child is not yet aware, as a standing order that, as one discovers new characteristics shared, in different measure or degree, by tables, one will omit the measurements of these as well. To illustrate, let us imagine a child who has recently formed the concept of “table” by retaining the range of table shapes while omitting the measurements within that range. Rand is holding that, when he discovers that tables have a distinctive use, namely, to support objects

Concepts, for Rand, are thus open-end, not only in the sense that they include in their reference all relevantly similar instances, past, present, and future, but also in the sense that (contrary, say, to the view of Kant or the logical positivists) they include in their content all of the characteristics of their instances, known or unknown. We will return to this later.

After indicating what would be explicitly retained and what would be omitted in the context of an adult's grasp of the concept "table" (including how "the utilitarian requirements of the table set certain limits on the omitted measurements"), Rand writes the important paragraph:

Bear firmly in mind that the term "measurements omitted" does not mean, in this context, that measurements are regarded as non-existent; it means that *measurements exist, but are not specified*. That measurements *must* exist is an essential part of the process. The principle is: the relevant measurements must exist in *some* quantity, but may exist in *any* quantity. (ITOE 12)

This "some but any" principle needs to be carefully understood. In lectures on Rand's theory of concepts, Harry Binswanger (1989, Lecture 3) calls attention to the crucial difference between the process described here and the realist account of concept-formation. Rand is not saying that attention is to be directed away from the quantitative variation and to an identical "length" or "table-shape." Measurement-omission is not an *in-sight* into a universal element. It is, rather, an *interrelating* of the commensurable determinate particulars. Measurement-omission, as Binswanger puts it, is *measurement-inclusion*. In retaining the attribute—length or table shape—one retains not some "universal" but a *range* along an *axis* of measurement. That is, one recognizes that the commensurability of the various lengths or table shapes allows for many more particular lengths or table shapes, indefinitely many along (the relevant portion of) that axis of measurement. It is precisely this grasp of the axis of measurement, and the relevant range along it, with all its available points or slots, that open-

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of one sort or another, that newly discovered characteristic can be expected to take its place in the concept of "table" alongside the shape as one of the retained characteristics distinctive to tables, with the measurements omitted of the particular variations along this range of use. Rand's formulation is a way of emphasizing that inherent in integrating mind-independent units into a concept is the expectation that these existents will have numerous other characteristics of which one is as yet unaware, characteristics which will come in varying measure or degree. Both Gregory Salmieri and James Lennox discuss this issue as well in their essays in the first part of the present volume.

ends the awareness to include *all* lengths (or table shapes), past, present, and future, and creates the concept.<sup>20</sup>

Based on this account of concept-formation, Rand offers the following definition of a concept: “A *concept is a mental integration of two or more units possessing the same distinguishing characteristic(s), with their particular measurements omitted*” (ITOE 13).<sup>21</sup>

The process of integrating the particulars into the concept—into what I called earlier *a retained unitary grasp*—must be completed by attaching a word to the concept. Rand writes, “In order to be used as a single unit, the enormous sum integrated by a concept has to be given the form of a single, specific, *perceptual* concrete, which will differentiate it from all other concretes and from all other concepts. This is the function performed by language” (ITOE 10).<sup>22</sup>

A concept, for Rand, is thus the product of a certain mental process: “The uniting involved is not a mere sum, but an *integration*, i.e., a blending of the units into a *single*, new *mental* entity which is used thereafter as a single unit of thought” (ITOE 10).<sup>23</sup> It is a *relational* entity, inherently of the units—the existents integrated—which existents exist indepen-

20. As is well known, George Berkeley (and Hume, following him) condemns Locke’s theory of abstraction for maintaining the existence of such things as “the general idea of a triangle, which is ‘neither oblique nor rectangle, neither equilateral, equicrural nor scalenon, but *all and none* of these at once” (Berkeley, *Principles*, Introduction, §13 [in Dancy 1998], quoting Locke from *Essay* II.iii.9; italics added by Berkeley; compare Hume, *Treatise*, 1.1.7 [in Selby-Bigge and Nidditch 1978, 17]). To put Rand’s view in these terms, one might say that for her the concept of “triangle” is a concept of triangles as being equilateral *or* isosceles *or* scalene. (This is not strictly correct, since the concept “triangle” is formed by differentiating triangles from, for example, squares and circles and other plane figures, along the axis of *number of sides*, and the measurements omitted when the characteristic “three sides” is retained are a continuum of [among other things] side length and angle size. Nevertheless, offering the disjunctive picture in place both of the self-contradictory “all” and of the realist “none” is here a useful way of capturing the force of Rand’s “some but any” principle.)

Locke’s famous question of what sets the boundaries of such ranges will be addressed in the final section of this chapter. At the beginning level of concepts, the boundaries are set by the *perceived* similarities, which themselves are determined in part by the closeness of the relevant physical features and in part by our perceptual mechanisms.

21. Various aspects of this definition are discussed in detail in the workshop transcripts (ITOE 153–58). On the usefulness but yet the limitations of the term “mental entity” to capture the idea that a concept is a new mental existent, the persisting product of a mental process, see, in particular, ITOE 157–58.

22. See also ITOE 19, 40, 163–75.

23. See also ITOE 157–58. I imagine Rand would say that two people have *the same concept* (paradigmatically) when their concepts have the same content, that is, integrate essentially the same sort of existents, notwithstanding the level of knowledge within which one distinguishes those existents from other existents (along a shared CCD) on the basis of the

dent of that act of integration. And that act—a uniting via measurement-omission into a single, abstract mental unit—is something that only human beings can perform. The concept produced by that process is not an “image” or “copy” of a sensory “impression,” nor any sort of special percept. And, though it is a mental particular (even if inherently relational), it is a mental particular of a sort only human beings can form. Hume was thus wrong, Rand holds, to insist on “the . . . proposition, *that the mind cannot form any notion of quantity or quality without forming a precise notion of degrees of each.*” For, in support of this proposition, Hume writes, “But ’tis evident at first sight, that the precise length of a line is not different nor distinguishable from the line itself, nor the precise degree of any quality from the quality. These ideas, therefore, admit no more of separation than they do of distinction and difference. They are consequently conjoined with each other in the conception; and the general idea of a line, notwithstanding all our abstractions and refinements, has *in its appearance in the mind* a precise degree of quantity and quality; however it may be made to represent others, which have different degrees of both” (Hume, *Treatise* 1.1.7, “Of Abstract Ideas,” in Selby-Bigge and Nidditch 1978, 18–19).<sup>24</sup> Hume’s argument here presupposes his general thesis, stated at the very opening of the *Treatise*, that “ideas” are “the faint images of [impressions] in thinking and reasoning” and not a more radically distinct sort of mental phenomenon.<sup>25</sup>

But “’tis evident at first sight,” Rand would insist, that this thesis is false, as is the claim that, in effect, we cannot separate in thought a line’s being of “some length but any” from the precise length of that line. Surely, we are able to form the idea of lines (and other lengths) as being of some length but any, or as we might say, of being “ $x$  inches long.” Of course, there is for Rand no object, “being  $x$  inches long”—the object of the concept is all the particular, determinate lengths; but what makes it possible for our thought to have the latter sort of object is there being a new mental entity *by means of which* we can grasp those (indefinitely) many particu-

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similarities and differences between those groups of existents. See, e.g., *ITOE* 42–45, and the discussion of “conceptual change” below.

24. The italics in the several Hume quotations are all in the original text, except for “its appearance in the mind” here, which is my own emphasis.

25. I take this premise to be behind the following argument: “Now as ’tis impossible to form an idea of an object, that is possess of quantity and quality, and yet is possess of no precise degree of either; it follows, that there is an equal impossibility of forming an idea, that is not limited and confin’d in both these particulars” (Hume, *Treatise*, 1.1.7 [in Selby-Bigge and Nidditch 1978, 20]).



lars. If Hume were right about the nature of the “ideas” with which we think, Rand maintains, algebra would be impossible,<sup>26</sup> not to mention the endless discoveries of science and technology from which our lives benefit in so many ways.

In the title essay of *FTNI*, Rand remarks, “If it were possible for an animal to describe the content of his consciousness, the result would be a transcript of Hume’s philosophy. Hume’s conclusions would be the conclusions of a consciousness limited to the perceptual level of awareness, passively reacting to the experience of immediate concretes, with no capacity to form abstractions, to *integrate* perceptions into concepts” (*FTNI* 26). Hume, says Rand, is denying that we can *abstract*, and *form concepts* in the way that she thinks we can. What is that way? The present essay’s subtitle suggests that Rand has “rethought” the traditional view of abstraction, but I have said hardly anything so far, in this exposition of her theory of concept-formation, about her view of abstraction per se. So let me ask: What is the process of abstraction for Rand? And what is its relation to concept-formation, as she understands the latter?

Let us start with Geach’s characterization of traditional “abstractionism,” as quoted earlier in this chapter: “I shall use ‘abstractionism’ as a name for the doctrine that a concept is acquired by a process of singling out in attention some one feature given in direct experience—*abstracting* it—and ignoring the other features simultaneously given—*abstracting from* them.” Notice that “abstractionism” for Geach designates a theory of *concept-formation*. The process of abstraction, on the traditional view, “singles out in attention some one feature given in direct experience”; once one has that feature in a selective attention that excludes the other features, one essentially *has the concept*.<sup>27</sup>

26. “The basic principle of concept-formation (which states that the omitted measurements must exist in *some* quantity, but may exist in *any* quantity) is the equivalent of the basic principle of algebra, which states that algebraic symbols must be given *some* numerical value, but may be given *any* value. In this sense and respect, perceptual awareness is the arithmetic, but *conceptual awareness is the algebra of cognition*” (*ITOE* 17).

27. I say “essentially” here because advocates sometimes speak of a distinct act of intuiting, or *grasping*, the feature that has been isolated by abstraction. But that “grasp” is understood to be intuitive—passive—and not a further processing comparable, say, to Rand’s “process of measurement-omission,” to which we will return shortly. Locke, for example, writes,

This is called ABSTRACTION, whereby ideas taken from particular beings become general representatives of all of the same kind; and their names general names, applicable to whatever exists conformable to such abstract ideas. Such precise, naked appearances in the mind, without considering how, whence, or with what others they came there, the understanding lays up (with names commonly annexed to