

Ayn Rand's Theory of Concepts: A Brief Overview

William Thomas

Abstract: This paper summarizes Rand's theory of concepts as presented in the first five chapters of *Introduction to Objectivist Epistemology*. Rand's approach to universals, essentials, and definitions is discussed, and key Randian usages such as "unit," "measurement," "distinguishing characteristic" and "Conceptual Common Denominator" are explained. An appendix summarizes Rand's treatment of several concepts.

Introduction

Ayn Rand's theory of concepts is presented in her monograph *Introduction to Objectivist Epistemology* (a.k.a. ITOE. See the sources for a full citation; all references are to the Second edition).

The purpose of the theory is to explain how it is, in the most basic sense, that our abstract knowledge can be objective knowledge of reality. Knowledge is formed in theories and propositions, but the basic building blocks are concepts, the mental content that lies behind our use of general terms. In her foreword, Rand writes: "concepts are abstractions or universals, and everything man perceives in particular, concrete. What is the relation between abstractions and concretes? To what precisely do concepts refer in reality?" (1) Answering these questions is the task Rand has set for herself.

Rand's theory attempts to resolve a dichotomy that runs throughout the history of Western philosophy.

On the one hand, realists, of whom Aristotle and Plato were thought to number, argued that the referents of general terms must consist in or partake of some identical, universal nature. Concepts therefore would have a real basis. All men would have "manness," whatever that might be, or would perhaps reflect the ideal Form of Man as existing in some dimension known only to the intellect (as the Platonic tradition held).

On the other hand, nominalists (from Occam to the American pragmatists to Wittgenstein), emphasized the fact that general terms are used according to human choice: no terms are forced upon us by existence. Universals do not exist as such, and the nominalists thus tend to hold that our concepts are not constrained by reality in any way that can be made clear.

Rand resolves this contradiction by constructing a theory that recognizes, with the nominalists, that universals do not exist metaphysically and that human purposes and contexts contribute to the formation of concepts. But Rand's theory also insists, with the realists, that the nature of the referents of a general term constrains the term and gives an objective basis to the human decision to regard those referents as similar. People have no identical "man-ness" to partake of, but the attributes and characteristics that people do have—their metaphysical identities—provide a real basis, independent of human thought, for the concept of "man."

Units and Concepts

Rand insists that there is no question that there is a reality which we can know. As she adverts at the close of the foreword, “for the purposes of this [work], the validity of the senses must be taken for granted, and one must remember the axiom: *Existence exists.*” She begins her first chapter by stating, “Consciousness, as a state of awareness, is not a passive state, but an active process that consists of two essentials: differentiation and integration.” (5) As “awareness” consciousness is by its basic nature in contact with a reality beyond itself.

Consciousness (and sense-perception as a form of consciousness) distinguishes existents in reality by recognizing the ways in which they differ. When the eye distinguishes a bird against the background of the blue sky, for example, that is differentiation. Consciousness also integrates, by, for example, relating two or more existents as contrasted with other existents. For example, when we regard two birds as a flock, because they move together, as against the sky and against other birds that are moving independently, we have engaged in a simple act of integration.

“A *concept*,” writes Rand, “is a mental integration of two or more units which are isolated according to a specific characteristic(s) and united by a specific definition.” A word, “(with the exception of proper names) is a (visual-auditory) symbol that denotes a concept.” (10)

“Unit” has a specific meaning in Rand’s theory. An existent is regarded as a unit when it is understood as the member of a group. The referents of a concept are “units” because, for us to subsume them under a concept, we must regard them as being part of the same group as other referents of the concept, and as being distinct in this way from non-referents. Individual cars, for example, are units of the concept of “car,” for all those people who grasp that concept. The cars as such are not units of anything: units are existents as understood and grouped by a knower.

Consider a red apple, a green apple, an orange, and a table, in a blue room. Now perceptually, we can differentiate these existents as particulars. As such, none of these items are units of any group. Given their characteristics, they can be obviously grouped in a number of ways. We might differentiate the apples from all the other items. Then the apples would be units of a group with two members. We could differentiate all the fruits from the table. Then the apples and the orange would be units of a different group. And so on.

“Measurement Omission”

The basic problem of universals is how things that are not quite the same can be of the same kind. Rand’s solution is to provide a refinement of the theory of similarity. Baldly, the idea of similarity is simply that while no existents are identical in all respects, some things are just plain similar to each other. Without an account of what similarity consists in, it is not a satisfactory basis for a theory of objectivity.

Rand's refinement is to define similarity in terms of relative quantitative (or in-principle quantifiable) proximity along some dimension(s). Thus in Rand's theory, similarity is not brute or mysterious fact, it is a precise and objective relation among the characteristics of existents. This quantifiable relation may be cardinally quantifiable, or the relative proximity in a dimension may only be quantifiable as an ordinal ranking.

Rand gives as an example the concept of "table." Tables' "shapes vary," she writes, "but have one characteristic in common: a flat, level surface and supports. [One] forms the concept 'table' by retaining that characteristic and omitting *all* particular measurements, not only measurements of the shape but of all the other characteristics of tables (many of which [one] is not aware of at the time)." (12)

The shape of any given table is, in Rand's terminology, a "measurement." (Measurements are, in this sense, aspects of the identity of an existent understood in the context of in-principle quantifiability). Rand precedes her discussion of "table" with a discussion of a unit of "length" as existing in a plainly quantifiable dimension—namely, length or extension. (11) In discussing "table," she calls attention to the fact that any given shape is quantifiable "in terms of *linear measurement*" in three dimensions. (14) Presumably were it to be literally measured, shape would take a multivariate value. An existent that varied too much in one aspect of shape, such as by having a peaked, rather than a horizontal surface, would not be considered a table. Something with a horizontal surface and some supports, but the size of a house, would not be considered a table (more likely, a shed). So the measurements of shape admitted under "table" are constrained to be "no larger than and no smaller than" some limits relevant to the purposes tables serve. Within the range of admissible measurements, however, when we think of tables, we "omit" (that is, ignore for our present purposes) the "measurements." Thus when we discuss tables they can be of glass, wood, metal, plastic, even ice—at an arctic hotel in winter, with the limits that they be solid. Tables can be of different sizes, within an appropriate range of scale. They can be round, triangular, etc.

Rand writes that "tables have one characteristic in common." This usage can be highly misleading, because in effect she has borrowed the language of the realists without accepting its literal meaning. In Rand's theory tables all have shape "in common," but then it is true, as she would admit, that every solid physical object has *some* shape. What tables have "in common" is that they possess "measurements" of shape within a certain range (their "distinguishing characteristic"), but they need have no particular traits that are literally the same nor do they partake of any literally shared identical trait.

Rand calls the dimension(s) along which we distinguish similar objects from dissimilar ones (in any given act of concept-formation) "the Conceptual Common Denominator." She defines this neologism as "the characteristic(s) reducible to a unit of measurement, by means of which man differentiates two or more existents from other existents possessing it." (15) In the appendix, in a discussion of the formation of a particular concept, Rand adds: "Unless you differentiate this particular grouping from another one with which it has something in common but differs in measurement, you couldn't have a concept. Because. . . there are two aspects of the process—one is integration, but the first one is separation [Rand appears to mean what elsewhere she calls 'differentiation']."

Figure 1:

—W————/X—Y/————Z

To illustrate Rand's idea, figure 1 gives a stylized representation of a Conceptual Common Denominator. The letters represent existents that possess traits with some values upon this CCD, which might be a shade of color, for example, or size, or intelligence, or ferocity, or rectilinearity, or some other type of trait. X and Y are closer to each other than to W or to Z. X and Y share the common characteristic of falling within the interval marked by the hashes: / . . . /. One could form a concept integrating all things that fall into the interval.

Rand notes that “similarity. . . is the relationship between two or more existents which possess the same characteristic(s), but in different degree or measure.” (13) For the most part, we do not handle the complexities of measurement or determination of measurability via conscious thought, at least not in the case of existents that we can perceive directly via our senses. (Existents we infer from data, such as photons, are another matter: these do require explicit measurement to some degree if only as a matter of inferring the units' traits.) Rather, “Similarity is grasped *perceptually*,” (14) our sense organs give us the ability to directly discern and compare the identities of entities in at least some dimensions. We can sense relative differences in temperature by touch, for example, and we can see relative differences in length.

Similarity relations are real, but can only be measured relatively. It is true that many of our perceptions, such as coldness or heat, for example, appear absolute to us, but this is because our own bodies provide a contrast object against which characteristics such as size or temperature can be contrasted. It is also worth noting again that similarity for Rand is relative to some standard or contrast objects. No length is per-se “long” or “short.” No size is “large” or “small” but that it is so judged relative to something else. And measurements, as she shows with her example of length, are made using a standard of measure.

Rand insists that if two traits can be regarded as similar, this is possible because their traits are measurable and commensurable, even if no explicit technique of measurement as yet exists for this type of trait (she gives the example of the similarity of colors in perception, which was only grounded in scientific measures after “centuries passed.” (15))

Rand returns to the concept of “man” in summarizing her initial presentation of her theory:

Now we can answer the question: To what precisely do we refer when we designate three persons as “men?” We refer to the fact that they are living beings who possess the *same* characteristic distinguishing them from all other living species: a rational faculty—though the specific measurements of their distinguishing characteristic *qua* men, as well as all their other characteristics *qua* living beings, are different. (As living beings of a certain kind, they possess innumerable characteristics in common: the same shape, the same range of size, the same facial features, the same vital organs, the same fingerprints, etc., and all these characteristics differ only in their measurements). (17)

In the context of the terminology of her theory, Rand elaborates her definition of “concept” as follows:

A concept is a mental integration of two or more units possessing the same distinguishing characteristic(s), with their particular measurements omitted.
(13)

(For more examples of concepts and their CCDs, see Appendix A.)

Rand’s use of child-development

Much of Rand’s exposition in ITOE is centered on an account of a child’s epistemological development, beginning even in infancy. I am not going to discuss this account or Rand’s claims in any detail here. However, I would like to highlight a point of interpretation: it seems to me that Rand has two important and valid purposes in focusing on the development of an individual’s knowledge, regardless of how exactly her theory fits certain details of common paths of child development.

First, focusing on development as the proper context for a theory of abstraction casts the entire discussion in a context of philosophical innocence. It avoids thereby the lamentable tendency of philosophers to impute to naïve knowers the intuitions of adults. Many thinkers addressing these issues have taken logic and mathematics as the standards of knowledge and certainty, despite the fact that these are mental skills that it takes years of training in abstract thought to master.

Second, Rand’s accounts of child-development, while usually couched positively, in fact do most of their work in her theory normatively. To be sure, her theory places some strict limits on what is possible in concept-formation (to be differentiated, objects must share some commensurable characteristic or dimension of comparison which can serve as the CCD). But largely, her theory concerns how concepts need be properly formed, and does not purport to be a full positive account of language as it is actually used. “(T)he question of how particular men happen to *learn* concepts and the question of what concepts *are*, are two different issues. In considering the nature of concepts. . . we must assume a mind capable of performing (or of retracing and checking) that process.” (21)

Abstraction from abstractions

Rand argues that our most direct and full awareness of reality is via perception. Crucially for her theory, perception is a rich form of awareness even to small children or animals with little or no concepts nor the ability to form concepts. Thus concept-formation begins with differentiation and integration at the perceptual level, and especially the visual level, since vision is the dominant sense in humans. A child can learn to distinguish various items of furniture this way, Rand says, and by contrasting them with other household objects, can form the concept of “furniture” itself. (21)

Another good example from a child's context might be food concepts: children learn concepts for different kinds of food: milk, juice, bread, hot-dog, etc., before they form a clear understanding of "food" as a functional abstraction integrating all forms of comestibles.

We abstract from abstractions when we use existing concepts as the basis for forming new ones. We can do this in basically two ways, either subdividing a single concept or integrating several conceptual categories into a broader concept.

When concepts are integrated into a wider one, the new concept includes *all* the characteristics of its constituent units; but their distinguishing characteristics are regarded as omitted measurements, and one of their common characteristics determines the distinguishing characteristic of the new concept: the one representing their "Conceptual Common Denominator" with the existents from which they are being differentiated. (23)

When a concept is subdivided into narrower ones, its distinguishing characteristic is taken as their "Conceptual Common Denominator"—and is given a narrower range of specified measurements or is combined with an additional characteristic(s), to form the individual distinguishing characteristic of the new concepts. (24)

Integrations of concept classes (such as "animal," which draws together people, cats, lizards, birds, etc.) include the entirety of the subgroups they bring together (all cats are animals, e.g., and everything true of cats is true of some animals). (23)

Rand remarks that

Just as wider integrations of concepts require a more *extensive* knowledge, so narrower subdivisions of concepts require a more *intensive* knowledge. For instance, the concept "father" requires more knowledge than the concept "man"—since it requires knowledge of man, of the act of reproduction, and of the consequent relationship. (27)

As functional concepts, "furniture" and "food" cannot be formed simply on the basis of the physical dimensions, color, taste, smell, or feel of their constituent units. Not all food has an attractive smell, for example. Beds, chairs, chests of drawers, and tables need not fall in a unique range of shapes. So once we have a sufficient body of concepts drawn directly from perception, we can employ conceptual distinctions, such as functions, in the CCDs we use to form new concepts.

The process of conceptual identification (of subsuming a new concrete under an appropriate concept) is learned as one learns to speak, and it becomes automatic in the case of existents given in perceptual awareness. . . . But it becomes progressively more difficult as man's concepts move farther away from direct

perceptual evidence, and involve complex combinations and cross-classifications of many early concepts. (Observe the difficulties of identifying a given political system or of diagnosing a rare disease.) In such cases, the knowledge of whether a concrete is or is not to be subsumed under a certain concept does not come automatically, but requires a new cognitive effort.

We speak of an “abstract” concept as one that is very “wide.” But in Rand’s theory, the measure of abstractness is the number of abstractions required to form and employ the concept, which is the measure of the effort required to really understand what the concept means.

Varieties of Measurement

Although Rand uses cardinal measurement as her paradigm examples (“length” and “table”), she intends the term “measurement” to apply to a wide variety of means of objectively comparing two or more existents. Mental states, for example, may be measured by “the scope of factual material involved in a given cognitive process and by *the length of the conceptual chain* required to deal with that material.” (32) She states that “concepts pertaining to evaluation” maybe be measured ordinally, in a process she terms “teleological measurement,” which grades or ranks its objects in terms of “the degree to which they achieve or frustrate” some goal or end. (33)

Rand also mentions “concepts of method,” which are “a sub-category of concepts pertaining to the products of consciousness.” “Concepts of method designate systematic courses of action devised by men for the purpose of achieving certain goals.” (35) She says that “Concepts of method represent a large part of man’s conceptual equipment.” (36). She gives as examples logic and many ideas in the sciences, ethics, medicine, etc., and in the appendix analyzes complex numbers as concepts of method. (305-6)

“The concepts of method are the link to the vast and complex category of concepts that represent integrations of existential concepts with concepts of consciousness.” (36) These include concepts such as “marriage” and “property,” which refer to human relations that can only be understood in context, via a complex conceptual chain.

Thus Rand’s theory holds that all conceptual categories have a basis in the range of measurements omitted on one or more Conceptual Common Denominators. In the paradigm cases, this process is based entirely on the data of the senses. But many concepts, and especially concepts of human relations, methods, and knowledge are based on complex chains of abstraction in which abstractions themselves play a part in the CCDs. This is not a circular position as long as all the abstractions employed in the CCDs have themselves a basis that is ultimately rooted in perception.

Definitions and Essentials

In her initial definition of a concept, Rand stated that a concept is “united by a specific definition.” According to Rand: “The purpose of a definition is to distinguish a concept from all other concepts and thus to keep its units differentiated from all other existents.” (40)

Since the definition of a concept is formulated in terms of other concepts, it enables man, not only to identify and retain a concept, but also to establish the relationships, the hierarchy, the *integration* of all his concepts and thus the integration of his knowledge. Definitions preserve, not the chronological order in which a given man may have learned concepts, but the *logical* order of their hierarchical interdependence. (40)

Rand endorses genus-differentia definitions, and describes how this system relates to the main elements of her theory of abstraction:

The units of a concept were differentiated—by means of a distinguishing characteristic(s)—from other existents possessing a commensurable characteristic, a “Conceptual Common Denominator.” A definition follows the same principle: it specifies the distinguishing characteristic(s) of the units, and indicates the category of existents from which they were differentiated.

The distinguishing characteristic(s) of the units becomes the *differentia* of the concept’s definition; the existents possessing a “Conceptual Common Denominator” become the genus. (41)

To illustrate this view of definitions, Rand discusses the concept “man,” defined as “a rational animal.” She points out that “animal” is the genus of “man” because man’s distinguishing characteristic is reason; and only animals possess consciousness, the CCD along which we differentiate and integrate people into “man.”

This approach has three crucial implications for the nature of definitions:

- 1) Definitions are not the meaning of a concept. “A definition is not a description; it *implies*, but does not mention all the characteristics of a concept’s units. . . . A definition must identify the *nature* of the units, i.e. the *essential* characteristics without which the units would not be the kind of existents they are.” (42)
- 2) Concepts are contextual. “Concepts are not and cannot be formed in a vacuum; they are formed in context; the process of conceptualization consists of observing the differences and similarities of the existents *within the field of one’s awareness*. . . . From a child’s grasp of the simplest concept integrating a group of perceptually given concretes, to a scientist’s grasp of the most complex abstractions integrating long conceptual chains—. . . the context is the entire field of a mind’s awareness or knowledge. . . .”
- 3) Definitions can be true or false. “A *Definition is the condensation of a vast body of*

observations—and stands or falls with the truth or falsehood of these observations.” (48)

Thus concepts are formed in relation to the needs and capacities of an individual, based in his context of knowledge, and constrained by the real similarities and differences that can be discerned along dimensions of comparison in reality.

This approach allows Rand to answer the question of what an “essential” property is. Having denied that there are any metaphysical universals or essences (52), Rand reconceives of essentials in terms of “fundamental” characteristics.

Metaphysically, a fundamental characteristic [of an existent] is that distinctive characteristic which makes the greatest number of others possible; epistemologically, it is the one that explains the greatest number of others. (45)

Thus what is essential depends in part on what it is that one trying to understand or explain. And it depends on what is in fact the nature of the existents under consideration. As Rand says, “in all issues pertaining to objectivity, there is no ultimate authority except reality.”

In this way Rand conceives of a view of concepts—and of knowledge more generally—that regards human beings as active but objective knowers. Reality constrains and informs human knowledge, and it must be complied with for concepts to be objective; but human choice and human purposes are also relevant to understanding why a concept might be necessary in the first place, and to understanding how it might be grasped and defined. Rand’s theory gives a new sense to the idea of “objectivity,” allowing her to fulfill her intention to distinguish her view from realism (whose epistemological tendency she dubs “intrinsicism”) and nominalism (whose tendency she dubs “subjectivism”). (53–4)

Sources:

Ayn Rand. *Introduction to Objectivist Epistemology, Expanded Second Edition*, Harry Binswanger and Leonard Peikoff eds. (New York: Meridian, 1990).
(First edition originally published in *The Objectivist* July 1966-February 1967)

A useful follow-up is David Kelley. “A Theory of Abstraction” *Cognition and Brain Theory*, 1984, 7 (3 & 4), pp. 329–357 (reprinted in pamphlet form by The Objectivist Center). Kelley extends Rand’s theory and relates it to research in psychology and neuroscience.

Appendix A:

The is a partial listing of some of the Conceptual Common Denominators Rand proposes (many of these are implicit in her presentations of definitions or distinguishing characteristics. Where I could not clearly determine to my satisfaction what the CCD might be, I have included the distinguishing characteristics Rand mentions.

Concept	Conceptual Common Denominator(s)	Page
“Table”	Shape, number of supports, size	12
“Furniture”	Size, ability to perform functions (such as support human beings or store smaller items)	22
“Animal”	Locomotion and “range” of consciousness	24
“Fish” “Amphibian” “Bird” “Mammal”	CCD of “animal” “qualified by” “anatomical and physiological characteristics”	25
“Man” (philosophical context)	CCD of “animal” plus degree of cognitive ability (range of consciousness)	25
“Man”(infant’s context)	Locomotion and speech	43
“Man” (toddler’s context)	Number of legs, degree of furriness, locomotion, and speech.	44
“Man” (child’s context)	CCD of “living thing” and quantity and scale of unique activities.	44
“adult” “child” “adolescent”	CCD of “man” plus measurements of age	25
“American,” “Englishman” etc.	CCD of “man” plus national origin	26
“Thought”	Degree, intensity, and directedness “psychological action” Distinguishing characteristic: “a purposefully directed process of cognition.”	32
“Love”	Degree of affection. Distinguishing characteristics: “an emotion proceeding from the evaluation of an existent as a positive value and as a source of pleasure.”	34
“Good” or other moral term.	Degree of achievement or frustration of a standard of value.	33