

Goals, Values, and the Implicit: Explorations in Psychological Ontology

Robert L. Campbell

The distinction between implicit and explicit is crucial to Ayn Rand's epistemology, as well as her aesthetics and her psychological speculations. Indeed, as Sciabarra (1995) has argued, the relationship between the implicit and the explicit is a pervasive theme in Rand's thinking, whether her subject is values or culture or literary style. Getting clear about this distinction gave Rand considerable difficulty, however. In her search to explicate it, she never offered more than a binary differentiation: what is explicit has been conceptualized; what is implicit is not yet known in conceptual terms.

Some theories in developmental psychology (Bickhard 1980a; Campbell and Bickhard 1986; Bickhard 1998) have found it necessary to distinguish more than two levels. Such theories recognize a hierarchy of levels of knowing: knowing the external world at Level 1; knowing about knowing at Level 2; knowing about knowing about knowing at Level 3; and so on. They also distinguish grades of implicitness, depending on whether the implicit is subconsciously believed or merely implied.

Rand's epistemology, ethics, and aesthetics all raise questions about human development. Whether it is the development of understanding or character or responses to art that we are concerned with, knowing levels and grades of implicitness are vital if we are to grasp what is changing and how change happens.

In pursuing this inquiry, I aim to continue the dialogue with cognitive and developmental psychology that Rand began in her

Introduction to Objectivist Epistemology (Rand 1990; Campbell 1999). It may provide help with some of the known difficulties in Objectivist philosophy, such as the anomalous status of implicit concepts, or the apparent need for an explicit “pre-moral” choice to live.

Rand’s philosophical effort accorded little recognition to the role that psychological ontology—basically, questions about the nature and origins of mind and knowledge—plays in epistemology (Machan 1999; Campbell 2000a). What is needed now is a living arrangement that will be beneficial to both philosophy and psychology and that will ensure genuine two-way traffic between them, instead of continuing Rand’s practice of making isolated borrowings from the human sciences while trying to do psychological ontology from the armchair.

Consciousness, Representation, and All That

Before I can introduce the central idea of this paper—levels of knowing—I’d better issue some terminological warnings. The hierarchy of knowing levels is a key conception in a psychological theory called interactivism (Bickhard 1980; 1993; Campbell and Bickhard 1986). Bickhard and Rand come out of quite different philosophical traditions. Whenever we talk across traditions, we have to be prepared for terminology that is unfamiliar—or that sounds familiar, but gets employed in a somewhat different way. Psychologists are regularly called on to keep such differences in mind, even when comparing theories about the same narrow range of phenomena. When we grapple with broader theories in the field, or move from one specialty to another, an ability to communicate across terminological differences is always necessary. One day a unified psychology may adopt a standard vocabulary for the subjects under discussion here. But that unified psychology is a long way off.

The first word we have to watch out for is “consciousness.” Rand used the word in its broadest possible sense—for her, any mind, engaging in any mental activity, is a consciousness. Rand often used “awareness” synonymously. I will speak of “minds” (I will sometimes call them “knowing systems,” but that phrase is best not included in our regular diet) and call what they do “knowing.” Contemporary

psychologists have not settled on a single meaning for “consciousness,” but every one of them uses the word more narrowly than Rand does.¹ Some speak of consciousness to indicate your state of mind when you aren’t asleep or in a coma; I prefer to call that “wakefulness.” Some use it to refer to your immediate phenomenological awareness, including your sensory experience; I’ll call this “awareness.” Some use it to refer to your ability to reflect, or to know something *about* what we know, think, or feel.

When I refer to “consciousness” without qualification I will mean *reflective* consciousness. It’s worth noting that Rand also contrasted “subconscious” mental processes with what was “conscious” in a narrower sense, or in our “focal awareness”; for an interactivist, what is “subconscious” contrasts with what we are reflectively conscious of. It’s also worth noting that much of Branden’s (1997) treatment of living consciously pertains to reflective consciousness: it’s about knowing what we are doing (Campbell 2001).

Another expression that could trip us up is the term “mental representation.” Like most contemporary philosophers and most cognitive psychologists, I will use “mental representation” as a generic term for knowledge or belief. If we know something, we have some kind of mental representation of it. Unlike most contemporary thinkers, I will *not* be assuming that representation is basically symbolic. Nor do I plan to endorse the “representative theory of perception,” which interactivists concur with Randians in rejecting (Bickhard and Richie 1983; Kelley 1986).

In any case, we do not have to answer all of the questions about knowledge or representation to provide a grounding for the levels of knowing. All we really need is two assumptions. First, human beings (and other organisms) are capable of knowing their environments and guiding their actions in order to attain goals. Second, knowing is irreflexive: a plain vanilla mind, or a basic knowing system, knows its environment but not itself.

The second assumption is the same as the Primacy of Existence principle (Peikoff 1993, 17–23). One fork of that principle maintains that the functions of a knowing system that detect aspects of the environment are not capable of world-making. The other fork denies

that minds can know themselves in advance of knowing their environments; in other words, there is no “prior certainty of consciousness.” Interactivism agrees with both, but the second fork is what’s crucial here: You have to be able to know the external world before you can know anything *about* your knowledge of the external world.

A third assumption is not strictly required to formulate the theory of knowing levels. But it is a critical insight shared by several traditions, including Objectivism, interactivism, hermeneutics (e.g., Winograd and Flores 1986), and Popperian critical rationalism (e.g., Bartley 1990), and it will turn out to be important when we take on grades of implicitness. Since Peikoff (1972, Lecture 8) has let the Objectivist version of this idea languish in the oral tradition, I’ll quote Sciabarra’s rendition of it:

People are not omniscient; they function neither as gods nor like Aquinas’s angels. . . . Lacking corporeality and human consciousness, the angels are conceived as being capable of grasping all the instances of every universal Form in existence by a single act of contemplation. Rand warned that human beings cannot attempt to operate like Aquinas’s angels . . . (Sciabarra 1995, 170)

To put it in the language of contemporary logicians, we human beings don’t know the “deductive closure” of what we believe: we are not automatically aware of all of the implications that can be deduced from what we know, or from what we hypothesize. So in drawing a previously undrawn implication, we actually learn something that we didn’t know before. In fact, the principle that we are not Aquinas’s angels should remind us that some implications of what we know may not have been drawn, either consciously or subconsciously.

Levels of Knowing

We are ready to consider a knowing system—any organism (or artificial system, if such systems can be built) that has a mind. Such

a system is capable of knowing its environment. If the system is interestingly complex, it will also be capable of adding to or changing its knowledge in response to error—that is, of learning (Bickhard 1980a; 1993; 1998; Bickhard and Campbell 1996; Christensen and Hooker 2000). And if it is more sophisticated still, it will be capable of responding to various kinds of generic uncertainties—that is, of having emotions. There may be times in the life of the system when it has no idea what to do next, but no time to dispassionately engage in learning trials. For instance, when a wild pig encounters a Komodo dragon for the first time, trying to sniff the Komodo dragon or initiate play with it will not enhance the pig's chances of survival—but fear and fleeing may. According to interactivism, the basis for emotions is being able to feed back uncertainty signals so that the system can interact with them and respond to classes of situations in terms of them (Bickhard 1980a; 1998). So when the wild pig hasn't a clue what else to do, it may still be able to sort out different environmental situations using the danger or pleasure signals that are generated when it encounters them and the standard responses that are indicated (fleeing at top speed, remaining perfectly still, and so on), in addition to the other knowledge that it may have about them.

Whatever its capacities in the realms of learning and emotion, any such mind remains subject to a fundamental limitation. Knowing is irreflexive; this mind can't know anything about itself.

Suppose now that a "hardware enhancement" gets added to this mind: a dedicated subsystem that can interact with the main system, and consequently come to know some things about it and the way it functions. For higher-level knowing to be possible, two conditions have to be met: (1) there has to be something worth knowing about the functional properties of the main system that knows the environment (if the main system is capable of knowing, learning, and emotions in a non-trivial environment, it is pretty much guaranteed that there will be things worth knowing about it); and (2) the "hardware enhancement" has to be working (Bickhard 1980a; Campbell and Bickhard 1986).

We will henceforward call the system level that knows the environment Knowing Level 1; the hardware enhancement that

enables interaction with it will be Knowing Level 2. Bickhard (1980a; 1992) has argued that while the vast majority of organisms function at Level 1 exclusively, human beings acquire the capacity for functioning at Knowing Level 2 around 4 years of age, presumably through neural maturation of the prefrontal cortex.²

Once the hardware capability for Knowing Level 2 is present, there is no need to stop there. On a strictly functional basis, attainments at Knowing Level 3 become possible once there is enough to know at Knowing Level 2; Knowing Level 4 becomes possible once there is enough to know at Level 3; and so on. In principle, there is no upper bound on the series of knowing levels, but human expertise is limited, and sooner or later we are likely to run out of material worth knowing at higher levels.

The underlying principle is thus quite simple. If a subsystem is in place that can interact with the first level system, then metaknowing becomes possible at Level 2, metametaknowing at Level 3, and so on.

Some applications might help. Here is one that I drew from the work of Jean Piaget (Bickhard and I have, in fact, proposed redefining Piaget's developmental stages along knowing-level lines). It covers some of the same territory as Rand's (1990) theory of concepts. While still functioning at Knowing Level 1, toddlers and young children become able to classify things in the environment. For instance, they become able to recognize (and, usually, label) specific dogs as members of a category, and to distinguish them from cats, squirrels, opossums, cows, and so on. They also become able to categorize all of these as animals (at least, learning and using the word "animal" normally come later).

At Level 1, however, children do not actually recognize any relationships between categories at one hierarchical level and categories at another. They learn to correctly label dogs and they learn to correctly label animals; after a little while they also get used to applying the "animal" label to every dog. A relationship is implicit in the practice of labeling lots of different things "animals," including everything that the child labels "dog." At Level 2, they become able to recognize the relationships between subordinate and superordinate categories explicitly. For instance, when given a problem like, "A

daxit is a dog. Is a daxit an animal?” they conclude that a daxit is an animal. But if asked, “A miv is a bird. Is a miv a robin?” they conclude that there is no way to tell (Smith 1979). They also begin to handle a problem that can’t be grasped at Level 1 but seems ridiculously easy once mastered: “Here are 7 dogs and 3 cats. They are all animals. Which is more, all of the animals or just the dogs?” (Piaget and Inhelder 1959; Shipley 1979; Campbell 1991; 1992).

At Level 2, children can still be thrown by an apparently trivial follow-up question: “Is there a way to make it so there are more dogs than animals?” Six and seven-year-old children who have successfully solved the preceding problem (“More animals, because dogs and cats are both animals”) will turn around and say, “Sure. Add lots more dogs” (Vœlin 1976; Markman 1978; Josse 1984; Lautrey and Bideaud 1985; Campbell and Jantzen 1994). At Level 3, it becomes possible for them to know something about the logical relationship between classes or categories that the child isolated at Level 2—specifically, that this relationship is necessary and cannot be altered. (At most, you can take away all of the cats, so there are the same number of dogs and animals, but you can never make there be more dogs than animals.) The age of onset for Level 3 is quite variable, depending on individual and knowledge domain, but 8 or 9 seems to be the minimum.

At Level 4, the adolescent (or adult) could learn a system of formal logic that would name the relationship involved, spell out its connection with other logical relationships, provide a notation for hierarchically arranged classes, and so on. (The reader has to be functioning at Level 4 to understand and assess Piaget’s own notational system for “addition of classes” while reading about the topic.)

Another application of knowing-levels principles that would be of particular interest to Objectivists is David Moshman’s (1990) account of the development of logical reasoning and reasoning about logic. Objectivist writings have occasionally distinguished between the use of logic and the “concept of logic” (Branden 1969); Moshman treats the relationship between reasoning and reasoning about reasoning in a systematic fashion.

At each of the knowing levels, relationships, or aspects of knowledge, that were implicit in Level N-1 functioning become explicitly known at Level N. Level N, in turn, has implicit aspects that may become known at Level N+1. Bickhard and I have called the process that gets you from one level to the next “reflective abstraction,” in homage to Piaget (Campbell and Bickhard 1986). Piaget’s (2000) somewhat different theory of the subject actually evolved independently; interactivism sharply differentiates between reflective abstraction and ordinary learning, whereas Piaget’s theory does not. In many cases, however, Piaget’s hierarchy of reflecting abstraction, reflected abstraction, metareflection runs parallel to our Knowing Level 1, Knowing Level 2, Knowing Level 3. Piaget also acknowledges that the sequence is open-ended.

Goals, Values, Metavalues

So far we have been extremely “cognitive” in our application of the knowing levels. But the hierarchy works just as well with goals as it does with knowledge. Every knowing system is a goal-directed system; what’s more, a system that can’t succeed or fail in reaching goals is a system that can’t detect or respond to errors (Bickhard and Terveen 1995; Bickhard and Campbell 1996; Christensen and Hooker 2000).

A mind that functions strictly at Level 1 acts to achieve goals, and (in some cases) can add to or modify its goals. But it can’t know that it has goals, or what these goals are specifically. Nor can it form higher-order goals: goals about what goals to have. In interactivist terms, it has goals, but not values.

A person who functions at Level 2 can formulate such goals about goals, or metagoals. Interactivism proposes to call these “values” (Campbell and Bickhard 1986). It is at Level 2 that genuine self-knowledge (knowledge about the self as psychologically distinctive) first becomes possible. Level 2 capabilities include not just knowing about goals and ways of handling classes of situations at Level 1, but also setting new goals with regard to those Level 1 goals (Campbell, Christopher, and Bickhard, under review).

A person who moves on to Level 3 can formulate goals about values. Goals about what values to have, for lack of a snappier tag, are referred to in interactivism as “metavalues.” At Level 3, we become capable of judging what sorts of people we are, and what sorts of people we want to be, by contrast with other ways we could be and other systems of values that we could adopt.

A person who moves on to Level 4 can engage in meta-ethical inquiry: comparisons of entire systems of ethics and evaluations of their foundations.³ Level 4 considerations would have to be “metametavalues” (if anyone wants to talk that way).

Again, an example seems called for. At Level 1, babies and toddlers elaborate a great many concrete goals. Among other things, they develop goals for activities that require persistence (as so many do). For instance, they might form the goal of practicing that string of words (“one,” “two,” “three,” “four”) until they get it right, instead of being satisfied with emitting a string like “one,” “two,” “six” on one occasion, and “one,” “three,” “five” on another. But even though children at Level 1 show persistence with regard to solving certain problems (and lack of persistence with regard to others), it would not be appropriate to say that they were conscientious (or the opposite).

At Level 2, a child is in the position to realize that he or she is persistent with regard to certain problems: “When I’m working with numbers, I don’t want to quit until I get it right.” The child can generalize over existing goals of which he or she is aware and formulate a metagoal: “On a problem that I’m trying to solve, I shouldn’t quit till I get it right.” This metagoal embraces some preexisting goals while directing the formation of other Level 1 goals.

At Level 3, an adolescent (usually) is in a position to realize that persistence in solving problems is not only one of his or her values, but that it has a place in the kind of person he or she is, as well as a position in an entire system of values. The person who is wrestling with questions of identity can accept (or reject) a metavalue of seeking to solve problems on his or her own, and seek to generalize it to areas of life not previously covered by persistence-related values or goals.

At Level 4, an adult who is trying to understand ethical systems

and judge which is best may recognize that persistence in trying to solve problems on one's own is part of what it means to be independent, and that independence is a necessary part of living well for a mature human being. What's more, the person can recognize that independence is either not regarded as a virtue in other systems of morality, or is actively devalued in some of them. The Level 4 thinker may conclude that independence, because of its role in promoting human life, ought to be regarded as a virtue, and that any ethical system that does not so regard it is deficient.

Although most readers of this article will be inclined to agree with this Level 4 judgment, I need to remark that there is no guarantee of truth or correct selection at any level of knowing. New kinds of errors become possible at higher levels, along with new insights and new kinds of truths. The examples that I have developed show consistency between goals and values at the different levels. But goals or values can come into conflict within a knowing level; it is also possible for values at Level 2 to conflict with specific goals that are supposed to instantiate them at Level 1, for metavalues at Level 3 to conflict with some of the values that they apparently subsume at Level 2, and so on.⁴

The distinctions that I have just made, using the knowing levels, have no analogs in the Randian corpus. Rand (1964) did not differentiate between values and goals at all (her definition of value as "that which one acts to gain and/or keep" (15) works nicely, in the present context, as a definition of a goal), and subsequent Objectivist writers have followed her lead. A knowing-level perspective would incline us to conclude that human beings don't really think in terms of virtues until Knowing Level 3, or their connection with ethical foundations till Level 4. But Rand's definition of virtue ("the act by which one gains and/or keeps it" (25)) merely placed it in a means-end relationship with (other) values or goals. (She gave "action" as the genus of "virtue," but obviously for an action to be an instance or a consequence of a virtue, it has to be motivated by the right kind of value.) She did reserve the term "purpose" for goals chosen consciously and intentionally, but otherwise the same term "value" was pressed into service regardless of knowing level.

If you can't distinguish goals from values from metavalues from metaethical considerations, you are going to have trouble relating the formulations of your moral philosophy to concrete, developing human beings. For instance, if you think that the foundation for morality, rightly understood, is life, and that all lesser or more specific moral values belong to a chain of means to the end of life, should you conclude that acting morally requires a prior "choice to live"? Is this choice to live merely something that human beings might come to recognize through philosophical analysis, way up there at Knowing Level 4? Or is it a concrete psychological reality up and down the knowing levels?

We are still not quite ready to take on the "choice to live," however. So far we have treated all goals, values, and so forth, as though they are definitely represented by the organism. Throughout this section, we have presumed in our discussion that a goal may not be known reflectively and consciously, but it will still be represented subconsciously, at a lower knowing level. But what if a certain goal is not part of the organism's knowledge or belief, *at any level*? What if it isn't represented *anywhere*, yet it follows logically from what *is* represented at one level of the system or another? Could there be a goal (or a choice of a goal) that is not just implicit, *but so implicit that it isn't represented*? To answer these questions, we have to give a lot more consideration to the implicit.

The Importance of the Implicit

Rand frequently made reference to the implicit. She invoked it regularly, in both her epistemological and aesthetic writings. A sense of life is implicit; much of what goes into a psycho-epistemology is implicit; the "premises" that Rand thought lie behind our emotional reactions are implicit (Rand 1971a; 1971b; 1971c; 2000; 2001). The kind of epistemology that could do justice to everything that Rand says about "sense of life" and about the workings of the subconscious mind would have to be an epistemology of the implicit.⁵ However, Rand's epistemology, as developed, consisted of some basic principles and a theory of concepts. Others have elaborated a Randian treat-

ment of perception (Kelley 1986), but there is no Randian theory of skill or “knowing how.” It is no accident that in his discussion of “tacit” or implicit knowledge in Rand, Sciabarra (1995) has to rely extensively on Hayek (e.g., 1973) and Polanyi (e.g., 1959), while acknowledging that Rand would not have cared for some of their epistemic formulations. Rand (1990) did, however, maintain that both concepts and definitions have implicit precursors. Since it was in this arena that she made her only concentrated effort to get explicit about the implicit, we need to examine her views on implicit concepts.

The Anomalous Status of Implicit Concepts

In a recent article on Rand’s theory of concepts, Bryan Register (2000) tackles implicitness head-on. Specifically, he asks how Rand’s theory could actually allow implicit concepts. Implicit concepts are supposed to be wordless. But Rand maintains that concepts are “mental entities.” For instance, our concept of *dog* is a mental entity. Now our dog-concept has to have “dog,” “chien,” “Hund,” “yw,” or some other word attached to it to make it a mental entity (she insists on a word and not a phrase—see Rand 1990, 177). But then, what could an *implicit* dog-concept be? Lacking a lexical item to bind up its entityhood, won’t it just fall apart into dog-exemplars—into disintegrated, working-memory-jamming knowledge of Spot here and Bowser there? What could mentally unite or integrate the exemplars without the word? Register (2000) concludes that Rand’s theory comes within a hair of equating concepts with words, and fails to explain what an implicit concept could be.

Two Grades of Implicitness

We’ll return to Rand’s handling of implicitness after we see how interactivism approaches the matter. Up to now, I’ve merely treated the contrast between explicit and implicit as a correlative of the distinction between Knowing Level N-1 and Knowing Level N: I’ve given the basis for a hierarchy of knowing levels, and I’ve said that what’s implicit at N-1 can become explicit at N. Moreover, there are gradations of a kind, because there’s a minimum knowing level at

which one thing or another can be known explicitly. We can know about pebbles and dogs at Knowing Level 1. But we can't know that dogs are a kind of animal, so there are more animals than dogs, at Knowing Level 1; we have to be at Level 2 to realize that. I can't think about the kind of person I am—about what values I ought to have and why these are better or worse than others—until Knowing Level 3. We can't abstract the logical form of deductive arguments, inserting variables in place of terms or propositions, till we get to Knowing Level 4—not, at least, if we're going to do this on our own (Campbell and Bickhard 1986). But I haven't asked whether there can be grades of implicitness *apart from the knowing-level hierarchy*.

Interactivism proposes that there are. What's more, it maintains that they are needed if we are to make full sense of implicitness.

Let's start with the easy part: what's *explicit*. Normally we say knowledge is "explicit" if one of two conditions applies: (1) If we are currently aware of it, it's explicit; (2) If we can put it readily into words, it's explicit. These aren't the same, though. There may be cases in which we are currently aware of something, but the manner in which we know makes it hard to put into words. For instance, we might visualize some elaborate design, or we might form an auditory image of a musical passage. These forms of knowledge qualify as explicit, even if they are not (readily) verbalizable.

Moreover, there are many things that we know explicitly that we aren't *currently* aware of. I may know explicitly that productiveness is a virtue in Rand's system of ethics. I may also know why it is a virtue (because of its relationship to rationality and to the wider requirements of human life). But, needless to say, I am not aware of these things all of the time. Even a professional moral philosopher doesn't think consciously about them most of the time. I am able to *become* aware of them when the occasion requires (maybe even sometimes when the occasion doesn't), by retrieving this knowledge from memory.

So if I'm aware of something now, my knowledge of it is explicit. If I've been aware of it in the past, and can become aware again by retrieving knowledge from memory, my knowledge is also explicit.

Now what does *implicit* mean? Presumably that I know or believe

something, but it's not part of my awareness now and it hasn't been in the past.

But if I believe it and it's never been part of my awareness, how do I believe it?

The usual answer is that I believe it *unconsciously or subconsciously*. How would I do that? Well, I'd have to have a mental representation—some sort of knowledge or belief—that is not conscious. This mental representation hasn't been part of my awareness up to now. In the extreme case, it might not be *able* to become part of my awareness; it might not be accessible or retrievable.

Suppose, on the one hand, that I realize that I can get exactly 10 poker chips two different ways. I can get 10 chips by putting down 5 chips twice or by putting down 2 chips five times. I was already able to get 10 chips reliably (not 8 or 15) either of these ways, but I wasn't thinking consciously about the way I did it. I already knew, subconsciously, to put down chips 5 times when putting them down 2 at a time, and so on. I had the mental representation in some form; it just wasn't conscious (Piaget 2000).

Suppose, on the other hand, that I try to figure out through introspection exactly what mental processes take place when my neighbor says "Your dog just jumped over our fence" and I understand it. I won't be able to answer the question that way, because most of what went on when I understood the utterance of this sentence wasn't just unconscious; it was inaccessible to conscious awareness. Still, there must be *some* (unconscious) knowledge that got used when I understood that sentence in this context.

Usually when psychologists talk about the implicit they expect it to be like one of these. What's implicit is known or believed; it's represented, but it's represented subconsciously.

"Implicit" could mean something different, though. It could mean what is *merely implied* by what I know or believe. For instance, a therapist reviews everything that she has learned from her client so far. He has obvious difficulties in his relationships with women. He acts as though he expects all women who have a significant role in his life to try to dominate him. What's more, he reports that his mother dominated him. So, does he have the unconscious belief that all

women are like his mother, therefore they will attempt to dominate him? Or is this merely implied by what he believes (consciously or subconsciously)—and by what he does? What if he has developed an attraction to women who behave in certain ways, a tendency to reject women who don't behave in those ways, strategies for negotiating in a relationship that involve a lot of placating, and so on and so on?

All of these would make sense if he expects women to try to dominate him, and, even further, to be like his mother in other ways. But there's no unconscious belief to that effect. "All women are like my mother, so they will try to dominate me" is implied by what he does and by what he believes, but he doesn't actually believe it—not even subconsciously.

I'm not claiming that in this case the person *can't* have a subconscious belief to this effect. I'm arguing that he *doesn't have to*, in order to act as though "All women are like my mother . . ." is true. There is a difference between the *shallowly implicit* (subconsciously believed and never reflectively known by the person) and the *deeply implicit* (merely implied by what the person knows or believes).

Sometimes this difference will be important, other times not. If the therapist's goal is to get the client to realize that he is acting as though all women are like his mother, etc., then what's important is to make this explicit, regardless of what kind of implicitness it had. If the therapist is convinced, however, that there's just one kind of implicitness (the shallow or subconscious belief kind), the therapist may pressure the client to retrieve what isn't retrievable, or to stop repressing what he isn't repressing. You can't repress what you haven't been representing.

With distinction in hand, we are prepared to revisit Rand's conception of the implicit. In present terms, we need to ask whether Rand made a distinction between the deeply implicit and the shallowly implicit.

Rand's Availability Criterion

The transcripts from Rand's epistemology workshops (conducted between 1969 and 1971) that are now included as an appendix to the

Introduction to Objectivist Epistemology are studded with references to the implicit, and many of these give rise to questions. In fact, Rand participated in an explicit discussion of implicit concepts. Rand states her view of the implicit as follows:

The “implicit” is that which is available to your consciousness but which you have not yet conceptualized. For instance, if you state a certain proposition, implicit in it are certain conclusions, but you may not necessarily be aware of them, because a special, separate act of consciousness is required to draw these consequences and grasp conceptually what is implied in your original statement. The implicit is that which is available to you but which you have not conceptualized. (1990, 159)

Here is a good clear affirmation that we don’t think like angels, that we aren’t deductively omniscient. Up to her last sentence, Rand seems to be allowing for the deeply implicit: what’s implicit is implied, and you may not yet know it in any sense. Elsewhere, Rand occasionally gives an example of the deeply implicit:

The truth or falsehood of a given artist’s philosophy . . . may affect a given viewer’s enjoyment of his work, but it does not negate its esthetic merit. Some sort of philosophical meaning, however, some *implicit* view of life, is a necessary element of a work of art. (Rand 1971c, 39)

The view of life *has* to be deeply implicit because Rand attributes it to the art work itself—not to its author, and not to its viewer. Similarly, Rand declared in her lectures on fiction writing:

Fundamentally, what is important is not the message that a writer projects *explicitly*, but the values and view of life that he projects *implicitly*. Just as every man has a philosophy, whether he knows it or not, so every story has an implicit philosophy. For instance, the theme of *Gone With the Wind* is

historical, not philosophical—yet, if analyzed, the nature of the events and of the style would reveal the author’s philosophy. (Rand 2000, 15)

Again, a story cannot know or believe or represent any philosophy—consciously or subconsciously.

Finally, in her lectures on nonfiction writing, Rand notes:

I have often presented Objectivism in five minutes, but that is not the same as the presentation in *Atlas Shrugged*. I do not present a different philosophy; if one followed all the implications of my brief presentation, one would arrive at *Atlas* (though it would take years). (Rand 2001, 159)

Meanwhile, back at the epistemology workshop, Rand’s reference to an “availability” criterion seems to tug us right back into the shallowly implicit. How could the viewer (already!) subconsciously represent the implicit view of life in a (previously unfamiliar) painting, or piece of music, or work of fiction? In what sense could this be cognitively “available” to him or her? How about the implications of Rand’s five-minute presentation of her philosophy, which she believed would take years to work out? Are these in any sense “available” to the person who has just heard and understood the five-minute summary?

The participant known to posterity as Prof. G observes that “implicit” can be understood more than one way, and asks Rand to differentiate between two senses of the word:

you could say that when concepts are formed, there is a certain form of awareness or recognition that something like measurement-omission is involved, but one can’t explicitly state the fact that concepts are formed through measurement-omission. (Rand 1990, 160)

Sciabarra (1995, 173) states the same point in somewhat stronger terms than Prof. G: by Rand’s account of concept formation,

children and adults omit measurements all the time—without consciously realizing that they have been measuring anything. Prof. G continues:

The other sense of “implicit” would be not that there is some form of awareness or recognition—*that might not be present at all*—but the sense of “implicit” in which something is presupposed by, or is a condition for, something else. I think this might be present in axiomatic concepts, for example. . . . the nature of the relationship here would be that axiomatic concepts are presupposed in higher concepts. (Rand 1990, 160; emphasis added)

Rand promptly rejects the idea that axiomatic concepts could be logically presupposed by something we know. We would have to already know what is presupposed:

Normally, “presuppose” means that you cannot hold concept A unless you have first grasped concept B. There is an almost chronological projection here—if you do not grasp B, you cannot grasp A. (160)

So Prof. G’s attempt to distinguish shallow from deep implicitness gets flattened. And when G ventures (161) that implicit concepts are shallowly implicit (“there is a form of awareness here which is below the level of the explicit”), he elicits a flash of the legendary Randian impatience:

It simply means what I just said. It is not yet conceptualized, but it is available. Therefore, if you substitute the definition “conceptualized or not” for “explicit and implicit,” it will be perfectly clear. (161)

So far Rand has merely collapsed the distinction. Her stated criterion of what is “available” or potentially conceptualized still *could* embrace the deeply implicit.

The issue returns in a discussion of the sense in which propositions are “logically implicit” in a concept (177–83). Here Rand has something more to say about availability:

If we talk of the existence of a concept, we have to say that it exists *in a man’s mind* so long as he is able to bring it into his full conscious attention.

Certainly your entire vocabulary is not constantly in the focus of your conscious attention. But it is *available* to you the moment you need it. . . . when you are uttering a sentence, you are using concepts which do exist in our minds, and we are able to recognize and hold them for the length of your sentence . . . (182; emphasis added)

Here Rand is saying that something is available if it can be retrieved from long-term memory (automatically or with conscious effort). If everything that is implicit is retrievable in this manner, then the knowledge or belief must already be present subconsciously—in other words, Rand is allowing for just the shallowly implicit. This restriction is consistent with her view that our emotional responses depend on implicit “premises,” and that genuinely changing these premises would change how we feel. Such premises would have to be subconsciously believed.

There is some chance that the statement about our vocabulary being available was not really meant to address the availability of the implicit. At this juncture in the workshops, Rand was responding to a (rather peculiar) philosophical contention that our explicit concepts exist only when they are part of our current conscious thinking. But even if Rand wasn’t actively excluding the merely implied from the realm of the implicit, she was offering no way to distinguish it from the subconsciously believed.

How the Implicit Troubles Contemporary Psychology

It isn't just Rand who stumbled over the implicit. It gets under psychologists' feet, too.

Among psychologists in the late nineteenth century, subconscious mental processes were highly controversial; thinkers as prominent as Wilhelm Wundt and William James denied their existence outright (Baars 1986). Nowadays, it is taken for granted that there are subconscious mental processes, and that these must carry a good part of the burden of explaining how we think and feel. But what is subconscious knowledge supposed to be like? The mainstream view, exemplified by information-processing psychology (Anderson 1983; Newell and Simon 1972; Newell 1990) equates subconscious mental representations with data structures or rules in a computer program.

What makes this conception troublesome is that subconscious data structures are not supposed to be identical to conscious mental representations—yet they tend to be awfully similar. Propositions stored in our long-term memory are a lot like sentences that we “hear” inside our working memory. “Mental image files” that we salt away in our long-term memory aren't far removed from our conscious visual images. There's hardly anything to differentiate implicit from explicit: what's (shallowly) implicit merely needs to be “activated” or “accessed” to become explicit. And, as we saw with Rand's comments about the availability of explicit concepts that don't currently figure in our conscious thinking, activating or accessing the implicit ends up hardly different from retrieving what is already explicit (Campbell and Bickhard 1986; Bickhard and Campbell 1989; Bickhard and Terveen 1995).

Meanwhile, mainstream cognitive psychology simply does not acknowledge the merely implied. At best, there is an occasional recognition that the organism can respond to the structure of the environment without mentally representing every detail of it in advance (Simon 1969).

What Could an Implicit Concept Be?

Now we can return to the implicit-concept problem, as raised by

Prof. G (Rand 1990, 159–62) and Prof. D (167–74) during Rand’s workshops and recently revived by Register (2000). According to Rand in her rejoinders to Prof. G, an implicit concept isn’t a concept yet, because it isn’t tagged with a word, and if it isn’t tagged with a word, it isn’t properly integrated or entity-like. Prof. D poses the example of a baby (10 or 11 months old, we may presume, and starting to teethe) who is able to differentiate blue notepads from other things and treat them alike. We know that the baby can do this, because he particularly likes to chew on these blue notepads, deals with newly encountered blue notepads the same way, and cries when he can’t get any. The baby can’t say a word yet. Could the baby have an explicit chewable-notepad concept? Rand says no:

He has an open-ended identification from memory. He might remember that there were blue pads, and he would like more blue pads. But he couldn’t hold more than, let’s say five identifications of that kind. Maybe he’ll remember the five pads and two ashtrays and three pens. (Rand 1990, 170)

This is what Rand thought it was like to have an implicit concept. The baby may have put the chewable blue notepads together in some way, and distinguished them from other not so nicely chewable things, but he hasn’t finished the job, because he hasn’t tagged the intermediate results with a word. So his notepad-knowledge must consist entirely of notepad-exemplars (representations of this specific chewable notepad, or that one). It’s almost as though each notepad-exemplar has a little loop sewn onto it, and when the baby learns (or makes up) a word for the notepads, the word will thread through all of the loops and string the exemplars together in a bundle. The bundle can’t be tied off at the ends, though, because new exemplars can be threaded onto the string at any time.

Of course, we have no idea what these “loops” are! It is Rand’s failure to specify them (not to mention how they differ from the loops attached to the baby’s doggie-exemplars or his daddy-exemplars) that leads Register (2000) to reject her claims about implicit concepts.

Contemporary psychologists have the same problem: their

conception of knowledge doesn't allow knowledge structures to harbor any interesting functional properties that could then be made explicit at a higher level of knowing. There's nothing that a higher level of knowing could do something with, that a lower level of knowing wouldn't already be able to make use of. Everything is already spelled out in the rules or data structures; to become conscious, they need merely be retrieved or accessed. In this regard, Rand's stated epistemology, like standard treatments of knowledge in psychology and Artificial Intelligence, lacks the means to handle either grades of implicitness or levels of knowing (Campbell and Bickhard 1986; Bickhard and Campbell 1989; Bickhard and Terveen 1995; Bickhard 1998).

The Choice to Live

Now for our long-promised engagement with the choice to live. The Objectivist ethics identifies life as the ultimate value, on which all other values depend (in interactivist terms, a discussion of life in relation to the major virtues is operating at the metavalue level, or the meta-ethical level). In the standard construal, the fundamental virtue of rationality is a means to the end of life; such virtues as independence and productiveness are, in turn, means to the end of rationality.

There is a well known dispute ongoing, about the proper interpretation of Rand's moral foundations. Is everything that is a good for a person instrumentally related to the ultimate end of life? Is it good to be productive because productiveness is a means to survival? That is the "survivalist" interpretation (e.g., Peikoff 1993). By contrast, could some of the things that are good for us be good because they are parts, components, or instantiations of a flourishing human life? This is the "flourishing" interpretation (Aristotle 1962; Den Uyl 1991; Rasmussen and Den Uyl 1991). Much of Rand's (1964) exposition is survivalistic, yet significant qualifications like "man's life *qua* man" suggest an appeal to flourishing.

My purpose here is not to argue for the flourishing interpretation (though the interactivist treatment of goals, values, and metavalues certainly doesn't militate against it). Instead, I want to take on a prime

difficulty posed by the survivalist reading.

If moral values and metavalues are to be chosen as means to an end, and the ultimate end is life, then none of these should be chosen *unless the ultimate end has first been chosen*. Here is a classic exposition of the “choice to live”:

Reality does not issue orders, such as “You must live” or “You must think” or “You must be selfish.” The objective approach involves a relationship between existence *and* consciousness; the latter has to make a contribution here, in the form of a specific choice. Existence, therefore, does demand of man a certain course, it does include the fact that he must act in a certain way—*if*; if, that is, he chooses a certain goal. . . .

Morality is no more than a means to an end; it defines the causes we must enact if we are to attain a certain effect. . . .

If life is what you want, you must pay for *it* by accepting and practicing a code of rational behavior. Morality, too, is a must—*if*; it is the price of the choice to live. That choice, itself, therefore, is not a moral choice; it precedes morality; it is the decision of consciousness that underlies the need of morality. (Peikoff 1993, 244–45)

Peikoff regards the choice to live as explicit. He seems to be saying that this conscious choice is “pre-moral” in two senses: not only is it presupposed by genuinely moral choices, it actually precedes them in time. In other words, I can’t choose to take the rational course of action *until* I have chosen to live.

But when does *anyone* make a conscious choice to live? A person chooses to live when deciding whether or not to commit suicide. A person chooses to live when deciding whether to fight a terrible illness or injury, or to let go. Under any other circumstances, such a choice is exceedingly rare.

For most of us, most of the time, there is no explicit choice to

live. I rather doubt that many of us even carry around a subconsciously represented, shallowly implicit one. Rather, a choice to live is *implied* by other choices that we have made. Such a choice is what would make sense of the pattern of goals we have adopted in the past, the pattern of values that we have developed with regard to our goals, the pattern of metavalues that we have taken up with regard to our values. When we decide to stand up for ourselves, that implies a choice to live. When we sink into defenseless passivity, that implies the opposite choice. When we seek to earn our own living, that implies a choice to live. When we expect others to take care of us when we are able-bodied (and minded) adults, that implies the opposite choice. And so on. When we reach Knowing Level 4, where we can compare systems of ethics and review them from a meta-ethical perspective, then we are in a position to understand the foundations of ethics, and we can recognize what the pattern of our metavalues implies. Then we can recognize explicitly that life is fundamental to ethics, and that choosing to live is implied by our values and metavalues (or that the opposite is implied, if that is the case).

Acknowledging that the choice to live is nearly always implicit would surely help us in understanding how other organisms function. If we had in front of us a “state diagram” for an ameba—an automata-theoretic diagram showing the various internal states that the ameba could end up in, the state transitions that the ameba would undergo after receiving various inputs from the environment, the actions that the ameba might take—we presumably would find goals to increase nutrient levels, to decrease the irritation caused by noxious substances or water temperatures that are too high or too low, and so on. But even if we could inspect the mechanism that sets priorities for the ameba in case of competing goals, we would probably not find a generic goal to “keep surviving.” Rather, it is the pursuit of the ameba’s specific goals that would normally have that effect. If we could trace all of a Lombardy poplar tree’s internal states (including its goals) and all of its possible courses of action, internal or external, under different possible conditions, again we most likely would not find a generalized survival goal. Similarly for a great white shark, or

a gerbil. Each sort of organism could (and normally does) act in many different ways that imply an ultimate goal of continuing to live—even if that goal is never actually represented within it.

Getting back to human affairs, and acknowledging that once we reach a certain level of development we are capable of asking what our ultimate goal ought to be, I don't see why the survivalist interpretation can't accept an implied choice to live. Besides, if it requires an explicit choice to live as the foundation of morality, it must be rejected on empirical grounds, because most people never make such a choice. While Rand (1990) and, to some extent, Peikoff (1993) have made a considerable effort to adopt a developmental perspective on our ability to make definitions, our understanding of causality, or our ability to introspect, positing an explicit choice to live as the beginning point for ethics is anti-developmental. We would have to understand meta-ethics, and recognize the connection between life and moral virtues, *then* explicitly choose life—in order to be moral in any way, shape or form, in order to make any informed choice of what is good for us. Even if the explicit choice to live were much more common than it seems to be, we would have to be at Knowing Level 3 or 4 to make it. Babies do not commit suicide; neither do children who are functioning at Knowing Levels 1 or 2.

Obviously what I have said about an implied choice to live applies in equal measure to an implied choice to die. On occasion, there are self-destructive individuals who consciously believe that they deserve to die; on some more occasions, there are individuals who do themselves harm while subconsciously believing that they deserve to suffer it. But I would guess that in most cases, we recognize a pattern of behavior as self-destructive in terms of its objective consequences. What the person is trying to do implies a choice to die; it does not conceal a repressed subconscious goal of dying.

In proposing that the choice to live is implicit (usually, deeply implicit) in specific moral choices, I have arrived by a different route at Sciabarra's interpretation of Rand's views on the choice to live:

As a child learns to distinguish between right and wrong, it may not be making a calculated decision "to live." Indeed,

it may not even know *why* certain actions are good and others are bad. Even as its consciousness evolves toward full conceptual maturity, it is more likely to take for granted the moral principles governing its actions as it follows certain traditional precepts by habit. . . . In most cases the choice to live becomes apparent in the everyday pursuit of life-sustaining material or spiritual values. (Sciabarra 1995, 243)

Using the language of dialectics, Sciabarra says that, for Rand, life and value are internally related—that value (for Sciabarra, as for Rand, this is a broad category that encompasses goals) cannot exist except in relation to life, and vice versa.⁶ Sciabarra consequently finds it natural to treat the choice to live as implicit. The survivalist interpreters of Rand have not been able to put forward such an interpretation, because they have accepted Rand’s unswerving exposition in terms of means-to-end relationships, and her flattening of the implicit.

The Anomalous Status of Skill

We have seen how difficult implicit concepts were for Rand, but her struggles with the implicit are actually most evident in her treatment of skill. As Sciabarra (1995, 212) has emphasized, skill plays absolutely no role in her formal epistemology; according to Peikoff (1990–91, Lecture 12), Rand had no more use for the notion of “know-how” than she had for explanations of human behavior in terms of instincts. Yet Rand had a lot to say about the kinds of skill required in fiction and nonfiction writing. Her discussions of writing and literary style abound with sensitivity to skill, yet their epistemic vocabulary is clumsy and impoverished.

Rand recognized that the acquisition of skill often begins with rules learned consciously, but proceeds by making what was controlled automatic, or what was conscious subconscious:

To learn to type, more is required than merely listening to a factual lecture: you have to practice. First you learn how to move your fingers and strike the keys—slowly and by

conscious effort. Learning to type then consists of automating this skill.

At first you have to think of how to crook your fingers, how far to reach each letter, how to keep in tempo. Then you practice, faster and faster, so eventually, when you look at a page of copy which you have to type, your fingers do the rest “instinctively.” If an experienced typist were to ask herself, “How do I do it?” she would answer “I just do it.”

The same is true of dancing, or playing tennis, or any physical skill. First it is learned consciously—and you are in command of the skill when it becomes automatic, so that conscious attention is no longer required. (Rand 2000, 51)

In other words, becoming skilled means acquiring more and more *implicit* knowledge. Consequently, hands-on experience is crucial, and the role of explicit instruction is limited.

You sit down to write, the sentence comes out a certain way, and with editing you can improve it—but you cannot compose the sentence consciously in the way that you can pass an examination in physics by stating the facts as you have learned and understood them.

That is why the process of writing cannot be taught—not because it is a mystical talent, but because so complex an integration is involved that no teacher can supervise the process for you. You can learn all the theory, but unless you practice—unless you actually write—you will not be able to apply the theory. (52)

Rand will occasionally lay down a hard rule for novices: “No beginner should write without an outline” (2001, 41). In most areas of writing, however, she denies that there are any useful explicit rules, not even simplifications for beginners. “Judging your audience is a

complicated issue. But its very complexity eliminates the need for detailed rules” (18). “If you hesitate about whether to include a particular detail, the ultimate judge should be you as a reader, because there are no absolute rules in such a case applicable to every article” (23). “There are no rules about how long or detailed an outline should be” (44). “There can be no rules about this [mulling-over] process” (79). “There is no rule about how often you need to read your article [while editing]” (91). “There is no rule about when or how often to concretize” (117). “There cannot be a rule that only one choice of words will communicate a given thought” (118). “Every rule of this kind has exceptions. In fact, stylistic rules are made to be broken” (123). “There are no rules about a book’s length . . . Nor are there rules about how to divide a book into various parts, chapters, or sequences” (158). “Short of avoiding deliberate obscurity, there really are no rules for selecting a title” (173). “There *are* principles that will help you with style, but this long preface was necessary, because I want to stress that you must not memorize everything I am going to say, nor think about it while you are writing” (109).

In her lectures on writing, Rand continually emphasizes the importance of hands-on practice, the gradual development from conscious application of rules to “automatic” exercise of skill, and the constant need for skilled judgments made by an individual in a context. Precisely the same themes are stressed in many contemporary studies of expertise and how it develops (Benner 1984; Dreyfus and Dreyfus 1986; Campbell, Brown, and Di Bello 1992; Bereiter and Scardamalia 1993; Feldman 1993; Campbell and Di Bello 1996; Di Bello 1996).

Rand was well aware, in fact, that much in the realm of writing *cannot* be achieved via conscious intention:

No matter what the number of people who share the same philosophy, no one ever need be imitative of another’s style. In the selection and order of words, so many possibilities exist that you never have to worry about whether you will achieve an individual style. You will achieve it; but only if you do *not* aim at it consciously.

Style is the most complex of the elements of writing, and must be left to “instinct.” I have explained why even plot and characterization cannot be created fully by conscious calculation, but depend on subconscious, automatized premises. This is even more true of style.

... what determines your style is your purpose—both in the book as a whole and in each paragraph or sentence. But given the number of issues involved in even the simplest story, there is no way to calculate the function and form consciously. Therefore, you have to set your literary premises and then write without self-consciousness. Write as it comes to you, on such premises as you have. (2000, 91–92)

The prospects for conscious error correction in the stylistic realm are limited, from Rand’s point of view. Any intervention will have to take place after the writer has established a style:

If, after some years of work, you feel that your way of expression is not right, you have to do more thinking about what you do and do not like in literature. Identify what your style is missing, what category the error belongs to; then identify the right premise, which will enable you to express things more exactly or colorfully. (92)

Rand condenses her recommendations about style into an epigram worthy of Yogi Berra:

The first thing to remember about style is to forget it. Let it come naturally. You acquire style by practicing. First learn to express your ideas clearly on paper; only then will you notice one day that you are writing in your *own* style. But do not look at the calendar waiting for that day. (Rand 2001, 109)

Such advice is entirely consistent with the interactivist account of knowing levels. To recognize patterns in your style of writing and

evaluate them as positive or negative, you have to be functioning at the next higher level of knowing—which can happen only *after* your style is consolidated and those properties have come into being. It's worth noting, too, that from the interactivist standpoint achieving a distinctive writing style is a self-referential value (or more likely, metavalue). A self-referential metavalue pertains to the whole person that you are and cannot be attained by completing a consciously planned series of steps (Campbell and Bickhard 1986).

Despite all of the insight they contain, Rand's discussions of writing and style bear witness to pronounced discomfort. Rand is short of vocabulary for describing skill. And much of the terminology that she does employ she feels obliged to put in scare-quotes. Rand never liked saying that anyone "just knows" something. She rejected instinct as an explanation for human behavior. She even resisted notions of innate aptitude or talent. Yet in her account of skill she keeps falling into modes of speaking that she found philosophically objectionable. "Instinct" and "instinctive" recur and recur in *The Art of Fiction* and *The Art of Nonfiction*, nearly always with quotation marks around them. For Rand, the specter of mysticism—of knowledge acquired "nohow"—was always looming. She feared that adopting articulated moral principles at odds with an unarticulated sense of life would harm the lives of individuals and degrade entire cultures. For her, "the only alternative is to act on the basis of rational conviction and articulated understanding or on the basis of raw emotion and tacit sense of life" (Sciabarra 1995, 214). Wherever Rand encountered *unexplicated* knowledge, she sensed the danger of *inexplicable* knowledge.

So every time a passage in *The Art of Fiction* or *The Art of Nonfiction* begins to look as though it might elicit nods from a hermeneuticist, or a believer in "situated cognition," or an adherent of Hayek's (1973) conception of unarticulated rules, Rand snaps the reader sharply back to conscious explication, even to formal logic. Many of Rand's efforts at explanation in psycho-epistemology relied on the notion of a *premise*. But premises are part of an analysis of argument forms in formal logic; there is no assurance that human reasoning, even when it produces results that conform to the rules of logic, has actually been

following those same rules to get to that destination. Populating the subconscious with premises impedes our recognition of grades of implicitness, and makes implicit knowledge too much like explicit knowledge. For Rand, however, a subconscious mind populated with premises has the distinct virtue of leaving no room for the inexplicable and offering no comfort to the mystics.

The best, most natural dialogue is usually written as if the writer is listening to dictation. You might get stuck on any particular point and have to question yourself; but normally, dialogue writes itself. You have an idea of the scene, and when you write, the dialogue “just comes” to you—exactly as, in a conversation, your own answers come to you. That is, you speak from your premises, knowledge, and estimation of the situation.

You must reach the stage where the process feels “instinctive”—where, the moment you speak for Roark, you have a sense of what he would say, and when Keating has to answer, you have a sense of what *he* would say.

This sudden “feel” of a character is not a mystical talent. In the process of writing, you feel that you “just know” what Roark or Keating would say; but this feeling means only that your understanding of the premises involved has become automatic.

. . . To judge the objective validity of what you write, you must be able *afterward* to tell yourself why a given line is right for one character (what it conveys) and why something else is right for another character (what *it* conveys). After the writing, you must be able to do the kind of analysis that I did of the Roark-Keating scene (Rand 2000, 85)

Rand’s exposition of literary creation contrasts introspection (which makes the implicit explicit) with failure to introspect (which

leaves a trail of unorganized, unintegrated “just knowing” in its wake). Here is her account of an “aha experience”:

the idea for the climax of *The Fountainhead* hit me like Newton’s apple. One day, during lunch—I can remember where and in what drugstore—when I was thinking of the climax, the idea of the housing project suddenly flashed into my mind.

. . . This kind of incident is what makes nonintrospective writers say, “Ah, writing is a mystical talent—it just comes to me.” By contrast, since I am a good introspector, I can tell exactly how these things happen. I cannot tell what subconscious connections are made in my mind preceding the moment an idea strikes. But I do know that the subconscious works somewhat like a [computer]. If you feed it the right data and ask the right questions, it gives you the right answer. You do not need to know how the wires connect inside. (54; word in brackets supplied by the editor)

Rand affirms the efficacy of introspection—and implies that the study of psychology has nothing terribly important to add to the information that a good introspector can access. The theory of knowing levels seeks to explain how introspection works, but in the process it identifies limits that Rand did not always recognize. Some important information about our mental processes is simply not accessible to introspection. Whatever the quality of its explanatory models, contemporary cognitive psychology cannot get by without regularly positing mental processes whose details we cannot recognize by introspecting. Introspection may help the author realize (after the fact) why she put a certain sentence in the mouth of a certain character at a certain place in a certain dialogue—but it will never tell her exactly what mental processes went into composing that sentence. (Rand draws near this recognition when she comments, “I do not know the grammatical rules of English by name, only by practice” [2001, 99]. None of us can *introspectively* identify the rules or proce-

dures that we use to construct English sentences, or the precise means that we employ to judge sentences that we or others have already constructed.)

If psychology is to be successful at explaining how the author composed that sentence, it will have to do a lot of the work from the outside: seeking to measure mental attributes via behavioral surrogates and building explanatory models to account for behavioral data. Many contemporary psychologists overestimate their ability to explain how people think from the outside, and correspondingly disparage introspective evidence (some, for instance, still like to believe that experts could not have any interesting insights into their own expertise, or into how they acquired it). Rand overestimated in the opposite direction.

What is more, interactivism tells us that when we are able to move to a knowing Level N+1 and acquire explicit knowledge about properties of our knowledge at Level N, there is now material that is implicit (subconsciously represented *or* merely implied) at Level N+1. We cannot know this explicitly at Level N+1; we will not become explicitly aware of it unless we ascend to Level N+2. And on and on. We can always articulate or explicate what was previously unarticulated, but in so doing we generate more that is unarticulated; the process never comes to an end (Polanyi 1959; Hayek 1973; Campbell and Bickhard 1986; Piaget 2000). There is a middle way between writing off broad realms of human knowledge as forever inexplicable, and insisting that a “good introspector” will be able to explicate just about anything. But interactivism, which offers this middle way, is not a purely philosophical doctrine; it is a substantive position within psychology.

Psychological Ontology

All of the issues that I have examined—levels of knowing for knowledge and goals, grades of implicitness, Randian implicit concepts, the “pre-moral” choice to live, acknowledging unarticulated know-how without lapsing into mysticism—are issues of *psychological*

ontology. The subject of psychological ontology is the nature of mind: what knowledge and belief and goals and values and emotions and conscious reflection are really like. From the standpoint of psychological ontology, it matters profoundly “how the wires connect inside”; it also matters whether wiring is a good model for what is going on. The ontology of knowledge and goals and mental process is as critical to psychology as the ontology of matter and radiation and space and time is to physics.

In fact, there is a lot more to psychological ontology than could be covered here. I have alluded to but not provided a theory of learning or emotions. In fact, I haven’t attempted a full interactive treatment of knowledge, or examined its implications for a theory of perception or a theory of concepts.⁷

What I have sought to address here is not the contents of a specific ontological scheme, or the further implications of one or another scheme for epistemology; rather, it is what our attitude toward psychological ontology ought to be. Rand prescribed very different modes of handling for physical ontology than she did for psychological ontology. She preached a minimalist metaphysics and warned philosophers off cosmology (Rand 1997, 698). But then she turned around and declared that philosophy is mostly epistemology; and she did not insist that this be a *minimal* epistemology, or warn philosophers off psychological ontology. A theory of concepts isn’t part of a minimalist epistemology; it presumes or puts forward answers to such questions as “What does knowledge consist of?” and necessarily refers to human development when it seeks to determine how concepts are acquired. When Rand’s (1990) theory takes on “concepts of consciousness” it takes on the knowing levels themselves, although there is never an explicit hierarchy of more than two levels in Rand’s treatment: “existential concepts” and “concepts of consciousness.”

In my discussion of Rand and the cognitive revolution (Campbell 1999), I argued that Rand’s own example (for instance, her borrowing of “unit economy” from the new cognitive psychology of the mid-1950s) ran contrary to her metaphilosophical dictum that epistemology can be undertaken without consulting the data or the theories of

psychology. In a response to my paper, Will Thomas suggested a more livable arrangement:

Perhaps the resolution of this debate [about psychology and epistemology] lies in recognizing that when philosophy addresses the widest context, as it does in identifying axioms of knowledge or the fact of free will, then it does and must precede science in a logical sense. But developmentally, science and philosophy grow together. To the extent that philosophy addresses the particulars of human nature, it stands to be enriched and refined by advances in the human sciences. (Thomas 1999, 12)

The implication is clear. There is a bare core of epistemology that functions within the widest possible context of knowledge. Existence, identity, and consciousness are axiomatic (and *deeply* implicit in all knowledge, to boot). Free will is axiomatic for us human beings, at least once we reach the point in our development when we are able to exercise it. This core epistemology is a reaffirmation of our capacity to know. But if we seek to characterize how we perceive, or how we think, or how we feel, how any of these capabilities develop within the individual, how such capacities evolved over the eons, then we cannot avoid drawing on the findings of the “human sciences,” including psychology. We won’t be able to do justice to distinctions between levels of knowing, or between grades of implicitness, with a single binary alternative: “conceptualized” and “not yet conceptualized.” And we will need to consult with other sciences if we are to make better distinctions.

Acknowledgments

An earlier version of this paper was presented at The Objectivist Center’s Advanced Seminar in Objectivist Studies, Vancouver, British Columbia (29 June 2000). Thanks to Nathaniel Branden, David Kelley, Chris Matthew Sciabarra, and an anonymous reviewer for their comments.

Notes

1. For a recent survey of the variations in psychological usage, see Ó Nualláin 1995.
2. For some of the empirical evidence about major changes in the child's understanding of mind around this time, see Perner 1991.
3. Meta-ethical inquiry is not covered in Campbell and Bickhard 1986. See Moshman 1995 for a discussion.
4. Such conflicts are discussed in more depth by Campbell, Christopher, and Bickhard, under review.
5. See the exchange between Vacker 2000 and Campbell 2000b.
6. For more about internal relations, see Sciabarra 2000.
7. For interactive psychological ontology, see Bickhard 1980a; 1980b; 1993; 1998; 2000; Bickhard and Richie 1983; Campbell and Bickhard 1986; Christensen and Hooker 2000.

References

- Anderson, J. R. 1983. *The Architecture of Cognition*. Cambridge, Massachusetts: Harvard University Press.
- Aristotle. 1962. *Nicomachean Ethics*. Edited by M. Ostwald. Indianapolis: Bobbs-Merrill.
- Baars, B. J. 1986. *The Cognitive Revolution in Psychology*. New York: Guilford.
- Bartley, W. W., III. 1990. *Unfathomed Knowledge, Unmeasured Wealth: On Universities and the Wealth of Nations*. La Salle, Illinois: Open Court.
- Benner, P. 1984. *From Novice to Expert: Excellence and Power in Clinical Nursing Practice*. Reading, Massachusetts: Addison-Wesley.
- Bereiter, C. and M. Scardamalia. 1993. *Surpassing Ourselves: An Inquiry into the Nature and Implications of Expertise*. Chicago: Open Court.
- Bickhard, M. H. 1980a. A model of developmental and psychological processes. *Genetic Psychology Monographs* 102: 61–116.
- _____. 1980b. *Cognition, Convention, and Communication*. New York: Praeger.
- _____. 1992. Commentary [on the age-4 transition]. *Human Development* 35: 182–92.
- _____. 1993. Representational content in humans and machines. *Journal of Experimental and Theoretical Artificial Intelligence* 5: 285–333.
- _____. 1998. Levels of representationality. *Journal of Experimental and Theoretical Artificial Intelligence* 10: 179–215.
- _____. 2000. Emergence. In *Downward Causation*, edited by P. B. Andersen, C. Emmeche, N. O. Finnemann, and P. V. Christiansen. Aarhus, Denmark: University of Aarhus Press, 322–48.
- Bickhard, M. H. and R. L. Campbell. 1989. Interactivism and genetic epistemology. *Archives de Psychologie* 57: 99–121.
- _____. 1996. Topologies of learning and development. *New Ideas in Psychology* 14: 111–56.
- Bickhard, M. H. and D. M. Richie. 1983. *On the Nature of Representation: A Case Study of James Gibson's Theory of Perception*. New York: Praeger.
- Bickhard, M. H. and L. Terveen. 1995. *Foundational Issues in Artificial Intelligence and Cognitive Science: Impasse and Solution*. Amsterdam: North-Holland.

- Branden, N. 1969. *The Psychology of Self-Esteem: A New Concept of Man's Psychological Nature*. Los Angeles: Nash.
- _____. 1997. *The Art of Living Consciously: The Power of Awareness to Transform Everyday Life*. New York: Simon and Schuster.
- Campbell, R. L. 1991. Does class inclusion have mathematical prerequisites? *Cognitive Development* 6: 169–94.
- _____. 1992. A shift in the development of natural-kind categories. *Human Development* 35: 156–64.
- _____. 1999. Ayn Rand and the cognitive revolution in psychology. *The Journal of Ayn Rand Studies* 1, no. 1 (Fall): 107–34.
- _____. 2000a. A veteran reconnoiters Ayn Rand's philosophy. *The Journal of Ayn Rand Studies* 1, no. 2 (Spring): 293–312.
- _____. 2000b. Implied epistemology, epistemology of the implicit. *The Journal of Ayn Rand Studies* 2, no. 1 (Fall): 211–19.
- _____. 2001. Can academics learn from a mere clinical psychologist? *The Journal of Ayn Rand Studies* 3, no. 1 (Fall): 125–43.
- Campbell, R. L. and M. H. Bickhard. 1986. *Knowing Levels and Developmental Stages*. Basel: S. Karger.
- Campbell, R. L., N. R. Brown, and L. A. Di Bello. 1992. The programmer's burden: Developing expertise in computer programming. In *The Psychology of Expertise: Cognitive Research and Empirical AI*, edited by R. R. Hoffman. New York: Springer-Verlag, 269–94.
- Campbell, R. L., J. C. Christopher, and M. H. Bickhard. under review. Self and values: An interactivist foundation for moral development. *Theory and Psychology*.
- Campbell, R. L. and L. A. Di Bello. 1996. Studying human expertise: Beyond the binary paradigm. *Journal of Experimental and Theoretical Artificial Intelligence* 8: 277–91.
- Campbell, R. L., and H. K. Jantzen. 1994. Reflective abstraction and the logical necessity of class inclusion. Paper presented in "Categorization in 4- to 9-year-olds: What develops?" (a symposium convened by Olivier Houdé, Pierre Mounoud, and Robert L. Campbell) at the 13th Biennial Meetings of the International Society for the Study of Behavioral Development, Amsterdam (1 July).
- Christensen, W. D. and C. A. Hooker. 2000. An interactivist-constructivist approach to intelligence: Self-directed adaptive learning. *Philosophical Psychology* 13: 5–45.
- Den Uyl, D. J. 1991. *The Virtue of Prudence*. New York: Peter Lang.
- Di Bello, L. A. 1996. Providing multiple "ways in" for learners with different backgrounds: When it works and what it suggests about adult cognitive development. *Journal of Experimental and Theoretical Artificial Intelligence* 8: 229–57.
- Dreyfus, H. L. and S. E. Dreyfus. 1986. *Mind over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*. New York: Free Press.
- Feldman, D. H. 1993. *Beyond Universals in Cognitive Development*. 2nd edition. Norwood, New Jersey: Ablex.
- Hayek, F. A. 1973. *Law, Legislation and Liberty, Vol. 1: Rules and Order*. Chicago:

University of Chicago Press.

- Josse, P. 1984. *Classes ou Collections? Étude de la Résolution entre 5 et 11 Ans du Problème "Dit d'Inclusion."* Paris: Éditions du Centre National de la Recherche Scientifique.
- Kelley, D. 1986. *The Evidence of the Senses*. Baton Rouge: Louisiana State University Press.
- Lautrey, J. and J. Bideaud. 1985. Issues raised by training procedures in the study of cognitive development: The example of reasoning in inclusion tasks. In *Developmental Psychology*, edited by C. J. Brainerd and V. F. Reyna. Amsterdam: North-Holland, 209–26.
- Machan, T. R. 1999. *Ayn Rand*. New York: Peter Lang.
- Markman, E. M. 1978. Empirical versus logical solutions to part-whole comparisons involving classes and collections. *Child Development* 49: 168–77.
- Moshman, D. 1990. The development of metalogical understanding. In *Reasoning, Necessity, and Logic: Developmental Perspectives*, edited by W. F. Overton. Hillsdale, New Jersey: Erlbaum, 205–25.
- _____. 1995. The construction of moral rationality. *Human Development* 38: 265–81.
- Newell, A. 1990. *Unified Theories of Cognition*. Cambridge, Massachusetts: Harvard University Press.
- Newell, A., and H. A. Simon. 1972. *Human Problem Solving*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Ó Nualláin, S. 1995. *The Search for Mind*. Norwood, New Jersey: Ablex.
- Peikoff, L. 1972. *Founders of Western Philosophy: Thales to Hume*. (Taped course, 12 lectures). Oceanside, California: Lectures on Objectivism.
- _____. 1990–91. *Objectivism: The Philosophy of Ayn Rand*. (Taped course, 15 lectures). Oceanside, California: Lectures on Objectivism.
- _____. 1993. *Objectivism: The Philosophy of Ayn Rand*. New York: Meridian.
- Perner, J. 1991. *Understanding the Representational Mind*. Cambridge, Massachusetts: MIT Press.
- Piaget, J. 2000. *Studies in Reflecting Abstraction*. Edited and translated by R. L. Campbell. Hove, East Sussex: Psychology Press. (Original work published in 1977.)
- Piaget, J. and B. Inhelder. 1959. *La Genèse des Structures Logiques Élémentaires: Classifications et Sériations*. Neuchâtel: Delachaux et Niestlé.
- Polanyi, M. 1959. *The Study of Man*. Chicago: University of Chicago Press.
- Rand, A. 1964. The Objectivist ethics. In *The Virtue of Selfishness: A New Concept of Egoism*. New York: New American Library, 13–35.
- _____. 1971a. The psycho-epistemology of art. In *The Romantic Manifesto: A Philosophy of Literature*. New York: Signet, 15–24.
- _____. 1971b. Philosophy and sense of life. In *The Romantic Manifesto: A Philosophy of Literature*. New York: Signet, 25–33.
- _____. 1971c. Art and sense of life. In *The Romantic Manifesto: A Philosophy of Literature*. New York: Signet, 34–44.
- _____. 1990. *Introduction to Objectivist Epistemology*. 2nd edition. Edited by H. Binswanger and L. Peikoff. New York: Meridian.
- _____. 1997. *Journals of Ayn Rand*. Edited by D. Harriman. New York: Dutton.

- _____. 2000. *The Art of Fiction: A Guide for Writers and Readers*. Edited by T. Boeckmann. New York: Plume.
- _____. 2001. *The Art of Nonfiction: A Guide for Writers and Readers*. Edited by R. Mayhew. New York: Plume.
- Rasmussen, D. B. and D. J. Den Uyl. 1991. *Liberty and Nature: An Aristotelian Defense of Liberal Order*. La Salle, Illinois: Open Court.
- Register, B. 2000. The universality and employment of concepts. *The Journal of Ayn Rand Studies* 1, no. 2 (Spring): 211–44.
- Sciabarra, C. M. 1995. *Ayn Rand: The Russian Radical*. University Park: Pennsylvania State University Press.
- _____. 2000. *Total Freedom: Toward a Dialectical Libertarianism*. University Park: Pennsylvania State University Press.
- Shipley, E. F. 1979. The class-inclusion task: Question form and distributive comparisons. *Journal of Psycholinguistic Research* 8: 301–31.
- Simon, H. A. 1969. *The Sciences of the Artificial*. Cambridge, Massachusetts: MIT Press.
- Smith, C. L. 1979. Children's understanding of natural language hierarchies. *Journal of Experimental Child Psychology* 27: 437–58.
- Thomas, W. 1999. Academic interpretations of Ayn Rand. *Navigator* 2, no. 14: 10–15.
- Vacker, B. 2000. The strange attractor in Randian aesthetics. *The Journal of Ayn Rand Studies* 2, no. 1 (Fall): 197–209.
- Vœlin, C. 1976. Deux expériences à propos de l'extension dans l'épreuve de la quantification de l'inclusion. *Revue suisse de Psychologie pure et appliquée* 35: 369–84.
- Winograd, T. and F. Flores. 1986. *Understanding Computers and Cognition*. Norwood, New Jersey: Ablex.