

If “Emotions Are Not Tools of Cognition,” What Are They?: An Exploration of the Relationship Between Reason and Emotion

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A Conversation with Ayn Rand

“Emotions are not tools of cognition,” Ayn Rand said on more than one occasion (1961, 55; 1964, 6; 1974, 6).

An emotion as such tells you nothing about reality, beyond the fact that something makes you feel something. Without a ruthlessly honest commitment to introspection—to the conceptual identification of your inner states—you will not discover what you feel, what arouses the feeling, and whether your feeling is an appropriate response to the facts of reality, or a mistaken response, or a vicious illusion produced by years of self-deception . . . (Rand 1984, 17)

The apparent meaning of these statements has reverberated among Objectivists for years. For some, they have cast a suspicion on emotion as such. Many take them to mean that feelings should always be ignored when reasoning. Why? On the premise that they do not give any evidence about reality, and distort our reasoning, giving a kind of positive bias (Kahneman, Slovic and Tversky 1982) to whatever is felt most strongly.

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Of course, emotional bias and distortion of judgment are common in everyday experience: Andrew really dislikes Scott as a person, his cocky attitude, his condescending stance—so much so that Andrew seems to notice *anything* wrong with what Scott does or says, but rarely anything right. Worse, he often incorrectly understands what Scott does and says. The fact that Scott is a superb basketball player and knowledgeable about the game is discounted, even the kind words Scott has for a child who fell down are ignored: Andrew has a very hard time creating and maintaining a reasonable and objective evaluation of Scott. Surely, Andrew's feelings are biasing his cognition towards Scott. And this seems to have been the kind of thing Rand was worried about.

However, I was never sure that Rand's position *exactly* described the facts of experience about reason and emotion. And, over the years, I had noticed certain discrepancies in Rand's writings about emotions (also in the characterizations in her fiction).¹ In the 1970s, I was attending some lectures given by Leonard Peikoff in New York City. Rand was in the audience and accessible to students with questions. I took the opportunity to ask Rand about her statement "emotions are not tools of cognition, and negative emotions less so than any others" in her essay "Ideas versus Men" (1974, 6). I asked her how negative emotions could be *less so*, if emotions weren't tools in the first place?

Her first response was to make sure I understood what she meant, which I did: that she made this paradoxical statement as a matter of emphasis. Then, she explained herself: She said that negative emotions were particularly dangerous cognitively because they tended to drive you away from things, from looking at the facts and reality, from thinking about the objects of the feelings, while positive emotions at least draw you to things. She said that negative feelings are variations of fear; therefore they make you less able to think about the thing evoking the feeling.

A rather interesting, psychologically observant, and reasonable

position, I thought. However, the reader may have noticed that it didn't address my original question, viz. "How can negative emotions be "less so," if emotions aren't tools of cognition in the first place? For one thing, I wanted to know what she meant by the metaphor of "tool." Unfortunately, I became distracted from pressing the issue. So we must go back to the drawing board—or the writing tablet, as it may be—to examine some of the passages in which she discusses emotions in order to further determine what she meant.¹

In the following, I will not only examine Rand's writings on the relationship of reason and emotion, I will also delve into current neurological and psychological research relevant to the topic, endeavoring to discern their true relationship.

The Discussion of Emotion in Rand's Corpus

In *Atlas Shrugged*, Rand indicated her abstract view of reason and its relation to emotion:

Just as your body has two fundamental sensations, pleasure and pain, as signs of its welfare or injury, as **a barometer of its basic alternative, life or death, so your consciousness has two fundamental emotions, joy and suffering, in answer to the same alternative.** Your emotions are estimates of that which furthers your life or threatens it, lightning calculators giving you a sum of your profit or loss. You have no choice about your capacity to feel that something is good for you or evil, but *what* you will consider good or evil, what will give you joy or pain, what you will love or hate, desire or fear, depends on your standard of value. Emotions are inherent in your nature, but their content is dictated by your mind. Your emotional capacity is an empty motor, and your values are the fuel with which your mind fills it. If you choose a mix of contradictions, it will clog your motor, corrode your transmission and wreck you on your first attempt to move

with a machine which you, the driver, have corrupted.
(1957, 947; boldfaced emphasis mine)

An emotion that clashes with your reason, an emotion that you cannot explain or control, is only the carcass of that stale thinking which you forbade your mind to revise.
(962)

Later, in her interview with *Playboy*, she said:

Reason is man's tool of knowledge, the faculty that enables him to perceive the facts of reality. To act rationally means to act in accordance with the facts of reality. Emotions are not tools of cognition. What you feel tells you nothing about the facts; it merely tells you something about your estimate of the facts. Emotions are the result of your value judgments; they are caused by your basic premises, which you may hold consciously or subconsciously, which may be right or wrong. (Rand 1964, 6)

Then, in *The Virtue of Selfishness*, she speaks in more detail about the nature of emotion and its relation to reason and knowledge:

Just as the pleasure-pain mechanism of man's body is an automatic indicator of his body's welfare or injury, **a barometer of its basic alternative, life or death—so the emotional mechanism of man's consciousness is geared to perform the same function . . .** Emotions are the automatic results of man's value judgments integrated by his subconscious; emotions are estimates of that which furthers man's values or threatens them . . .

But while the standard of value operating the physical pleasure-pain mechanism of man's body is automatic and

innate, determined by the nature of his body—the standard of value operating his emotional mechanism, is *not*. Since man has no automatic knowledge, he can have no automatic values; since he has no innate ideas, he can have no innate value judgments.

Man is born with an emotional mechanism, just as he is born with a cognitive mechanism; but, at birth, *both* are “tabula rasa.” It is man’s cognitive faculty, his mind, that determines the *content* of both. . . . But since the work of man’s mind is not automatic, his values, like all his premises, are the product either of his thinking or of his evasions: man chooses his values by a conscious process of thought—or **accepts them by default, by subconscious associations, on faith, on someone’s authority, by some form of social osmosis or blind imitation.** Emotions are produced by man’s premises, held consciously or subconsciously, explicitly or implicitly. (1964, 27–28; boldfaced emphasis mine)¹

Since he was the original theoretical psychologist in the Objectivist movement, Nathaniel Branden’s views were a significant presentation of Objectivist thinking in this area. His early views in articles in *The Objectivist* and in his book *The Psychology of Self-Esteem* were much in alignment with Rand’s. In the book, he defines emotion as “the psychosomatic form in which man experiences his estimate of the beneficial or harmful relationship of some aspect of reality to himself” (Branden 1969, 64).¹ He emphasizes the same series of mental steps as Rand, from perception to cognition to estimation to emotion, and the view that man is not born with built-in values but must choose them. Like Rand, he declares:

Emotions are not tools of cognition. To treat them as such is to put one’s life and well-being in the gravest danger. What

one *feels* in regard to any fact or issue **is irrelevant** to the question of whether one's judgment is true or false. It is not by means of one's emotions that one apprehends reality. . . . Reason and emotion are not antagonists; what may seem like a struggle between them is only a struggle between two opposing ideas, one of which is not conscious and manifests itself only in the form of a feeling. (66–68; boldfaced emphasis mine)

Branden's early views had much influence on Objectivist thought, although he later changed some of his positions.

However, in "The Comprachicos," Rand revealed a somewhat different approach to emotions:

Animals, infants and small children are exceedingly sensitive to emotional vibrations: it is their chief means of cognition. A small child senses whether an adult's emotions are genuine, and grasps instantly the vibrations of hypocrisy. (Rand 1971, 197; boldfaced emphasis mine)

Later in the essay, she discusses the experiences of a hypothetical young child in a Progressive nursery school:¹

He gets the nature of the game—wordlessly, by repetition, imitation and **emotional osmosis**, long before he can form the concepts to identify it.

He learns not to question the supremacy of the pack. He discovers that such questions are taboo in some frightening, supernatural way; the answer is an incantation vibrating with the overtones of a damning indictment, suggesting that he is guilty of some innate, incorrigible evil: "Don't be selfish." Thus he acquires self-doubt, **before he is fully aware of a self.**

He has neither the means nor the courage to grasp that it is not his bad feelings, but the good ones, that he wants to protect from the pack: his feelings about anything important to him, about anything he loves—i.e., **the first, vague rudiments of his values.** (198–200)

Even though the major part of the guilt belongs to his teachers, the little manipulator is not entirely innocent. He is too young to understand the immorality of his course, but nature gives him an **emotional warning**: he *does not like himself* when he engages in deception, he feels dirty, unworthy, unclean. **This protest of a violated consciousness serves the same purpose as physical pain: it is the warning of a dangerous malfunction or injury.** (206; boldfaced emphasis mine)

Another quote that points to emotions as evidence is this line from *Atlas Shrugged*: “[T]he **proof** of an achieved self-esteem is your soul’s shudder of **contempt** and **rebellion** against the role of a sacrificial animal . . .” (1957,947; emphasis mine).

How do we reconcile all these thoughts with one another? On the one hand, Rand maintains that we are born *tabula rasa* for values and estimations. She asserts that emotions are automatic reactions resulting from our estimations and values, and that our estimations and values result only from our knowledge. Therefore, emotions can only result from our knowledge of the world. She reasons that our knowledge is a result of our conscious awareness and reasoning. Therefore, what we find good or bad, what we value, results only from the work of our reasoning minds after we are born.

On the other hand, she acknowledges both that animals and infants use their emotions to figure out things about the world (“chief means of cognition”). By her own theory, how can this be? Don’t our emotions stem from our chosen values and premises?

Don't we choose values and premises with our reasoning minds? What if we don't have a reasoning mind yet? Further, she holds that emotions aren't tools of cognition, but she also says that feelings of contempt and rebellion are *proof* of self-esteem—proof of our judgment that we are valuable, competent and worthy persons.

And, if there is no inherent standard of value implicitly operating his emotional mechanism, because we are *tabula rasa* for value, how can a young child's consciousness warn him of a malfunction? How can he have some sense that what he is doing is wrong? *Note that she thinks it serves the same purpose as physical pain—to protect his life.*

Also, although she several times says that our feelings are the result of what we have thought and learned, by careful conscious thinking, she also says several times that they can result from undirected subconscious integrations. If you don't do the necessary conscious thinking to choose your values properly, your subconscious makes integrations on its own that automatically result in values. They get *chosen* by default? How and by whom? Doesn't Rand hold that choice is an act of the conscious, reasoning mind?

Further, she speaks of someone accepting ideas by a process of "social osmosis." What is that? According to the *Oxford English Dictionary*, "osmosis" is "the tendency of fluids separated by porous septa to pass through these and mix with each other." Obviously, Rand uses the term metaphorically here, but by what *literal* process would a person get ideas and values passed to them from other people without conscious awareness? And, if the content of one's subconscious is determined by one's reasoning, how does that reconcile with the process of social osmosis? How does one accept ideas by *imitation*? Is this a process of reason? If not, then how do the ideas result in one's subconscious and cause emotions?

Let me stress that I am not disputing that some people *do* accept ideas by imitation, because human beings are a highly imitative species. I am disputing how some people accept ideas by

imitation if all ideas are accepted by conscious choice. I am trying to see how these statements relate to Rand's theory of the roots and cause of emotions.

Notice in the discussion of the nursery school child, Rand comments on his awareness of doing wrong, of his acting in a destructive way against his consciousness—and his emotions indicate this to him by making him feel bad. Remember, she's speaking here about a three-year-old child, that is, one just beginning to form higher abstractions and concepts. At this level of development, most of the child's conscious reasoning and cognition is directed at mastering sensory/perceptual and motor information (Montessori 1967; Boydston 1990). He has just the beginnings of conscious reasoning, *although there is a lot of evidence that his subconscious mind is a repository of lots of information and integrations—sensory, perceptual, motor and social.* The latter is indicated by his complex abilities to work, discover, interact with others, and engage in imaginary play (Baron-Cohen 1996; 2000; Gardner 1991; Montessori 1936; 1964; Perner 1991; Piaget 2000; Tulving and Craik 2000).

I think it is abundantly clear from the unanswered questions and implications of these passages that Rand's—and Branden's—early thinking on the relation of reason and emotion, although rich with information and insight, is incomplete. At this point, I think it would behoove us to look at the bigger picture of the scientific evidence regarding the process of reasoning and the biological function and nature of emotions. At the end of this essay, I will return to Objectivist theory on reason and emotion and examine it in light of the following information.

Evidence on the Relation of Emotion and Cognition

To clarify our exploration, let's examine the meaning of "cognition." I have not been able to find a straight definition of this idea in Rand's work.¹ The closest I can cobble together is this: "Reason is the faculty that identifies and integrates the material provided by man's senses" (Rand 1971, 20). And: "The ability to

regard entities as units is man's distinctive method of cognition" (Rand 1967, 12). In *The Psychology of Self-Esteem*, Branden (1969, 91) says: "The basic function of man's consciousness is *cognition*, i.e., awareness and knowledge of the facts of reality." In *Introduction to Objectivist Epistemology*, knowledge is described as "a mental grasp of a fact(s) of reality, reached either by perceptual observation or by a process of reason based on perceptual observation" (Rand 1967, 45).

Rand's conception of the process of knowledge seems to be of steps in a series, not just aspects of one integrated process: First, perceptually identify existents. Second, regard the various existents as units. Third, integrate this information with other facts and ideas. The product is knowledge. For Rand, the distinctive feature of cognition seems to be *identification of the facts*: ". . . the awareness of specific, particular things which he can recognize and distinguish from the rest of his perceptual field—which represents the (implicit) concept '*identity*' (6). The awareness and identification of facts, either perceptual or conceptual, seems to be the mental act performed in cognition. This is distinguished from evaluation, which is the mental act of judging the helpful or harmful relationship that some aspect of reality has to living things and their pursuits.

On Rand's account, evaluation, and therefore emotions, involve an extra step beyond cognition—a subconscious evaluation and response. What is evaluated is the relationship of some fact to oneself; evaluation, in turn, leads to emotion. However, to determine whether emotions are or are not *tools* (means or instruments) of cognition, we need to examine their ongoing relationship with cognitive functioning. We need to examine how reasoning works to achieve goals—in particular, cognitive goals—and whether emotions play any part in facilitating the best use of reason. Let's keep in mind that all cognitive operations are the goal-oriented actions of living beings.

Are emotions involved in tasks that seem purely cognitive? For this, I have something to offer from my own experience:

Here's something that happened to me one day while I was trying to make dinner. I was making a special chicken salad, but I couldn't find the recipe so I prepared the food from memory: a seemingly straightforward cognitive task. I pictured the list of ingredients in my head, from the recipe page in the book that I couldn't find. Some parts of the list weren't perfectly clear in visual memory. So I kept going over it in my head, trying to get a clearer mental picture of the list. I started to add the spices, and, as I went into the spice cabinet, the dry mustard drew my attention—I felt a kind of questioning, a kind of half-feeling, half-thought, meaning: Is it in the recipe? No, I thought, it goes in something else, potato salad or macaroni and cheese. So I left it on the shelf. *But*—I still *felt* an uncertainty.

I finished the salad and ate dinner without having shaken the *feeling* of doubt that I had. Later, as I put the dishes in the dishwasher, I noticed that the dressing on the salad wasn't the same color as usual: it was brown, like the balsamic vinegar I had put in it, instead of . . . *yellow!* I then realized that I had left out *regular* mustard, and I felt a eureka of discovery, a *feeling* of satisfaction and completion. I had solved the problem.

I must admit that, although this task may seem largely cognitive, there *were* strong motivations driving it, which affected what I felt. For example, there was personal *frustration* at not being able to accomplish my task, and a desire to continue to try to reconstruct the correct list, because I wanted to taste that good salad. But there was also a more purely cognition-related motivation: the *doubt* that I had made the recipe correctly, along with a strong desire to know the truth, and these caused my subconscious to continue working on the problem even after I finished eating, until the problem was *solved*.

What seems clear to me in this experience is the extent to which my *feelings* about what I was trying to figure out both *indicated the state of*, and *helped direct*, my cognition. They indicated whether I had fully *identified the facts* of the recipe. My *goal*, searching for the right ingredients, *directed the scanning of my memory*. My emotional

evaluation of the information that came out, followed by my thoughts (dry mustard? No, that didn't feel right—ah, I use it in macaroni and cheese) then *re-directed* my search.

Psychologist/philosopher Eugene T. Gendlin has been exploring similar experiences for some years. He uses a method he calls “focusing” to get at the meaning and nature of the implicit.¹ Here is an example from a recent essay:

Suppose you have an oddly gnawing feeling. Then you realize —oh, it's that you forgot something—it's now Monday afternoon—what was it? You don't know, and yet it is *there*, in that gnawing body-tension. You think of many things you ought to have done today, but no; none of them are “it.” How do you know that none of these is what you forgot? The gnawing knows. It won't release. You burrow into this gnawing. Then suddenly—you remember: Yes, someone was waiting for you for lunch. Too late now! This might make you quite tense. But what about the gnawing? *That* particular tension has eased. The easing is the easing *of that gnawing*. Its easing is how you know that you have remembered. Remembering is something experienced, and the term “remembered” is used in *direct reference* to experience. (Gendlin 1995)

By “experience,” Gendlin means the direct awareness you have of what you are feeling, perceiving, thinking, remembering, imagining— of all your awareness at the moment, as opposed to a statement about it, or some other symbolized formulation. “The gnawing knows” seems to be a poetic way of saying that some part of one's subconscious knows and this is experienced through a feeling of gnawing. This is an awfully common experience, which I'm sure almost any reader recognizes. What does this experience tell us about the relation of knowing and feeling?

For one thing, it tells us that a large component of certainty and uncertainty are *feelings* about the state of our knowledge, as well

as a set of reasoned, consciously held premises. They are feelings which reflect the subconscious evaluation that we have recognized the facts, or not. This evaluation occurs along with a particular and distinct psychosomatic component of *pleasure* (*satisfaction, closure, comfort*), in the case of certainty, or *displeasure* (*dissatisfaction, discomfort, anxiety*), in the case of uncertainty. These feelings tend to indicate the extent to which we have attained the relevant knowledge regarding the theory or premise or fact, from correctly identified facts, and from their proper integration with the body of evidence and reasoning. The feelings have a distinct psychosomatic character that allows us to recognize them as certainty or uncertainty rather than love, hate, etc.

Certainty and uncertainty are feelings?? Aren't they the essence of cognition—of knowing when you have correctly identified the facts? Yes but . . . conscious reasoning and logic usually require the backing of myriad facts, and concepts, and chains of logic held in the subconscious. *The conscious mind simply cannot hold enough information at once to **alone** make a determination of truth.* This is one of the reasons it takes a long time to change a person's mind about philosophy, or goals and values, or *any* abstract position: he or she may be able to follow chains of reasoning about abstract ideas, but simply *cannot* simultaneously review the enormous amount of facts and ideas relevant to the abstractions. The process of changing our minds on a complex set of ideas involves going back and forth between what is considered consciously and conclusions and facts held in memory (and faced afresh in life). We must continually apply the idea to the previously known and newly discovered to check its correctness against the facts, as well as its ability to integrate with our other ideas.

The fact that we can hold a drastically limited amount of information in our conscious minds has been informally recognized in Objectivism with the concept of the “crow epistemology.” Rand (1967, 62) mentions an observation that crows are only able to recognize a limited number of units—three to be exact (Campbell 1999; Shedenhelm 2000). Hence the term

“crow epistemology,” which recognizes that there is a limit to the number of items or units that the conscious mind can hold in awareness at once. (There is also a limit to the number of items that human beings can subitize, or recognize the number of without counting, which, for most adults, is 4 items.) Experimental psychology shows that human beings can generally do better than crows; on a wider range of tasks, human beings can hold approximately seven-plus-or-minus-two units in conscious awareness. This set of facts has long been recognized in experimental psychology, going back to a famous review article by George Miller (1956).

The fact that we can hold a limited number of units in conscious awareness is the reason why long sentences are so difficult to understand. It is why we have to make lists to remember all the errands we have to do. *It's why we use concepts and words to reason.* Concepts and words allow us to gather up all the information we have on some aspect of reality and have it available to our conscious mind by means of a single unit. The visual or auditory symbol is a single perceptual unit that triggers the conscious awareness of the information residing in the subconscious about that concept.

There is some evidence that *every word may have a feeling attached to it.* At the least, it may be the feeling that we are using the right word. For example, we may mean to speak of “a” boat rather than “the” boat. But more often, we have numerous variations of feeling attached to words, depending on our purpose in using them. Since we are always speaking for a purpose (otherwise, we are speaking gibberish), it is logical that a subconscious *evaluation* of the success of our purpose (e.g., that we have spoken the right word to express our meaning and purpose), should accompany every utterance, and be experienced as a feeling.

Further, we often consider what words to use through the *feelings of their connotations.* Words without much reference to facts and experience, which do *not* have much feeling related to them, are much more difficult to keep in mind. The symbols used in

symbolic logic are an example of this latter, as are any neologisms that we haven't yet fully grasped.¹ The meaning of 'hermeneutics' is much harder to keep in mind than the meaning of 'cat.' Future neuropsychological research would be required to fully test the idea that every word has a feeling attached to it.

We hold the referents for our concepts, our theories, our ideas and our values in our subconscious minds. The state of our feelings indicates to us the state of connection and integration between our subconscious ideas and the facts and ideas we are considering consciously, as illustrated by the chicken salad episode. In the case of certainty, a feeling of rightness, of on-target identification indicates to our conscious mind that what we are thinking and doing integrates appropriately with the identifications in our subconscious. This kind of psychological function is a result of the fact that we cannot hold all the facts and chains of inference in conscious attention at once.

In problem-solving and creative thinking, a *hunch*, i.e., "a strong intuitive feeling concerning especially a future event or result" (Merriam-Webster 2001) is often the first clue to a new line of thought, a discovery or a relevant fact we had not considered. In terms of psychological experience, a hunch seems to be the mirror image of the gnawing sense that we have forgotten something mentioned by Gendlin (1995).

*This evidence suggests that even the most rigorous, explicit chain of syllogisms must be subconsciously **evaluated** by us for its completeness and correct explication of the facts.*

Let me suggest the following observational evidence: Have you ever had the experience of carefully going over a complex theory, examining each part of the argument and the evidence for it over and over, and, even though it all seems quite logical and well argued—you just don't feel convinced by it? You may even attribute your lack of certainty to your own irrationality, depending on the content of the theory and your state of self-doubt. But later you may have found that *it was some aspect lacking in the theory that you had not yet recognized consciously*—but your subconscious had! Your

subconscious may have had in it a counterexample, some fact of experience that you had not consciously remembered, but which contradicted or required qualification from the theory in order for it to be correct. When you finally recognized the cause of the contradiction, you understood why you were uneasy with the theory.

Here is another example from my own experience. Back in 1970, I read *The Psychology of Self-Esteem*. In it, Branden relates the story of the events that led to his identification of the “Visibility Theory” of love. One day, he was playing with his dog, Muttnik, and enjoying it immensely. He realized that much of his enjoyment came from Muttnik’s understanding of his intentions, and her appropriate responses. He thought that he enjoyed such responses because they allowed him to “see” himself psychologically. That is, the appropriate feedback from Muttnik gave him the experience of perceiving himself, as in a mirror—he felt psychologically visible. He asked himself why this was of such great value to him (and most humans)? And he answered: “*Since man is the motor of his own actions, since his concept of himself, of the person he has created, plays a cardinal role in his motivation—he desires and needs the fullest possible experience of the reality and objectivity of that person, of his self. . . . Man is able, alone, to know himself conceptually. What another consciousness can offer is the opportunity for man to experience himself perceptually*” (1969, 186). In other words, man’s highest value is himself, but he can only usually grasp his self conceptually. Feedback from another living thing gives him the opportunity to experience himself as a concrete, individual person, as a value in reality, in real time.

I always thought this theory went far to explain the deep value we experience in enjoyable interactions with others and animals. I thought so much of what he said was excellent theoretically . . . except something kept bothering me about it, like a pebble in my shoe, or sand in my swimsuit—some small thing just didn’t seem right. And the discomfort—experienced as unease or a bothersome thing, nagging at the corners of my mind—continued

for years and years, until about 12 years ago, when I realized what it was.

*The visibility theory as described by Branden accounts for the pleasure and value of the perceptual experience of self brought to a conceptual being. But then, why would **Muttnik** enjoy the interaction so much? Muttnik lacks a conception of self. Yet, she clearly enjoyed playing with Branden. Why would visibility be valuable to her? Does that mean there is more to the desire for interaction with other beings than the desire for visibility? Are there other motives, which operate on the perceptual level? When I realized this, I felt relieved—and vindicated for doubting the theory. (The gnawing tension released!)*

I ultimately came to an expansion of Branden's Visibility Theory to explain Muttnik's response (Enright 1990), which I won't describe here. Instead, my point is to illustrate how a problem with integrating all the material was experienced as almost a physical discomfort, a question mark of uncertainty, relieved only by a correct identification of the facts.

To reiterate my point: the evaluations of certainty and uncertainty *must* include *feelings* because so much of the relevant information is held subconsciously. When making a complex conclusion, we cannot hold all the relevant information, premises, connections, etc. in our conscious minds at once. Therefore, *part* of our judgment regarding our certainty or uncertainty is performed by the subconscious and experienced as a feeling, which is the result of an evaluation by our subconscious that the conclusions fit or don't fit all the relevant facts.

Of course, we can have a *feeling* of certainty and be wrong; the feeling by itself is not the proof. We need the conscious, reasoned facts and arguments, also. But we can only go over these through time, not all at once. Thus, our feeling can be wrong—but so can our conscious judgment. What we want is that state in which our conscious minds, our knowledge and our subconscious integrations and information are in perfect agreement. “And only the guiding hand of reason can enable individuals to articulate their

subconscious premises and achieve a more integrated union with their conscious beliefs and actions. When this integration occurs, it is, according to Rand, ‘the most exultant form of certainty one can ever experience’” (Sciabarra 1995, 192).

Cognition and Artistic Thinking

In artistic work, emotions are *essential*: first, because the purpose is primarily evaluative, and second, because the selection task is simply too huge and complex to perform by acts of conscious, syllogistic, linear reasoning. The artist *must* allow himself to follow his emotions and select what is to be included: the beautiful, the dramatic, the thrilling, the poignant, the tragic. Then, *consequently*, the artist can review his selections and see whether they are well integrated with his ideas and the facts, adding or omitting things as necessary.¹

Some might object that artistic work is radically different from cognition. But I think they would be wrong, and I offer the evidence of Arthur Koestler’s book *The Act of Creation*. In it, he persuasively argues that the mental activities involved in the creation of artwork, the comprehension of humor and the discovery of scientific theory are largely the same, although their purposes are different. Artwork does not *literally* identify the facts of reality as a scientific theory does. Yet, it requires many of the same processes of knowledge and identification of truth for its product.¹ The point is: many of the same principles and problems of the interaction of the conscious mind with the subconscious and conscious mind apply to artistic as to cognitive work, for similar reasons. And they result in the inclusion of emotions as indicators of subconscious information.

Regarding the creation of artistic work, Gendlin once again, has a lovely example:

Consider a poet, stuck in midst of an unfinished poem.
How to go on? The already written lines want something
more, but what?

The poet reads the written lines over and over, listens, and senses what these lines need (want, demand, imply . . .). Now the poet's hand rotates in the air. The gesture says *that*. Many good lines offer themselves; they try to say, but do not say—*that*. The blank is *more precise*. Although some are good lines, the poet rejects them.

That . . . seems to lack words, but no: It knows the language, since it understands—and rejects—these lines that came. So it is not pre-verbal; rather, it knows what must be said, and knows that these lines don't precisely say that. It knows like a gnawing knows what was forgotten, but it is new in the poet, and perhaps new in the history of the world.

. . . the blank is not just the already written lines, but rather the *felt sense* from re-reading them, and *that* performs a function needed to lead to the next lines. A second function: if that stuck blank is still there after a line comes, the line is rejected. Thirdly, the blank tells when at last a line does explicate—it releases.

. . . How can a set of words be at all like a blank? Rather, what was implicit is changed by explicating it. But it is not just any change. The explication releases *that* tension, which was the _____. But what the blank was is not just lost or altered; rather, *that* tension is *carried forward* by the words. Of course the new phrases were not already in the blank. They did not yet exist at all. (Gendlin 1995)

This is a situation to which most of us can relate—not being able to think of the right word to express our thoughts, but knowing when the words we come up with are wrong. It is a particularly interesting example because it shows how much our

judgment of our thinking's effectiveness occurs in constant conjunction with the subconscious level. It is a feedback process between that of which we are consciously aware and the knowledge, evidence and ideas held in the subconscious, indicated to us by a feeling.

In the example, the poet *knows* for sure what words he *doesn't* want, which don't fulfill the thought he wishes to express. And he *knows* he's found the right word when he experiences that sense of released tension, of fulfillment. Perhaps later, he will change the word when editing—but often not, if it was a word so hard to find.

The Biological Role of Emotions

But can we say that feeling is *always* intertwined with the process of cognition? One might argue: Could not the relevant data merely be available when the idea enters the conscious mind, without a feeling? And some might argue that *they* do not think they experience feelings at all times. *Must* there be feeling along with every thought? What is the relation of the conscious reasoning mind to the subconscious reasoning mind that causes feelings?

Part of the answer to these questions lies in the biological reason for the existence of mind: the function of mind is to maintain and enhance life (Rand 1957; 1967; Damasio 1999, 346). Mind and its abilities are ineluctably tied to goals and values, for its function is to achieve and promote them in order to serve life. Rand identifies this in *The Virtue of Selfishness* (1964, 25), as well as in her argument for rights in *Capitalism: The Unknown Ideal* (1967, 322). It is the source of the “rationality of emotions,” as DeSousa calls it (1987). To fully appreciate this context, we must remember that even the most abstract cognition, for example, the identification of an idea of pure math, or symbolic logic, is *an action of a living organism, taken to fulfill some need or desire*. If it is not a goal-oriented action, we do not usually consider it *an action of the organism*

but rather a physical side-effect, an accidental motion. *Consequently, every moment of life is accompanied, at the least, by a complex background feeling regarding oneself and the world in general, and oneself, the world and what to do in particular* (Damasio 1999, 117). Because the function of mind is *life—our ultimate value*—every mental act has a goal or purpose, conscious or subconscious. Every thought has a desire driving it. It is in *this* sense that reason is the servant of desire and need: not in the search for truth, for in that it should be the master— but in the fulfillment of the needs of life. Our ideal should be that described by John Herman Randall: “A passionate search for a passionless truth” (1960, 1).

The idea that we have constant background feelings isn't exactly a new concept in Objectivism. As Rand (1975, 25) states, “a constant, basic emotion—an emotion which is part of all his other emotions and underlies all his experiences . . . is a sense of life.” Rand is speaking of a constant feeling about oneself and the world, which doesn't change much; Damasio is speaking of a constant *flow* of feelings, as background to conscious experience, which is ever changing in response to what happens externally and internally. Both agree that feeling is an ever-present constant in normal humans.

Consider even now, as you read this essay: What thoughts are coming to mind as you read? Is there any relationship between the kinds of feelings you have and the kinds of thoughts, memories, questions, or objections coming to mind? Boredom, doubtfulness, interest, excitement?

What is the state of your body? Are you utterly relaxed, barely paying attention, focused and energized, or somewhere in-between— or are you feeling very anxious because you know in the back of your mind that your girlfriend is coming over soon and you're afraid you're going to have a fight with her?

The mind is *constantly* evaluating the state of fulfillment of our goals relative to all of our information, and this is communicated to conscious awareness through emotions.

In the passage from *The Virtue of Selfishness* discussed at the

beginning of this essay, Rand indicates one of the functions of emotions: to give us automatic and timely feedback on some aspect of the world to ourselves. “Just as the pleasure-pain mechanism of man’s body is an automatic indicator of his body’s welfare or injury, a barometer of its basic alternative, life or death—so the emotional mechanism of man’s consciousness is geared to perform the same function, as a barometer that registers the same alternative by means of two basic emotions: joy or suffering” (1964, 27). In this passage, she seems to characterize their function as sheerly evaluative: they let us know how we’re doing, whether things are going well or poorly for us.

According to her, we are not supposed to use their implications to act upon, because they are not tools of cognition, i.e., able to identify facts. However, it is a fact that pleasure and pain are the psychological indicators of furtherance or damage to life. From a functional view, *we can’t live well without them, and it’s difficult to live very long without them.* The fundamental truth of this is driven home in a book called *The Gift Nobody Wants*.

Pain as the Gift Nobody Wants

In this fascinating book, Dr. Paul Brand relates his odyssey of scientific discovery about the nature of leprosy. What was particularly puzzling about the nature of the disease was the disfigurement that its victims kept suffering well after they had received medicine to kill the bacteria that caused it. He determined that the bacteria had destroyed the neurons that transmitted the sensation of touch and therefore of pain to the brain in those parts of the body that were the coolest, like the extremities and parts of the face. The loss of the sense of touch, and the automatic protection of pain, caused the lepers to lose a sense of selfhood about these parts of their bodies. “My hands and feet don’t feel part of me. They are like tools I can use. But they aren’t really me. I can see them, but in my mind they are dead” (Brand 1993, 126). Because they couldn’t feel pain, the leprosy victims would unknowingly injure themselves—again and again and again, until

the tissues were so damaged that they died. This was why they were most prone to lose fingertips, noses, toes, feet—all the parts of their bodies that would be most used to contact the world.

To combat this disfigurement, Brand established “consciousness-raising” group therapy for the young boys living in an orphanage for lepers in India. They needed to somehow experience these parts of their bodies as parts of themselves in order to be motivated to protect them. So, every day, these boys recounted to each other how they had acquired their latest injuries. “[S]ome of the boys had developed ugly sores between their fingers. We discovered that soap suds tend to get trapped in the crevices between partially paralyzed fingers and toes; the skin softens, macerates, and eventually cracks open” (126–27). After some time, “the patients learned to account for 90 percent of spontaneous wounds.” Walking too long in the same shoes, inadvertently touching a hot light bulb, or twisting a screw too hard were all opportunities to get hurt, for which they had to become vigilant. These boys had to focus a tremendous amount of attention, time and energy on what was happening to them, on their every activity, simply to protect their bodies from disfiguring harm.

My point here is to highlight the way in which bodily feedback (in this case of motion and pain) is absolutely necessary for human beings to experience *a part of their own body as a value*, to have a feeling that their body is a value, and *to be able to protect it* without enormous conscious attention. The normal process of acting in a self-protecting way—without thinking about it, with very little conscious attention—is totally short-circuited without the ability to feel what’s going on. To evaluate even simple physical damage without feelings of pleasure and pain is extremely difficult. An arduous reasoning process is necessary to protect against *obvious* physical damage and problems.

The leprosy victims’ experience is not unique. Brand also relates the case of a child who was born without the natural ability to feel pain. By the time she was eleven, she had to have her leg

amputated below the knee. She had damaged it so extensively, by running around on her foot when it was already injured, that it simply wouldn't heal and the whole leg risked developing gangrene. Although the damage was terribly obvious to the child, by sight and rational knowledge, and she faced the prospect of an operation of amputation and the consequent crippling, *she apparently couldn't stop herself from continuing to damage her leg* without being able to feel the leg as part of herself.

In *A Leg to Stand On* (1984), neurologist Oliver Sacks relates his strange psychological experience following an injury to his leg that left him unable to feel it. In *Descartes' Error*, neurologist Antonio Damasio (1994, 62) relates the psychological state of people with anosognosia—"the inability to acknowledge disease itself." These people are often victims of a major stroke or injury to the right side of their brain, usually in the parietal lobe. The brain damage often leaves the left side of the body paralyzed. However, they seem to be totally unaware that anything is wrong. When asked how they feel, they answer "fine." Damasio explains:

No less dramatic than the oblivion that anosognosic patients have regarding their sick limbs is the lack of concern they show for their overall situation, the lack of emotion they exhibit, the lack of feeling they report when questioned about it. The news that there was a major stroke, that the risk of further trouble in brain or heart looms large, or the news that they are suffering from an invasive cancer that has now spread to the brain . . . is usually received with equanimity, sometimes with gallows humor, but never with anguish or sadness, tears or anger, despair or panic . . . if you give a comparable set of bad news to a patient with mirror image damage in the left hemisphere the reaction is entirely normal. Emotion and feeling are nowhere to be found in anosognosic patients . . . perhaps it is no surprise that these patients' planning for the future, their personal and social decision making, is

profoundly impaired. Paralysis is perhaps the least of their troubles. (64)

The experience of these patients seems to be more evidence of the essential importance of emotion to normal functioning, to using reason in the service of life. But some would object that perhaps these patients have suffered damage to their very ability to reason itself.

To address this problem, Damasio investigated the situation of yet another patient. Elliot's damage had been caused by a brain tumor in the ventromedial portion of the pre-frontal area. An operation had removed damaged frontal lobe tissue along with the tumor; this operation changed Elliot's life forever.

Whereas he had been an extremely successful businessman and father, and was a role model for others, his life completely unraveled after the operation. His subsequent behavior caused him to lose his job and thousands of dollars in savings because of poor financial judgments, and it destroyed his marriage. Unable to adequately care for himself, he ended up incapable of holding a job and in the custody of a sibling.

The really unusual feature of this patient was how *normal* he seemed in so many respects.

For all the world to see, Elliot was an intelligent, skilled and able-bodied man who ought to come to his senses and return to work. Several professionals had declared that his mental faculties were intact—meaning that at the very best Elliot was lazy, and at the worst a malingerer. (34)

But Damasio noticed immediately a strange emotional disconnectedness:

. . . he struck me as pleasant and intriguing, thoroughly charming but emotionally contained. He had a respectful, diplomatic composure, belied by an ironic smile implying superior wisdom and a faint condescension with the follies

of the world. He was cool, detached, unperturbed even by a potentially embarrassing discussion of personal events. . . . Not only was Elliot coherent and smart, but clearly he knew what was occurring in the world around him. He discussed political affairs with the humor they often deserve and seemed to grasp the situation of the economy. His knowledge of the business realm he had worked in remained strong. I had been told his skills were unchanged, and that appeared plausible. He had a flawless memory for his life story, including the most recent, strange events. (34–35)

And this assessment of his retained knowledge and abilities was confirmed by extensive neuropsychological testing. He even breezed through the tests that usually catch frontal lobe damage (for example, Wisconsin Card Sorting). He was easily able to make estimates on the basis of incomplete knowledge—a function normally compromised with frontal lobe damage. He even tested normal on the Minnesota Multiphasic Personality Inventory.

Further, he was not only able to reason very well in domains concerning objects, space, numbers and words, but even in the personal, moral and social domains. These latter domains are so complex that abnormal frontal lobe function easily compromises a person's ability to reason about them. Yet, given many, many problems to reason through, even social and personal ones, he could respond with completely correct strings of logic about what to do. His logic and knowledge seemed perfectly intact. Why, then, did he have such a huge deficit in his ability to live? One clue lay in his comment: "And after all this, I still wouldn't know what to do!" (Damasio 1994, 49).

Another lay in his detachment from the magnitude of his tragedy. In any discussion about it, he did not show any effort to control or contain emotion—he didn't seem to *need* to because he was perfectly calm and relaxed talking about the most disturbing material. Damasio found himself suffering more while listening to

Elliot's stories than Elliot seemed to be suffering.

Damasio's perception that Elliot lacked inner turmoil and feeling was supported by further testing, in which he was shown emotionally charged pictures, like people about to drown, the human devastation of an earthquake, gory accidents. "[Elliot] told me without equivocation that his own feelings had changed from before his illness. He could sense how topics that once had evoked a strong emotion no longer caused any reaction, positive or negative. . . . We might summarize Elliot's predicament as . . . *to know but not to feel*" (45).

It became clear from Damasio's extensive further testing of any possible subtle difficulty in intellectual tasks, that this was, indeed, the source of Elliot's decision-making failures. A gambling game in particular revealed what kinds of errors in judgment he tended to make. Consistently, he and others like him tended to ignore information indicating future possible losses, in favor of immediate gains. The same pattern of bias had shown up in the bad business judgments he made that led to thousands of lost dollars. Damasio proposed that in normal individuals "a covert, nonconscious estimate precedes any cognitive process" (221). This covert estimate brings to bear many subconscious factors in their decision-making, and is experienced as a feeling to do one thing rather than the other. For example, normal people playing the gambling game would naturally become averse to picking cards from the pile that tended to have high losses. They wouldn't necessarily know why, but they would just feel averse to that pile. Apparently, they had developed nonconscious learning and motivations, a fairly typical situation (Lewicki and Czyzewska 1992; Damasio 1999). Damasio calls these feelings "somatic markers," because they, in effect, mark which way to act. He proposes that the patients with damage to the ventromedial prefrontal cortex are disconnected from this process.

We might summarize Elliot's problem not as a deficiency in intelligence or logic, but as an inability to live normally because he could not make good judgments for himself. His reasoning

process was apparently clear, but the disconnection from his feelings resulted in the inability to pay attention to important features of future events in making judgments; his attention seemed to be on the immediate end only, the plausibility of making a quick buck. He couldn't keep his attention on assessing the dangers and feasibility of future endeavors. Thus, he chose means that didn't work.

This kind of judgment error is very similar to that made by highly intelligent criminals and psychopaths who ignore the likely future negative consequences of their actions in favor of immediate satisfactions. Whether the cause of this disconnection in the criminals is environmental, a series of prior choices, neuropsychological, or a mix of these factors is up for debate in the psychological community (Raine 1999; Livingston 1999).

From Damasio's experiments on normals in danger, it seems that people's feelings are essential to helping them make appropriate judgments. But Elliot wasn't sufficiently connected to his subconscious feelings to fully experience his predicament. This finding is typical with ventromedial frontal lobe lesions (Bechara, Tranel, Damasio and Damasio 1996).

Emotion in the Service of Life

Seriously impaired individuals like Elliot show us what happens when we are cut off from so much experiential evidence. People like him need the constant help of normal people in order to exist without further damage. In addition to his discussion of the lepers, Brand (1993) describes children who had no pain receptors from birth and thus are cut off from much experiential evidence. They damage themselves constantly; this results in amputations and early deaths. Rand (1964, 18) in fact mentions this condition in *The Virtue of Selfishness*. Without the proper connection between the reasoning, conscious mind and the subconscious that is afforded by our feelings, protecting our very lives becomes nearly impossible.

I have no doubt that a person without feelings from birth

would hardly be able to function. In normal functioning, it is a long-term disadvantage to be cut off from one's feelings. But at times there are advantages to directing action solely by conscious sequence and plan and suppressing immediate feelings. For example, when I am trying to tax my body to the max as I exercise, my body feels like stopping, cries out "enough" and I feel exhausted and sometimes completely unmotivated to go on. But my mind knows it is only for a few more minutes and that it will achieve my much-desired long-term goal of increased fitness. So I ignore those feelings and make myself keep running. Reason still prevails as the ultimate identifier.

In more dire circumstances, a soldier in combat may think that sneaking around behind the enemy in a carefully orchestrated ambush with his unit will most likely achieve his objective, and protect his life in the long run. He may need to strongly suppress his fast-rising desire to flee or vomit during an extremely dangerous combat situation. The flexibility of reason and free will allows him to override his subconsciously formulated estimations experienced through his emotions.

There are other times in life when it may be good to follow one's feelings. For instance, with momentary dangers: you see a truck bearing down on you and you jump out the way in fear; you have an uneasy feeling about someone riding in the elevator with you and you step out on the next floor; you are alarmed by the sound of your baby's cry and you run out to see her head stuck between the porch railings. At these times, it is good to act on those feelings—although, of course, you can be mistaken. Your subconscious may have calculated the situation faster than you could consciously comprehend, and protected your values.

Fully functioning individuals develop high consciousness about feelings and responses (Rogers 1961, 187). Conscious reason validates the truth of their information and conclusions in a highly iterative process. They consciously refer back and forth between the world and personal memories and experience, and the generalizations formed from these. Being highly sensitive and

aware of all the pieces of information and nuances of feeling about an issue, they use emotions as a tool by which to recognize their needs and access subconscious information. This allows them to be more successful in arriving at the complete, and completely useful, truth.

As Sciabarra (1995, 188) argues, Branden's later works have taken a more qualified approach to the relation of reason and emotion, which represents an approach reflecting these truths:

. . . we should recognize that it is an error to cast reason and emotion as adversaries. What may appear as a conflict between them is in actuality a conflict between two ideas (or sets of ideas), one of which is not conscious and manifest only on the level of emotion. And it is not a foregone conclusion which idea is right. Sometimes our emotions reflect distorted perceptions and interpretations, but sometimes emotions reflect a deeper and more accurate assessment of reality. . . . We do not follow emotions unthinkingly, but neither do we ignore or repress them. We strive to understand their meaning—to learn from them. We strive for the *alignment* of thought and feeling. We strive for *integration*. But without the power of consciousness brought to our emotional life, without respectful self-observation, integration is not possible . . . I . . . had on too many occasions sacrificed my emotions to what I had thought was “the reasonable” . . . but [a] new awareness [led] me to be more careful about what I was calling “the reasonable” and to put more effort into understanding what my feelings were trying to tell me. (Branden 1997, 155–56)

An Eminently Reasonable Position

Damasio's patient Elliot had a fundamental, neurological problem with integration. He knew the facts and rules of logic, grammar and appropriate word choices, even the rules of social

logic (e.g. , ‘if you go to eat at someone’s house, then you bring a gift for the hostess’). He could reason to answers for a given problem presented to him. But which answer was *right* would depend on what his desires, goals and purposes were. He couldn’t pick out what to do because he was no longer connected to the experience of his organism. Elliot didn’t have “the feeling of who he was” (Rogers 1961, 191) or “the feeling of what happens” (Damasio 1999).

Damasio argues that Elliot’s problem resulted from an inability of the pre-frontal cortices to get important information about his needs, values and preferences. Being an adult, he had had a long time to develop as a well-integrated human being before becoming ill— he’d had lots of experience. Consequently, he knew the “rules of the game” (as Koestler calls them) extremely well. This is why he *could* logically reason about even complex social situations. But once he was cut off from the personal meaning of situations because of the destruction caused by the tumor, he could no longer apply his reasoning to his choices and actions. Hence, the complete disaster of his subsequent life.

Recent research on the developing brain suggests that a related condition may be why adolescents typically have problems in judgment: they develop new cells in the frontal and parietal areas of their cerebral cortex and may not know how to use them! (Sowell 1999; Giedd 1999). They may be just learning how to use new tissue for decisions and social judgments.

As Damasio (1994, 181) says: “The innate preferences of the organism related to its survival—its biological value system, so to speak—is conveyed to prefrontal cortices by such signals and is thus part and parcel of the reasoning and decision-making apparatus.” Damasio’s comments echo the Randian sentiment that the function of mind is to further life. Damasio, however, also asks: “[W]hat drives basic attention and working memory? The answer can only be *basic value*, the collection of basic preferences inherent in biological regulation” (197). He appears to be at odds with Rand by implying that we have *innate values*. Is he wrong?

Inherent Needs and Conscious Values: Resolving Rand's Conflicting Statements

In *The Virtue of Selfishness* and elsewhere, Rand argues that we choose our values. She contends that our minds have no content—no innate ideas—at birth, and that all ideas are acquired by perception, interaction, and reasoned understanding of the world. What we act to gain or keep derives from our knowledge of the world. Therefore, our goals and values are not innate either.

There is a more extreme argument I have heard often in Objectivist circles: Because we have free will, we have *total* freedom in choosing our values. This is evidenced, so it is argued, by the wildly varying, sometimes life-enhancing, sometimes life-threatening specific values people choose—e.g., from romantic love to sadomasochistic acts, from clowning to entertain children, like Bozo, to clowning to kill them, like John Wayne Gacy. This view seems to imply that free will doesn't just give our nature a huge flexibility, it results in no specific nature at all—we can choose our values *ex nihilo*.

But this is not a full and exact description of what we do. We don't choose our values by dry reason alone or from every possible thing with no standard. We are born with needs, specific to us as animals, as humans and as the particular individuals we are. These needs require certain values for their fulfillment—for *our* fulfillment, *our* health and *our* happiness. How do we begin to discover what we need, and what values we should seek to gain? *We do it through our emotions—through what gives us pleasure and pain, joy and suffering.* “The emotional mechanism of man's consciousness is geared to perform the same function [as physical pain or pleasure] as a barometer that registers the same alternative [life or death] by means of two basic emotions: joy or suffering” (Rand 1964, 27). Emotions help us discover our needs and help us pick what *specific* values to choose; they are a large part of the evidence that philosophers, psychologists and thinkers have used to determine what is the nature and what are the needs of Man.

In the following, Rand strongly acknowledges this view, and

the view that some values are inherent, especially the value of life itself.

The standard [of value] is the organism's life, or: that which is required for the organism's survival. No choice is open to an organism in the issue: that which is required for its survival is determined by its *nature* by the kind of entity it *is*. . . . Life can be kept in existence only by a constant process of self-sustaining action. The goal of that action, the ultimate *value* which, to be kept, must be gained through its every moment, is the organism's *life*. . . . Now in what manner does a human being discover the concept of "*value*"? By what means does he first become aware of the issue of "*good or evil*" in its simplest form? By means of the physical sensations of *pleasure* or *pain*. Just as sensations are the first step of the development of *cognition*, so they are its first step in the realm of *evaluation*. . . .

The capacity to experience pleasure or pain is innate in a man's body; it is part of his *nature*, part of the kind of entity he *is*. He has no choice about it, and he has no choice about the standard that determines what will make him experience the physical sensation of pleasure or of pain. What is that standard? *His life*. (16–17)

I think, here, Rand's position is very close to mine. And I think perhaps a major confusion in this issue comes from two meanings of the word "value." Value can mean the fundamental, abstract things we act to gain or keep, like self-esteem or love or competence: things needed by every human being to thrive, because of human nature. Or, value can mean the specific, particular things we act to gain or keep to fulfill those needs, like standing up for the excellence of the painting we made in the face of criticism or loving a particular individual or practicing the piano. Human beings are usually acting to fulfill their psychological needs— but they can be very wrong about exactly *what* will do that.

To avoid this confusion, we could speak of, for example, Reason, Purpose and Self-Esteem as the fundamental *needs* to sustain life, and the specific actions, relationships and objects a man pursues to fulfill those needs as his *values*.¹

We need to know what to value, what to act to gain or keep. How do we find that out? By a process of learning and reasoning about what protects and advances our lives and what deteriorates and destroys them, about what we need to stay alive and flourish. How do we go about reasoning and learning these things? For one thing, we recognize and identify what gives us pleasure and pain, joy and sorrow—and the implications of *that*. We may be born *tabula rasa* for ideas, but we are *not* born *tabula rasa* for needs. We are beings with a specific nature: we are rational *animals*. Pleasure and pain are the signals by which we recognize our needs, and discover our natures. When we are born, we don't know *what* things will fulfill our needs. But in our interaction with the world, what gives us pleasure and pain and what we enjoy or what makes us suffer, can indicate to us which specific things fulfill our needs—and our reason can then *identify* those things.

To sum this up: We are born with a biological set of needs, and goals, to fulfill those needs. We discover what values fulfill them through observation and experience of the world, and observation and understanding of what things give us long term pleasure, enjoyment and health.

The conscious mind *can* choose and set specific goals—“purposes” as Rand calls them, “values” or “metavalues” as Campbell (2002) calls them—for which the subconscious then supplies a flow of relevant information by which to achieve these goals. In this process, the aim of the subconscious then becomes a constant question (what Rand called a “standing order”): “Do you know anything about that? Got any useful information, conclusions about that?” The conscious mind can perform feats of logic, but cannot relate the logical conclusion to personal needs and goals without emotions and feelings. This is why the lives of highly rationalistic and repressed individuals become a mess of mistaken

choices and values, not dissimilar to Elliot's.

An important practice in a flourishing life is to develop a sensitivity to our feelings, and an ability to infer their meaning. Being aware of the needs and goals they represent, the implicit 'conclusions' drawn, the important information they point to in order to achieve goals or flexibly redirect efforts, we can be more successful in actually achieving that which makes us happy.

Acquiring Values through "Social Osmosis"

As discussed earlier, Rand claimed that values and ideas can be acquired by "social osmosis," and I wondered about the means of this process. There is a huge amount of evidence for a species of memory called "procedural" or "implicit" memory, which results from perceptual awareness and action alone, without any conscious conceptual awareness. That is, we can acquire memories of how to do things, without being able to consciously recollect how to do them—we are just able to do them. In contrast, consciously recollected memories are called "declarative." The process of forming procedural memories is a process of implicit learning. It can operate in the acquisition of attitudes and sets of ideas—intellectual procedures as it were—as well as simpler physical kinds of processes, such as riding a bike (Damasio 1999). Experimental evidence on amnesiacs shows that they can "learn some complicated rule-based strategies required to solve certain mathematical problems or puzzles" (LeDoux 1996, 195) like the Tower of Hanoi. They were conscious of the game and playing it while doing so, but became unconscious of these facts later due to their memory deficits. Even though they will later have no recollection of playing the game, they will know how to do it.

If we stop to think about normal cognitive experience, this is no surprise: how often is a person able to *name* the strategy he uses to play a game? He may know parts of his method, but often he develops a number of tactics and only later may analyze what he does when he's winning, thereby turning it into a self-conscious strategy. The entire development of native language works exactly

this way: none of us knows most of the rules we use or the strategies we employ to speak grammatically and meaningfully. It is no surprise, then, that many human beings acquire knowledge and values through implicit learning (Campbell 2002). Becoming completely self-aware, reflective and in touch with one's complete needs, ideas and values is a hugely difficult task. "Social osmosis" is a name for a kind of implicit learning. Consequently, it is no surprise that many people arrive at their values and ideas through "social osmosis." Rand (1964, 28) states:

man chooses his values by a conscious process of thought— or **accepts them by default, by subconscious associations, on faith, on someone's authority, by some form of social osmosis or blind imitation.** Emotions are produced by man's premises, held consciously or subconsciously, explicitly or implicitly. [boldfaced emphasis mine]

Notice Rand's comment on accepting values by default. To me, a major question this comment raises is: How does an idea get in your brain *by default*? Can food get into your stomach by default, that is, by a kind of automatic process? No, food can't: We have to actively seek it and shove it in. But a child, and often an adult, can get ideas/conclusions/premises in his mind without *reflective awareness* of what he is doing. Why does this happen? I believe the answer is: *because the person needs the idea* and one of the functions of our imitative tendencies is to quickly acquire skills of value, whether procedurally or explicitly. I don't mean that we need every specific idea and every specific value that we may come across and incorporate into our thinking. I mean that there are a lot of specific things we need to know in order to stay alive and fulfill our needs—from which foods to eat to how to care for infants to what activities give us a sense of fulfillment. If we don't learn the right ideas consciously, our minds grab on to the ideas and values of those around us that seem to fulfill those needs. *This* is how values

get accepted, as Rand says, “*by default.*”

And this is a process that happens often during childhood and keeps on happening because of the need for mental economy. Most of us have the experience of discovering ideas, attitudes and habits that we *somehow* acquired in childhood would like to get rid of now. The process of implicitly accepting ideas and attitudes can continue into adulthood if we don’t develop the ability to introspect and reflect on the contents of our minds for quality control purposes. It is largely through the process of procedural or implicit learning and emotional recognition that children and animals operate. *This* is why Rand says that “emotional vibrations are their chief means of cognition” (197).

Conclusion: The Survival Function of Emotions in Relation to Reason

Emotions have at least the following functions for life:

1. They facilitate action choices, especially when there’s no time to think.

2. They are motivators—how we feel about things facilitates our actions to acquire them or to get away from them. Without such motivation—as in depression, wherein the individual feels helpless and hopeless, i.e., purposeless (Seligman 1991; Simon 1993)—humans do not act.

3. They motivate us to think. Behind every thought, there is the driving force of passion, of desire, no matter how subtle.

4. Further, they connect our conscious reasoning minds to our basic biological needs. If we were completely *tabula rasa* for the source of emotions, we wouldn’t recognize what was good for us or bad—we wouldn’t have enough information *to evaluate* that by reason alone.

5. Reason, in the sense of explicit, conscious logical processing, cannot work properly without access to the complex contents and connections held in the subconscious. The conscious mind simply cannot hold enough in attention at once to make

complex decisions. *This includes what seem to be strictly epistemological aspects of reason, such as certainty.* Personal experience as well as neuropsychological research shows that conscious reason can gain access to these contents through emotion. Emotion directs attention to data in ourselves and the world, relevant to our purposes (James 1884; Izard 1977; Damasio 1994; 1999; LeDoux 1996; Mack and Rock 2000; Siminov 1986).

We are born with certain definite needs of our human and our individual natures. We have some ability to *recognize* values in the world that fulfill those needs (DeSousa 1987, 200; McDougall 1908, 29). Pleasure, enjoyment, a sense of efficacy in certain objects, relationships and activities are the signs that we have found such values. Pleasure or pain from something is a kind of *recognition* of its value or disvalue, accompanied by a disposition to act for or against it. This capacity is inherent in each human when he is born, as a vital survival function. In former times, this capacity was called “instinct,” or, as William McDougall (1908, 29) defined it: “[A]n inherited or innate psycho-physical disposition which determines its possessor to perceive, and to pay attention to, objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner or at least to experience an impulse to such action.”

This is indicated by the emotional capacity of infants and young children. In this respect, emotions are evidence of our psychological and biological needs, as well as our implicit conclusions. *Emotions are tools of recognition.* They provide *direct* information about one’s own state, nature and needs. *As direct perception is to the world, so emotions are to our own natures.* For the most successful functioning, this information needs to be consciously examined and related to the other things one knows because, just as in the case of direct perception, we cannot understand the meaning of what we see, hear, smell or taste without the development of rational knowledge.

How we develop the knowledge and ideas that result in our

complex emotions is a multifaceted matter. Our more complex emotions are a result of what we learn and do with our needs and our lives, by our implicit and explicit premises. These latter are built on our inherent biological and psychological needs and values, what we learn about them and what we do with them. Contrary to her comment in *Atlas Shrugged* that “emotions which clash with your thinking are the carcass of stale thinking” sometimes they are the signal that your *thinking* is wrong. The amount of our self-conscious reflection on these matters is extremely important to actually achieve understanding (Berkowitz 2000, 132–33). In fact, Rand’s characterization of Hank Rearden shows just that (Sciabarra 1995, 187).

In the various quotes from Rand, it appears to me that she acknowledges two levels of emotions. The first is the basic level of inherent, automatic recognition and response to what is good or bad for us, which capacity adults share with animals and young children. The desire to see interesting things or to feel good about ourselves fall into this category. The second is a more complex level that is the consequence of the relationship between these basic value recognitions and our knowledge and experience. In other words, the more complex emotions are a result of our experiences, thoughts and ideas, which are integrated in our subconscious into judgments and premises. The love of Betty or the outrage at the evil of Hitler fall into his category.

If we wish to maintain and promote objectivity, our task is to learn how to use the access to our subconscious through our emotions in the most efficient and ultimately objective manner. By becoming expert at being aware of our feelings about things, we can bring subconscious information to light and examine it in conscious attention, by logic, while identifying the facts.

Rand (2001) endorses this approach in *The Art of Nonfiction*:

If you write something at all complex, you will experience the squirms in one form or another. [Note: The “squirms” are a state in which a writer suddenly is

paralyzed and can't continue writing.] The main reason for it is a subconscious contradiction. On the conscious level, in my case, I would create an outline, and my subject and theme would be perfectly clear to me. Only there were so many possibilities of which I was not aware—so many different ways of executing the theme—that my conscious mind in fact had *not* chosen clearly. Because of the complexity of the theme, I could not select clearly, in advance, from the many possibilities; hence there were problems for my subconscious. (64)

You must learn to trust the signals your subconscious gives you. If you order yourself to do more reading for a given article, but feel boredom and an enormous reluctance, it is likely that your subconscious already has what you need, and that further research is redundant or irrelevant. (79)

In *Descartes' Error*, Damasio (1994, 189) says that because of emotions, “[y]ou do not have to apply reasoning to the entire field of options. A preselection is carved out for you, sometimes correctly, sometimes not.” Thus, through the process of controlling and directing attention, subconscious evaluation can direct the process of reasoning. By making oneself more aware of one’s implicit preselection (premises), one gains control of one’s mind, makes it more definitely in line with the facts, more accurately reflecting reality and therefore more efficacious.

I agree with Sciabarra (1995, 166–68) that we need to broaden our understanding of the processes that constitute “reason” as the faculty that identifies and *integrates* the material provided by the senses. Emotions seem fundamental to *the integration of knowledge and of values*, as a means by which to be aware of knowledge and a signal of integration. Evidence shows that emotions are a fundamental part of the operation of cognition and judgment:

- § Emotion indicates whether something fulfills or frustrates human needs, and is an essential part of the development of values in children.
- § Emotion cannot identify the facts as such, but emotion helps reason identify them by drawing attention to relevant information, both in reality and in one's subconscious.
- § Emotion supplies signals as to whether something integrates or fails to integrate with all the other information and conclusions one has already stored.

Skill at recognizing the nature of our emotions and their causes, and consciously evaluating their meaning is essential to successful functioning. We need to pay attention to our feelings, *especially* when they contradict our conscious conclusions, to make sure that we are not missing some vital and important piece of information or context that would qualify or redirect conscious thinking.

Rand's comment that "emotions aren't tools of cognition," is, in some respects, right and in some respects wrong—an unfortunate consequence of the metaphor used. The evidence shows that, indeed, emotions are *a means* of effecting identification of the facts—by bringing relevant information to conscious attention. In this respect, emotions *are* tools, very useful tools, of conscious reason. *However*, only conscious reason has the capacity to identify the facts as such. To truly *validate* our ideas and *verify* our identifications, we must apply conscious reason and logic.

In a fully functioning mind, reason and emotion work hand-in-hand to achieve the values and fulfill the needs of the individual person. Conscious reasoning verifies the data of the subconscious as it interacts and identifies the facts of the world; emotion notifies reason of relevant information and integration to be considered in reason's quest to gain value for each living person.

A flourishing life requires sensitivity to our feelings and the ability to infer their meaning, i.e., the needs, values and goals they represent, the implicit "conclusions" they've drawn, and the

important information to consider in order to achieve goals, or flexibly redirect efforts. Ayn Rand's own statements about the creative process and the evidence of her work show that she was a master at this. Let us follow her example, rather than merely the apparent meaning of her nonfiction statements, to achieve the kind of vision of life she projected in her art—and the most happiness and fulfillment possible to each of us.

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Notes

1. Chris Matthew Sciabarra (1995) offers an extensive, well-researched and thoughtful examination of Rand's views on reason and emotion, as well as her views on the psychoepistemology of art. Neera Badhwar (2001) has succinctly commented on many of the same difficulties and discrepancies—and research issues—regarding the relation between reason and emotion as I do in this paper.

2. I want to state for the record that my intention is not to be derogatory to Rand's thinking in the least, for I have the greatest respect for it. I have learned too much from her, and benefited from her wisdom and insight far too often to complain that she erred, she didn't have all the answers, or that her answers were less than complete! These days there seems to be a wave of whining about the negative effects of Rand's ideas on those who once accepted them. While I'm sorry for any bad effects her ideas, or her errors, may have had on my life, it behooves me to take responsibility for having accepted and used them.

3. For a long and interesting discussion on the subconscious and implicit premises, see Campbell 2002.

4. Branden's definition seems to owe much to the work of Magda Arnold (whom he referenced in *The Psychology of Self-Esteem*). She defines emotion as "the felt tendency toward anything intuitively appraised as good (beneficial), or away from anything intuitively appraised as bad (harmful). This attraction or aversion is accompanied by a pattern of physiological changes organized toward approach or withdrawal. The patterns differ for different emotions" (1960, 182).

5. Sciabarra (1995, 328) points out that Rand had experience with the results of the Progressive Method, which she saw implemented at the University of Petrograd. Rand also studied Progressive pedagogy in college in a course called

“History of Pedagogical Doctrines.” See Sciabarra 1999, 16.

6. *The Oxford English Dictionary* gives us:

Cognition: 1. The action or faculty of knowing; knowledge, consciousness; acquaintance with a subject. 2. *Philos.* The action or faculty of knowing taken in its widest sense, including sensation, perception, conception, etc., as distinguished from feeling and volition; also, more specifically, the action of cognizing an object in perception proper.

The *OED* definition, in turn, is consonant with classic philosophical definitions, such as the one in the *Dictionary of Philosophy*:

Cognition — knowledge in its widest sense, including: (a) non-propositional apprehension (perception, memory, introspection, etc.) as well as (b) propositions or judgments expressive of such apprehension. Cognition, along with conation and affection, are the three basic aspects or functions of consciousness. (Runes 1960)

After a fair amount of searching (at least 20 books), I have not been able to find a precise definition of “cognition” or “knowledge” in cognitive science. Robert Campbell suggests the definition that Ulric Neisser (1967, 4) offered in his classic book, *Cognitive Psychology*: “Cognitive psychology refers to all processes by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used.” However, Neisser’s definition presupposes that our minds process sensory inputs and that such inputs take the form of symbolic representations, or are readily converted into symbols. And, if taken literally, it indicates that everything a mind does is cognitive—without ever saying what constitutes knowledge.

Campbell suggests this formulation: “Cognition pertains to the mental processes involved in acquiring, modifying, and using knowledge.” But this proposed definition would still not distinguish perception from cognition (as some psychologists still want to do) or emotions and the will from cognition (as the classic philosophical definitions did, and as most psychologists still want to do). It virtually equates “cognition” with “what a mind does,” and does not explicate “knowledge.” According to Campbell, what most psychologists actually seem to mean by “cognition” is: “whatever the (human) mind does that isn’t perception and doesn’t involve emotions—roughly, what used to be called ‘the higher mental powers,’ such as memory, attention, problem-solving, reasoning, decision-making and language use.” These are the topics typically covered by books and research articles in cognitive psychology.

7. See also Campbell 2002, for an extensive discussion of the implicit.

8. However, the ability to hold very abstracted symbols in mind varies considerably from person to person, and between the sexes (Kimura 1999; and private communication with Jerre Levy, neuropsychology researcher at the

University of Chicago).

9. Rand mentioned these facts in *The Romantic Manifesto*, and talked about the artistic process of selection in her fiction-writing course, now incompletely summarized in *The Art of Fiction* (Rand 2000).

10. For those interested, Kathleen Touchstone (1993) examined Rand's views on intuition and knowledge in relation to Koestler's ideas, along with further scientific evidence.

11. To relieve this confusion, Campbell (2002) proposes an interesting distinction between goals (which include biological ends), values (ends of which we are conscious) and metavalues (conscious ends about our ends).

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