

Commentary

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In the past few years I have had the privilege of publishing three chapters in volumes edited by Robert Sternberg, and this is the second review of his work I have written within a 2-week period. I am told that *Spy* magazine keeps track of such things, and exposes writers who seem to mention each other too often, suggesting they have a sweet deal of mutual admiration going. On the other hand, mentioning each other's work could mean something as innocent as the fact that an academic field is emerging. When formerly isolated scholars begin to think in terms of each other's problems, methods, findings, and solutions, it means that a new domain of scholarship is starting to develop. Whether the domain will flourish or not depends in large part on whether the investigators who constitute the field will keep referring to each other's work, whether they will agree on a common vocabulary of technical terms, and whether they will use the same ways of operationalizing concepts and adopt common measurements.

In the on-and-off domain constituted by the psychology of creativity, it would be very difficult to avoid coming to terms with Sternberg's work. The field is relatively small, if we count only those engaged in

basic research and scholarship, and Sternberg is certainly one of its most active members. Thus it is not surprising that, even though we barely know each other and have no common roots in any old-boy network, our paths keep crossing.

It is instructive, I think, to compare Sternberg and Lubart's approach to creativity reflected in this paper and the approach of another leader of the field whose scholarly output achieves astonishing rates, namely Dean Keith Simonton. Simonton [1988] starts with a very simple, concise definition of creativity (based on the quantity and ratio of novelty produced to novelty elaborated), and deduces from it innumerable hypotheses that he then tries to test against historical examples quantified from secondary sources. Sternberg and Lubart here proceed inductively, piecing together the most relevant findings in the field and claiming that some kind of interaction between the various pieces constitutes creativity. Once again we have a confrontation between something resembling a Platonic and something on the order of an Aristotelian paradigm.

To my taste, Simonton's deductive approach is more elegant, and in principle more likely to lead to the establishment of a

systematic domain. Yet, while Simonton's theoretical framework often seems fragile, open to criticism concerning the deductive steps and the ways they are operationalized, Sternberg and Lubart's effort at an inductive theory is much safer, grounded as it is in generally accepted previous results.

If I were to summarize in my own terms what I take to be Sternberg and Lubart's position, it would go something like this: Creativity consists of the ability to invest attention [Csikszentmihalyi, 1978, 1990] in memes, i.e., cultural symbols, processes, objects [Dawkins, 1976; Csikszentmihalyi, 1988; Csikszentmihalyi and Massimini, 1985], that are relatively rare but that subsequently acquire social value. This ability in turn is made up of 6 facets – intelligence, knowledge, personality, and so on. It is in the listing of these facets that the authors' inductive approach most clearly manifests itself.

It is probably fair to say that Sternberg and Lubart have correctly estimated the parameters for the domain of creativity. There is very little that is not included in one of their 6 facets. However, much work needs to be done before the study of creativity can achieve theoretical coherence. In the first place, at present the 6 facets are loosely connected in parallel, so to speak, and they do not constitute a dynamic system. One of the first tasks for future workers in the domain will be to investigate more precisely how these facets are in fact related – whether hierarchical constraints operate between them, whether they are tied together by developmental sequences, and so on. Secondly, much refinement is still needed before we completely understand the nature of these 6 facets. I comment here only on 2 of the 6 – motivation and environmental context, as these are topics I have been most involved in recently.

Regarding motivation, the authors' shift in emphasis from *intrinsic* to *task-oriented* motivation as the key to creativity is sensible. But when they suggest that a critical test differentiating between the two hypotheses would be whether investment of attention in goals intrinsic to an activity leads to an *increase* or to a *decrease* in creativity (the task-oriented definition predicting a decrease), it becomes clear how difficult the task of testing still remains. The problem is that in any real creative situations it is exceedingly difficult to make distinctions between long-term, intermediate, short-term, and momentary goals. When scientists work in a laboratory, is their creativity jeopardized if their attention is focused on making sure that the equipment is in order, the procedures are scrupulously followed, the observations are carefully recorded, in order to achieve a well-controlled experiment? Where does the goal end and the task begin, or vice versa?

The way I prefer to think about the motivation relevant to creativity is very similar to the way the authors conceive it, but is different enough perhaps to merit mentioning. The major distinction is not between extrinsic and intrinsic, or between task- and goal-oriented, motivations. The question is whether people pay attention to what they are doing primarily because they are rewarded by the interaction itself (e.g., the scientist by experimenting, the writer by writing, the painter by painting), or because they seek rewards outside the activity itself (e.g., going home as soon as possible, getting money or fame). Sternberg and Lubart reject this formulation because, in their opinion, it would lead to an 'unparsimonious view that there are as many motivators as there are interesting tasks'. This, however, is not nec-

essarily the case. It is possible that some people experience rewards from performing well within whatever domain they are skilled – be it science, art, or politics – and that these are the people most likely to be known as creative. So, what motivates are not many interesting tasks, but a single propensity to enjoy interaction with challenging tasks.

The second facet that is more complex than one would gather from the authors' article is the one involving the environmental context. The authors agree that recognition by society is necessary for creative memes to be recognized. But they do not emphasize enough that society – or a subset of it – is not only involved in the recognition, but also in the very *constitution* of creativity.

As psychologists we have a natural tendency to reduce cognitive processes to the individual level. But when we are dealing with such a complex sociocultural, historical process as creativity, our professional tunnel vision can be distorting. We may then fail to see that creativity cannot exist in a person's head; the process is inextricably linked to a culture that provides the symbolic tools from which the individual chooses the ones he or she will try to innovate with and to a society that evaluates the many innovations and then chooses a few it will call 'creative'. The influence of culture and society on the creative process is not simply empirical, as the authors suggest. It is more fundamentally an ontological contribution – in other words, we cannot even begin to think about what is creative and what is not without reference to

cultural conventions and social needs. Thus, to understand creativity we need a truly systemic approach, one that does not take for granted the primacy of intra-individual processes.

It will be interesting to see to what extent psychologists in the future will be able to free themselves from their own parochial vision, and thus behold more clearly the complexity of the problems they are confronting. In the meantime, Sternberg and Lubart have certainly set a rich table for those who are rewarded by task-involvement in creativity research to feast on.

References

- Csikszentmihalyi, M. (1978). Attention and the wholistic approach to behavior. In K.S. Pope & J.L. Singer (Eds.), *The stream of consciousness* (pp. 335–358). New York: Plenum.
- Csikszentmihalyi, M. (1988). The ways of genes and memes. *Reality Club Review*, 1, 107–128.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Csikszentmihalyi, M., & Massimini, F. (1985). On the psychological selection of bio-cultural information. *New Ideas in Psychology*, 3, 115–138.
- Dawkins, R. (1976). *The selfish gene*. New York: Oxford University Press.
- Simonton, D.K. (1988). *Scientific genius*. New York: Cambridge University Press.

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