

Social Constructivism in Psychology and Sociology*

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The purpose of this article is to discuss "social constructivism," a theme that I find to be common to cognitive studies in sociology and psychology. I will provide a more detailed description of this notion as the article unfolds. For now, let me gloss this notion by the following: social constructivism is the principle that states that social structures and cognitive structures are composed and reside in the interaction between people.

The origins and developments of this constructivist theme are traced in parallel. In Part I, I review the central themes of constitutive phenomenology, and propose that its personal and subjectivistic sense of constructivism was transformed into a social and intersubjective sense in early ethnomethodology. I then present a study which analyzes the social structures of the everyday world as *social* constructions. In Part II of the paper, I review a parallel development in psychology. Piaget, like Husserl and his interpreters, employs a strong concept of constructivism in this theory about child development. Piaget's "constructivist structuralism," like constitutive phenomenology, makes this constructivism a personal and subjective act. Researchers influenced by the Soviet Social-Historical school like Piaget, sound the constructivist theme, but, like ethnomethodologists, move the personal and subjective sense of constructivism to the interpersonal plane. I complete this section as I did Section I: with a review of a recent study. While the studies reviewed in Part I locate social structures in the interaction, those reviewed in Part II locate cognitive structures in the interaction.

PART I: THE SOCIAL CONSTRUCTION OF SOCIAL STRUCTURES

Husserl's Constitutive Phenomenology

The interconnectedness of the stream of thought and objects thought about is a central tenet in phenomenological theory. Brentano was influential in the phenomenological tradition because he emphasized the intentional character of our thinking. According to the "intentional theory of consciousness" developed by Husserl based on his interpretation of Brentano's seminal ideas, any of our experiences as they appear within our stream of thought are necessarily connected to the object experienced. From this

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Many of the ideas in this paper were developed in collaboration with my colleagues at the Laboratory of Comparative Human Cognition. I have drawn upon Laboratory publications (especially Laboratory of Comparative Human Cognition, in press); however, my colleagues are not responsible for the interpretations that I make of these publications.

point of view, there can be no such thing as "thought," "fear," "fantasy," and "remembrance" as such. Every thought is a thought *of*, every fear is a fear *of*, every remembrance is a remembrance *of* an object thought, feared remembered (Husserl, 1931, pp. 119-121; cf. Gurwitsch, 1964, 1966, p. 155; Schutz, 1962). Likewise, the object which presents itself to an individual perceiving it is not an object as such, a thing in itself. It is an object-as-it-appears through the particular act of intentional consciousness in question. The perceived object varies according to the standpoint, orientation, attitude, etc., of the perceiving subject, as for example, when an object is looked at from the front at one time, and from the back another time. Thus, there is no single determination of an object.

As a consequence of its commitment to an *intentional* theory, constitutive phenomenology stands in contrast to the two main conceptions of consciousness, which will be glossed here as "innatism" and "empiricism." Citing as evidence the fact that the physical conditions for constancy are perfectly lawful, innatist theorists have held that the perceptual constancies of shape, size, color, have an *a priori* status (e.g., are wired into the nervous system). Empiricism (e.g., the classical British school inaugurated by Locke, and brought to its completion by Hume) treats consciousness passively. Empiricist theories have held that the perceptual constancies of shape, color, size are presented as a mosaic of sensory data and images derived from these data. There is no internal connection whatever between all these facts; they merely coexist or succeed one another. Gestalt psychology (Koffka, 1935), a modern form of empiricism, takes the stand that the perceptual constancies are a feature of the visual world; they are a part of the objects of perception. From Husserl's point of view, objects are neither in the head nor in the world; they are constituted by intentional acts of consciousness. An intentional act is any act through which a person experiences an object, whether physical or ideal. Through intentional acts, the object itself is constituted. By this constitutive process, objects are clarified, meaning is established in context, and prior knowledge is mobilized concerning specific objects in ongoing everyday life. This constitutive process is cumulative in that the cognitive results of repeated experience of the 'same object' are sedimented in the mind.

The constitutive position on perception does not imply that perceivers treat objects as incomplete or without properties. Rather, it states that perceivers constitute objects as complete by *prospective* means (letting unclear information pass with the expectation that later information will clarify matters), and *retrospective* means (filling in what is not actually perceived), and assigning meaning to previously unclear events. These constitutive acts make the world the stable, objective, constraining and permanent place we know it to be.

The Interactional Transformation

Although Husserl emphasized the experiential aspect of mind, and did not define intentional acts in psychological terms, the constitutive approach to phenomenology has proceeded in a decidedly mental-

istic and subjectivistic direction. Schutz (1962, p. 11), an important interpreter of Husserl, spoke of the everyday world as constituted by "mental processes" and "operational steps." Gurwitsch (1966, xvi), another student of Husserl, describes the world as constructed by "mental acts of consciousness." While emphasizing the dynamic and constructed nature of human life, these theorists, like Piaget (see below) make the acts of construction personal and subjectivistic ones. They place the locus of construction within the individual.

A significant contribution to the development of a theory that connects social and cognitive structures in interaction was the shift of the process of construction, detailed by the constitutive phenomenologists, from the personal to the interpersonal plane. This shift retained the dynamic, active constructionist theme developed by the constitutive phenomenologists, while at the same time, discarded their mentalistic and subjectivistic bias. A number of sociologists, notably Goffman (1959, 1961, 1963), Garfinkel (1952, 1963, 1967), Cicourel (1964, 1973) departed from previous ways of thinking about social order and social structure, and began to talk about the social world, its objects, facts, and events as composed of and assembled by "interactional activities." Sometimes called "members' methods," "scenic practices," or "interpretive procedures," these interactional activities are processes that are carried out among and between people, not in the privacy of one's head. Interactional practices or procedures are operations performed on the environment by people within social situations. Embodied in human actions between people, they are social activities, not mentalistic acts. In fact, to distinguish these social and intersubjective activities from their more psychological and subjectivistic counterparts, they have been referred to as "mutually constitutive" practices (Mehan and Wood, 1975).¹

The Social Construction of a Social Fact: Educational Careers

As part of his project to establish sociology as a scientific discipline independent from philosophy and psychology, Durkheim (1964) called for the study of "social structures" which were "objective" and "constraining" upon social actors. Recently, a number of

¹The origins of the concept of "practice" in ethnomethodology are obscure, that is, not well documented. Although ethnomethodologists may not have done so, the concept can be traced to Marx. For Marx, practice (i.e., "praxis") was a course of action, guided by conscious reflection, and aimed at a political goal. The idea of goal directed activity, which embodies the connection between reflection and action, thinking and acting, certainly is a characteristic of the notion of "interactional practices," "members' methods," and "interpretive procedures."

From this point of view, to practice social life is, literally, to work at its construction, maintenance, and modification. The notion of practice can invoke images of rehearsal, as in the sense of preparation for a play. This preparatory sense is not the way practice is used in social constructionist theory. Practice constitutes social life; it is not a preparation for social life. So, too, practice is not a poor reflection of some more ideal state of affairs. It encompasses both people's ideas (including their interpretations, beliefs, theories), and people's application of those ideals in concrete situations of actual choice. The notion of "work," is intended to capture the mutually constitutive and fluid sense of interactional practices.

studies have been conducted in everyday and institutional settings that treat Durkheim's objective and constraining social structures as constituted by social structuring activities.² Erickson's (1975) and Erickson and Shultz's (1980) analysis of more than eighty counselling interviews between junior college counsellors and junior college students is one such study. The study is concerned with the social assembly of students' educational careers. They demonstrate how non-school aspects of social identity are introduced into the negotiations that occur in school interactions. Their analysis of the synchrony (or lack of it) between counsellor and student during interviews reveals the counsellor and student actively constructing the next step on the student's educational career path.

More general academic information about course grades and degree requirements, interact with more personal information that emerges during the course of the interview, and produce differences in counselling treatments, and hence, students' careers. The establishment of "particularistic co-membership" (Erickson, 1975; Erickson and Shultz, 1980) was especially important in this regard. These researchers found that participants "leaked" information about similarities in backgrounds and interests during the course of a counselling interview. Those students who had established a high degree of co-membership were more likely to receive positive counselling, rule bending and extra help.

Moving this analysis from a consideration of input and output factors, Erickson and Shultz (1980) report that when behaviors of the counsellor and student were synchronized the interaction was smoother, and the counselling more positive. In discovering that smooth interactional synchrony occurred most often between counsellors and students who had established a high degree of particularistic co-membership, Erickson and Shultz are uncovering an aspect of the machinery that contributes to the assembly of successful counselling sessions and by implication, students' careers; importantly, this is an "interactional" machinery, not a simple transmission or conveyor belt.

PART II: THE SOCIAL CONSTRUCTION OF COGNITIVE STRUCTURES

The studies just reviewed illustrate the claim that the objectivity and factuality of social structure is composed of the interaction between people. These studies bring social structures out of the world and into the interaction.

Although the intellectual origins (in terms of fore-

²Piaget (1970b, p. 22) has a critique of Durkheim that parallels the ethnomethodological one:

In an entirely different field, Durkheim's sociology proceeded in a similar manner by seeing in the social whole a new totality emerging on a higher scale from the assembly of individuals and reacting upon them by imposing on them a variety of 'constraints'. It is interesting to note that this school, whose twofold merit was to emphasize with particular vigor the specificity of sociology as distinct from psychology and to supply an impressive body of specialized work, likewise died a natural death for the lack of a relational structuralism which might have supplied some laws of composition or construction instead referring unremittingly to a totality conceived as ready-made.

fathers credited and cited) are, for the most part, different, a similar movement can be documented concerning psychological phenomena. Processes that had been treated as private and internal to the individual, are being moved out of the head and into the interaction. That is, there is a constructivist theory in psychology, and it has gone through similar transformations as did the constructivist position in sociology: from a private or personal to a social sense of construction.

Piaget's Constructivist Structuralism

This personal or private sense of constructivism is particularly prevalent in Piaget's theory of cognitive development. Piaget depicts the development of thinking as progressing through a fixed sequence of stages, from sensori-motor, through pre-operational, concrete operational, to formal operational thinking (Inhelder and Piaget, 1958). Each stage is characterized in terms of a small set of related principles. These principles are organized sequentially in that some are precursors to others. That is, the child begins with a few simple sensory motor schemes and constructs increasingly rich intellectual principles from them. These principles are also organized synchronically in that related principles emerge at roughly the same age.

Piaget spent his early years working in biology, and biological metaphors predominate his way of discussing the operations or principles that characterize each stage of development. Cognitive development is "growth," a particular aspect of general organic adaptation to the environment. This adaptation is a dynamic, indeed, a dialectical process between the hereditary characteristics of the organism and the structures of the environment. That is, neither hereditary characteristics nor environmental structures taken alone are sufficient to explain cognitive development. Instead, cognition is a self regulating system that seeks to maintain equilibrium with the environment by constructing stable representations of the variability present in the environment. There is an overall organization to cognitive processing. This organization is developed by a process of constant interaction between accommodation to the world and assimilation of experience to existing cognitive structures.

Newman, Riel, and Martin (1981, p. 49) explain Piaget's analogy between the biological ingestion of food and the cognitive development of ideas this way:

In digestion, the organism assimilates food, which undergoes transformations in the process of being accommodated to the existing structure of the organism. Biological growth requires the ingestion of nutrients, the definition or value of which is established by the organism's capacity to process them. These nutrients or "aliments," then become a part of the system, redefining its ability to process further nutrients.

Intellectual growth, for Piaget, operates in a similar fashion. The child, in activity, assimilates new experiences, accommodating mental structures to enable assimilation to be completed. The child can only take in or assimilate those experiences that are defined as relevant by the current state of the processing organization. Once ingested, these experiences form part of the mental organization which allow for the intake or assimilation of new experiences.

The child's physical manipulation of objects plays a fundamental part in Piaget's theory about the gradual coordination of his experiences with the world and his construction of reality. Therefore, I will use Piaget's description of the object concept to show the parallel between constructivism in psychology and sociology.

In important ways, Piaget can be seen to be describing the developmental process associated with the adult conception of objects described by constitutive phenomenologists. A common research strategy for Piaget is to start with adult knowledge and conceptions, and ask about their origins, their genesis. In the case of physical objects, the adult conception that he starts with is almost exactly that of the Gestalt psychologists and constitutive phenomenologists. That is, objects have substance, are permanent, have constant dimensions, shape, color, and size. They are "out there," independent of our will and doing. But, Piaget's investigations of the child's early years suggested that the child does not conceive and perceive things as adults do. Therefore, he says, "it is necessary to explain how the idea of an object (object concept) is *built up*" (Piaget, 1954, p. 3, emphasis added). While it is conceivable that the object concept is already formed in the nervous system, Piaget says the child's gropings and displacements during his first associations with objects seems to argue against this position. So, too, the object concept could be the consequence of purely empirical associations. Piaget argues against this position by citing the sequence of stages through which the child's thinking progresses in the development of the object concept. The idea of an object is "built up" through successive interactions with the world. At first, the child's world is composed of pictures that can be recognized, but have no substantial permanence or spatial organization. Next, a beginning of permanence is conferred on things by movements like grasping, but a systematic search for missing objects is still absent from the child's repertoire. Then, the child applies known means to new situations, searches for objects that have disappeared. However, he still has no regard for displacements. Between the ages of 12 and 18 months, the object is constituted to the extent that it is a permanent, individual substance, and inserted in a group of displacements. Still, the child does not take changes of position into account. Finally, between the 16th and 18th month of life, the child develops an image of absent objects and their displacements. This final act brings the child's conception in line with adult conceptions.

Thus, Piaget's theory, like that of Husserl and Gurwitsch, is radically opposed to both empiricist and innatist theories:

Child psychology teaches us that development is a real constructive process, over and above innatism and empiricism, and that it is a construction of structure and not an added accumulation of isolated acquisitions (Piaget, 1970a, p. 42).

Because Piaget emphasized the internal organization of knowledge, his theory opposes empiricist theories that regard learning as the bit-by-bit accumulation of data, and that treat the child's thought as a carbon copy of adult models (Piaget, 1970a, p. 13-20). Because Piaget emphasized the progressive reinvention of organization, his theory also opposes geneticist theories of cognition that treat the basic cognitive processes such as causal and logical inference, memory, representation of space

and time, and the structure of language as innate:

Whereas the explanation of wholes by atomistic methods leads to a geneticism without structures and the theory of emergent wholes leads to a structuralism without genesis . . . the central problem of structuralism in the biological and human sciences is that of reconciling structure and genesis since every structure involves a genesis and every genesis must be conceived as the (strictly formative) transition of an initial structure to a final structure (Piaget, 1970b, p. 24).

Piaget, like Husserl and Gurwitsch, is presenting a "third position" to counter innatism and empiricism. His third position is "constructivist structuralism" (Piaget, 1970a, 1970b). Applied to object perception, this means that the object concept is the result of "constitutive processes" (Piaget 1954, p. 86). In general, this means that the "intellectual principles" or "operations" that are associated with adult life are a consequence of:

a real construction, proceeding by stages, at each of which the results obtaining at the preceding stage must be first reconstructed before the process can be broadened and the construction resumed (Piaget, 1970a, p. 43).

Piaget's theory is like Husserl's in another way. Both discuss the construction of objects, yet emphasize the personal sense of this genesis. The acts of construction are personal and subjective; the locus of construction is within the individual.

There are psychological theories which retain the dynamic sense of construction found within Piaget's theory, yet move this construction to a social, i.e., interpersonal plane. A well developed formulation is to be found in the Soviet social historical school, the topic of the next section.

The Contextualist Transformation

The Relationship Between Society and the Individual.

The socio-historical approach includes several proposals for how culturally organized, social interaction practices influence the psychological development of the child. These proposals were made by Vygotsky and his followers in the process of developing a Marxist psychology (El'Konin, 1972; Leont'ev, 1978; Luria, 1976; Vygotsky, 1978; Zaporozhets, 1980). A fundamental tenet of this approach was that human cognitive functioning emerges out of social interaction.³ Thus Vygotsky (1978, p. 57) wrote:

...any function in children's cultural development appears twice, or on two planes. First it appears on the social plane and then on the psychological plane. First it appears between people as an interpsychological category and then within the individual child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts and the development of volition.

³A complementary view of the relation between mind and society is found in American Pragmatism, particularly Mead (1934, 1959). American Pragmatism and the Soviet socio-historical approach both place society prior to the individual; individuality emerges from sociality, not sociality from individuality. A way in which Vygotsky and his colleagues differ from Mead and his followers is that Vygotsky also specified some of the processes that make the transition from social to individual functioning possible.

Unfortunately, a further exposition of the parallels between these two seemingly disparate schools of thought is beyond the scope of this article.

Vygotsky referred to the contexts organizing the social-to-psychological transformation of thinking as "zones of proximal development." Vygotsky defined this zone as the difference between a child's "actual development level as determined by independent problem solving" and the level of "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). He demonstrated the usefulness of the notion of the zone of proximal development when dealing with the issues involved in assessing mental ability, especially instruction. In this connection he argued that children can benefit from interaction with more experienced members of their culture only if the level of interaction falls within a certain range specified by the zone of proximal development.

Instruction is good only when it proceeds ahead of development, when it awakens and rouses to life those functions which are in the process of maturing or in the zone of proximal development. It is in this way that instruction plays an extremely important role in development (1956, p. 278).

In short, the socio-historical approach proposes a strong relationship between culture and cognition, the social interactional processes that constitute activity in a culture and the psychological processes of its members. This connection is achieved because an individual's psychological functioning develops through the internalization of culturally organized interactional processes. Second, in the zone of proximal development, members of a culture (children and adults), produce the relationship between social and individual functioning. It is here that the social becomes individual and the individual becomes social.

The Transition from the Social to the Individual. In addition to a statement about the relationship of culture and cognition, Vygotsky and his colleagues also specified some of the cultural practices that make the transition from social to individual functioning possible.

Because they emphasize the definitional power of social processes, Soviet psychologists have generally refused to accept a neat distinction between logico-mathematical cognition which emerges from the child's interaction with physical objects and "social cognition" which emerges from the child's interaction with people. Rather, they have systematically argued that virtually all aspects of the child's experience are culturally delimited and organized. The mutual embedding of objects and people in the child's environment is summarized by El'konin (1972, p. 237-38):

The system "child-thing" is in reality the system "child-social object." Socially evolved modes of action with these are not given immediately as physical properties of the objects. We do not find inscribed on the object where and how it originated, how we may operate it, how we can reproduce it. Therefore, the object cannot be mastered through adaptation, through a mere "accommodation" to its physical properties. In this process the physical properties of an object serve merely as referents for the child's orientation in his actions with that object.

That is, an object is defined primarily in terms of its role in cultural modes of activity rather than in terms of its "raw" physical properties. Even when children are engaged in seemingly nonsocial activity with objects, they are actually dealing with objects which are defined in a particular way by the culture into which the child is being integrated.

You will recall from above that Piaget draws an analogy between biological growth -- the process by which the organism assimilates food which in turn undergoes transformations in the process of being accommodated to the existing structure of the organism -- and intellectual growth -- the process by which the child assimilates new experiences which become accommodated to mental structures that in turn allow for the intake of new intellectual experiences. Newman, Riel, and Martin (1981, p. 49-50) extend the digestion analogy further, and thereby illustrate the differences between Piagetian and Vygotskian approaches to constructivism.

The biological-nourishment system and the intellectual-experiences system are not determined solely by children's personal and individual efforts. Piaget treats food as if it were a natural object, encountered in nature in its "raw" form. In fact, the range of such natural foods in human history is small, and the range of humankind's habitat would be very much reduced if food as a socially structured object was not the rule rather than the exception. Parents carefully plan and prepare the food for their young children. But parents are not the only forces operating in the system that assures that the nutritional needs of infants are attended to. The fact that a great deal of what we eat has been processed, prepared and is available at the market prior to any preparation that is done in the home shows how far into the culture the process of assimilation extends. What the child accommodates to is far from being a natural object.

Just as parents carefully prepare the food that children are to take in, so, too, parents (and others in the child's environment), prepare and constrain the type of intellectual experiences to which the child will be exposed. Just as children are not left to their own devices, parents do not operate in isolation when organizing the intellectual environments of their children. By analogy to the prepared baby food processing devices available to parents, the social distribution of social knowledge in any society provides normative guides for the preparation and distribution of "baby experiences" that will lead to the intellectual growth valued by the culture. It is in these ways and by these cultural practices that all reality can be said to be a social reality. Encounters with physical reality are both socially constructed and culturally constrained.

This conception of objects has led Soviet investigators to examine how a child discovers the socially appropriate use of objects such as toys and elementary tools such as spoons. They do not deny that such objects can be analyzed in other ways (e.g., in terms of their role in a physical system studied in science), but they argue that these other ways of analyzing objects (which usually come somewhat later in ontogenesis) are also culturally organized (e.g., by current scientific theories). Objects are *socially defined objects* and therefore serve as a point of contact between culture and intelligence.

Displays of intelligent behavior.

How intelligence is displayed by children in a variety of contexts has been the topic of a group of researchers at the Laboratory of Comparative Human Cognition (Cole et al, 1978; Hood et al, 1980; Cole and Traupmann, 1980; Gearhart and Newman, 1980). This group of researchers has conducted an extensive study of children's displays of intelligence in classrooms, out of school, and at home. In one such study, Hood et al (1980) reported on some of the activities of "Adam," who had been tested, diagnosed and labelled as having a specific learning disability, in an "IQ Bee." The "IQ Bee"

was an activity in which the WISC-R was administered as a competition among children. Since questions on this test were graduated, the first items were simple for 10 year olds, while the last items were difficult. Adam's response to the increasing difficulty of the questions was noticeably different from the others on the team. As the questioning proceeded, he got more and more tense and upset, raising his hand less enthusiastically, sunk lower and lower into his chair, speaking in a whisper, if at all. He missed a number of questions that others could answer. In short, his "disability" was manifested on a number of occasions during the IQ Bee. He got one particular question right, but the club leader had given him an easier question than the series dictated; thus, even his success was a failure. Everyone, including Adam, was aware of the special treatment he got.

But this disability was not simply the outward appearance of an underlying trait, nor the simple application of a label to the child by an evaluator, nor the product of the meritocracy's sorting device. Hood and her colleagues point out that both his performance and non-performance in the bee can be understood in terms of the "particular configuration of supports" that were given to him at different times." (Hood, et al., 1980). That is, Adam, his peers, and club leader are all contributing to the construction of Adam's ability and disability.

Adam, in effect, is working on two tasks at once; the management of his identity, and the management of the intellectual task put before him. His "identity work" is particularly relevant and important on those occasions when he does not get needed support from others. By disengaging from the interaction, including coming close to tears, Adam manages for others to root for him, and arranges for simpler questions and the like. Hood et al. report more of Adam's "work," (which is similar to the "passing and management work" described by Goffman, 1961; Edgerton, 1967; Garfinkel, 1967) in Adam's intellectual performances in other situations. When there were few social resources available to help his intellectual performance, as on an individualized IQ test, he works to put these supports back, by chatting with the tester, stalling for time, making jokes -- apparently trying to elicit cues.

Thus, the Laboratory of Comparative Human Cognition line of research is recommending a psychology of person-environment relations as an alternative to the prevailing theory of isolated individuals. In this formulation, both ability and disability must be understood in terms of the social environments in which they occur. Intelligence is a dynamic, mutually constitutive and reflexive relation between individual and environment (which includes others), and may change from environment to environment; that is, intelligence, like other cognitive processes, is a "context bound" activity (Laboratory of Comparative Human Cognition, 1981, in press).

This "contextualist approach" as Harris and Heelas (1979) call it, modifies the constructivist position of Piaget in important ways. Primarily, it challenges the isomorphism between competence and performance. Rather than assuming a general sense of competence, the contextualist approach makes competence context specific; cognitive principles constructed in one domain are not easily transferred across contexts. The corollary

of this assumption has important practical consequences for the measure of intelligent behavior in institutionalized settings like schools: instead of inferring the presence of or lack of general competence on the basis of performance in one or even several situations, the contextualist approach recommends a more limited inference. People can be expected to perform well (and poorly) in some situations but not all situations. This situational variability in performance is the expected norm, not the deviation from it predicted by theories such as Piaget's which posit a "permeability of contexts" (Harris and Heelas, 1979).

Conclusions

Taken together, the studies reviewed in this paper suggest a convergence between sociology and psychology on the issue of interaction. Activities, those presumed to be subjective and individual on the one hand, and those presumed to be objective and societal on the other, are collaboratively constructed in social environments. Furthermore, these studies of cognitive and social processes recommend that further descriptions must be made in terms of mutually constitutive and reflexive relations between individuals and events, language, cognition, and context.

These studies also suggest a convergence between Soviet and Western social science. Ideas in the U.S. and the Soviet Union seem to have developed in parallel, with little cross-referencing. Nevertheless, common roots can be traced. Marx, especially the "early" Marx, with his discussion of praxis (practice) seems to be a common influence on constructivist theory in Soviet and Western social science.

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