Excerpt of a paper presented at the Tenth International Congress of Personal Construct Psychology, James Cook University, Townsville, Australia, July 12-17, 1993

PERSONAL CONSTRUCT THEORY WITHIN PSYCHOLOGICAL CONSTRUCTIVISM: PRECURSOR OR AVANT-GARDE?

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In late years the adjective "constructivist" has been used more and more frequently in psychology. A slow and creeping constructivist movement seems to be taking the place of the swift cognitive revolution and proposing itself as a psychology for the future. Well-known authors, such as Bruner (1986, 1990) and von Glasersfeld (1974, 1982, 1981/1984), are working to elaborate constructivism's metatheoretical assumptions; others, such as Watzlawick (1981/1984), are contributing to their dissemination; others, such as Maturana and Varela (1970-1973/1980, 1984/1987) and von Foerster (1981, 1984; see also Segal, 1986), are extending the range of convenience of other disciplines so as to arrive to a constructivist theory of knowledge that has many potential, important implications for psychology; yet others have begun to apply these developments to cognitive psychotherapy (Mahoney, 1988a, 1988b; Guidano, 1987), family therapy (Keeney, 1983; Hoffman, 1988), and even psychoanalysis (Soldz, 1988). It doesn't matter if, as von Glasersfeld (1993) has ironically pointed out, many of the constructivisms that arise every six months represent attempts to safeguard the traditional realist position.

[...]

CONSTRUCTIVE ALTERNATIVISM AND THE KNOWLEDGE/REALITY RELATION

Kelly's Constructive Alternativism

By assuming that "*all of our present interpretations of the universe are subject to revision or replacement*", Kelly (1955/1991, Vol. 1, p. 11) uncovers the basic philosophical root of his theoretical position.

What Kelly (1955/1991) proposes with the name of *constructive alternativism* is a "philosophical point of view" that Kelly himself refuses "to elaborate into a complete philosophical system" (Vol. 1, p. 12). Nevertheless, he makes his "prior convictions" about the "kind of universe" he envisions explicit (Vol. 1, p. 5), as well as his attempts "to plot its position roughly with respect to some of the types of philosophical systems with which scholars are familiar" (Vol. 1, p. 12).

It appears clear from his subsequent discussion that Kelly is trying to extricate his theory both from realism and idealism[1]. It is also clear that Kelly makes the contrasts of his statements explicit in order to clarify what he anticipates to be an easy to misunderstand viewpoint. "Any living creature, together with his perceptions, is a part of the real world; he is not merely a near-sighted bystander to the goings-on of the real world" (Vol. 1, p. 7). "Life . . . involves an interesting relationship between parts of our universe wherein one

[1]Consider in particular the following statements: "We presume that the universe is really existing and that man is gradually coming to understand it. By taking this position we attempt to make clear from the outset that it is a real world we shall be talking about, not a world composed solely of the flitting shadows of people's thoughts. But we should like, furthermore, to make clear our conviction that people's thoughts also really exist, though the correspondence between what people really think exists and what really does exist is a continually changing one" (Kelly, 1955/1991, Vol. 1, p. 5).

part, the living creature, is able to bring himself around to represent another part, his environment" (Vol. 1, p. 6). The distinctive characteristic of life consists in "*the creative capacity of the living thing to represent the environment, not merely to respond to it*" (Vol. 1, p. 6). Here is clearly expressed the "proactive cognition" invoked by Mahoney (1988a) as one of the basic features of constructivism, embedded in Kelly's attempt at defining the relation between knowledge and reality.

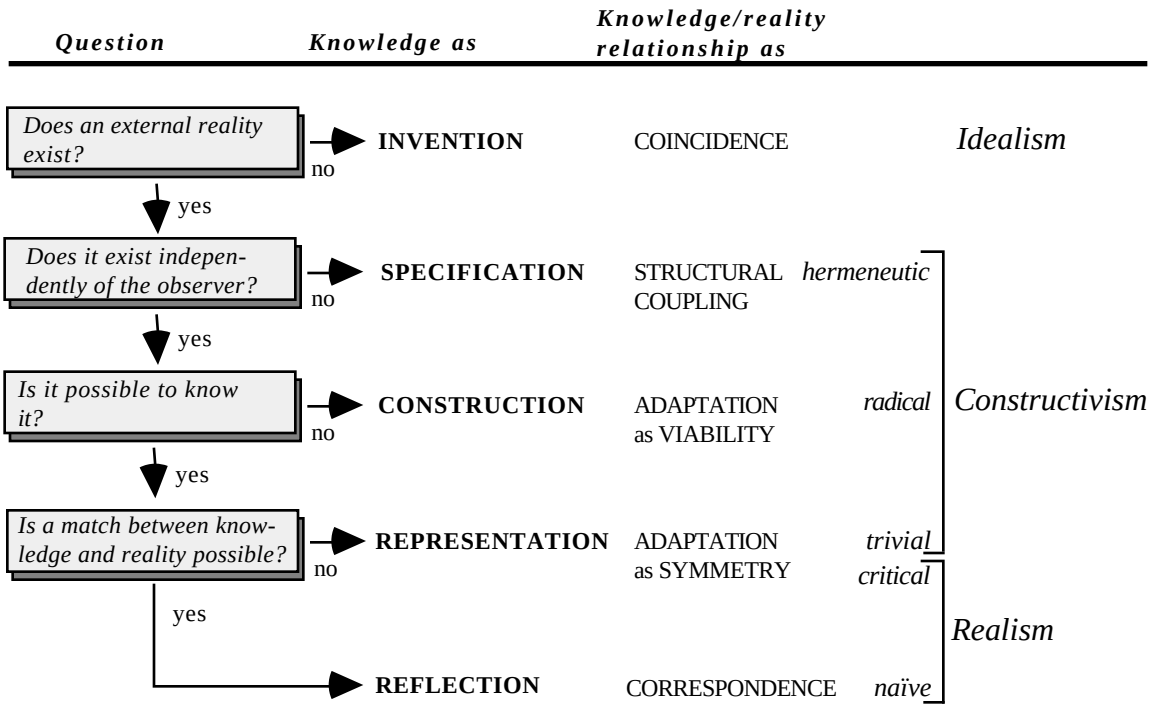

FIGURE 1 Different ways of conceptualizing the knowledge/reality relationship.

From the fifties onwards there has been a great elaboration of this aspect within the constructivist movement, so that we regard it as more suitable than the activity/reactivity dimension for discriminating among the constructivisms recently suggested.

Personal Knowledge in Contemporary Constructivist Debate

The Opposites: Knowledge as Invention and Knowledge as Reflection of Reality

What characterizes the different constructivisms, in fact, is their common attempt at overcoming the traditional opposition between *realism* and *idealism*. Where realism holds the view that material objects exist externally to us and independently of our sense experience, idealism holds that no such material objects or external realities exist apart

from our knowledge or consciousness of them, the whole universe thus being dependent on the mind or in some sense mental.

It is therefore possible to regard idealism and realism as antithetical answers to the simple question: «does an external reality exist?» (see Figure 1).

In the negative case, the knowledge we presume to have of an external reality is nothing but an *invention* without any foundation, and the knowledge/reality relation is one of *coincidence*.

In the affirmative case, the possibility arises of knowing such external reality as a *reflection*, and the knowledge/reality relation can aim at being one of *correspondence*.

If one analyses these same positions in terms of the subject/object dichotomy, it appears clear that they are two monistic solutions (see Figure 2).

Idealism represents a radical form of *subjectivism* to the extent that it regards subject as the prime cause and the foundation of object. This kind of subjectivism cannot escape falling into solipsism.

On the contrary, according to realism the object precedes and embraces the subject. To the extent that the world of subjective experience corresponds to a set of organic processes, *objectivism* leads to reductive materialism.

A complex philosophical endeavor to transcend the realism/idealism dichotomy on the basis of a different conceptualization of the subject/object relation is represented by the phenomenological program (Husserl, 1954). We envision a similar endeavor in the psychological constructivism, particularly in that one that we shall define as hermeneutic constructivism.

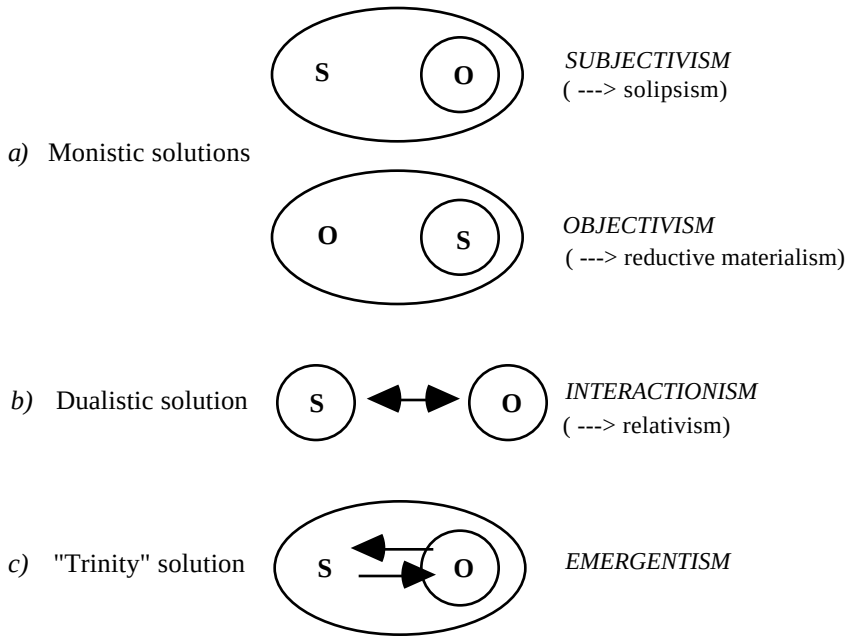

FIGURE 2 Different ways of conceptualizing the subject/object relation.

Knowledge as Representation of Reality

Since its beginning the "cognitive revolution" — putting back knowledge at the center of psychological inquiry — rejected the possibility of a correspondence with reality.

In fact, according to the cognitive research program founded on computation as the dominant metaphor, cognition consists in the elaboration of information, in the manipulation of symbols according to rules. Thus, a cognitive system is working well when symbols adequately represent some aspects of the real world, that is, when a good *representation* of reality is realized. A *critical* form of *realism* prevails against a *naïve* one, and a relation of *symmetry* between knowledge and reality takes the place of correspondence.

The cognitive approach to knowledge does not represent, therefore, an actual overcoming of the realism-idealism opposition. The activity attributed to the person in the process of "construction" of reality is limited to operations of collection and processing of inputs coming from out there[1]. It is the type of constructivism that von Glasersfeld (1974) names *trivial constructivism*, in opposition to the *radical constructivist epistemology* that he sees as the foundation of Piaget's theory of cognitive development.

Knowledge as Construction of Realities

Piaget's Radical Constructivist Epistemology

According to Piaget (1967/1971), "the essential starting point . . . is the fact that no form of knowledge, not even perceptual knowledge, constitutes a simple copy of reality, because it always includes a process of assimilation to previous structures" (p. 4). Following this process of integration, previous structures can remain unchanged or undergo a more or less deep modification, but without discontinuity with the previous state; that is, without being destroyed, but adapting themselves to the new situation.

The notion of adaptation thus implies that the development of knowledge is a recursive process, being founded on previous individual's knowledge (and therefore simultaneously constrained by this). For instance, the early structures the child acquires at the sensory-motor level represent the basis of many further operational structures.

According to von Glasersfeld (1982), however, the Piagetian notion of adaptation is often misunderstood in such a way that the more traditional view of knowledge as representation of reality is maintained. That is, it is easy to understand "cognitive adaptation" as the generation of knowledge that corresponds more and more closely to an external world[2]. But knowledge, for Piaget, is tied to action, and its function is not to describe or iconically to replicate the environment.

[1]Neisser's approach is sometimes regarded as alternative to the computational model and more constructivist. In fact, in his *Cognitive Psychology* Neisser (1967) states that the particular approach he is personally interested in has as a central point the belief that seeing, hearing and remembering are acts of construction making greater or lesser use of sensory information according to circumstances. In his second, important contribution to cognitive psychology, meaningfully titled *Cognition and reality*, Neisser (1976) however revises — or, maybe, specifies — his constructive approach, making clear its definitely realist assumption. In fact Neisser regrets that "some theorists have interpreted [his] constructive theory" so as to lead "rapidly to a sort of 'perceptual relativism' in which everyone's view of the world is by definition as accurate as everyone else's" (pp. 30-31). Not only does Neisser reject this conclusion, but he goes so far as to regard the notion of "construction" as almost superfluous and dispensable since it does not succeed in explaining the veridicality of perception. In fact, Neisser holds, "if percepts are constructed, why are they usually accurate? Surely perceiving is not just a lucky way of having mental images!". His answer is that "the information must be specific enough in most cases to ensure that the constructed percept is true to the real object" (pp. 17-18). And such information — in line with Gibson's (1979) view, and with regard to seeing, the most important source of knowledge of the physical world — is in the light.

[2]Also Salmon (1970), after having outlined the many points of similarity between Kelly and Piaget, warns that "In their philosophical assumptions, Piaget and Kelly stand far apart. Piaget's theoretical account rests on an absolutist view of truth. Assimilation, one half of the adaptation process, is defined as shaping outer reality to the inner conceptual world, while accommodation, the other half, represents a modification of the inner world to fit the demands of outer reality. Underlying such an account is the assumption that a person can directly experience pure reality and can distinguish between this and his inner conceptual world" (p. 214).

In order to avoid such easy misinterpretation von Glasersfeld (1977, 1980, 1982) has repeatedly suggested that one should replace the misleading connotation of "adaptation" by the term "viability".

> From the organism's point of view, on the biological level as on the cognitive one, the environment is no more and no less than the sum of constraints within which the organism can operate. The organism's activities and operations are successful when they are not impeded or foiled by constraints, i.e., when they are viable. Hence it is only when actions or operations fail that one can speak of "contact" with the environment, but not when they succeed. (1982, p. 615)

Consequently, "the 'real' world manifests itself exclusively there where our constructions break down" (1984, p. 39).

The opposition between the trivial and the radical constructivist view of knowledge is made clear by von Glasersfeld (1984) by pitting the words *match* and *fit* against one another. The metaphysical realist — such as the trivial constructivist — "looks for knowledge that *matches* reality in the same sense as you might look for paint to match the color that is already on the wall you have to repair" (p. 20). But if we say that something *fits*, we have in mind a different relation: "a key fits if it opens the lock. The fit describes a capacity of the key, not of the lock. Thanks to professional burglars we know only too well that there are many keys that are shaped quite differently from our own but which nevertheless unlock our doors" (p. 21).

An even more clarifying analogy refers to the relation between the river and the landscape (von Glasersfeld, 1985).

The river forms wherever the landscape allows the water to flow. There is a continuous and subtle interaction between the inner "logic" of water — for instance the fact that it must form a horizontal surface and cannot flow upward — and the topology of territory. Both of them impose constraints to the water-course, and do it in *inseparable* way. In no case one could say, for example, that the river turns to the right "because" there is a hill *without implicitly presupposing* the logic of water that prevents the river from flowing upward. Therefore the river does not "represent" the landscape, but "fits" in it, in the sense that it finds its course *between* the constraints that impose themselves not from the landscape or from the logic of water, but always and necessarily from the interaction of both the aspects.

The reference to a relation of complementarity between knowledge and reality can be found in Piaget (1973) when he states that "knowledge does not begin in the I, and it does not begin in the object; it begins in the interactions. . . . There is a reciprocal and simultaneous construction of the subject on the one hand and the object on the other" (p. 20)[1].

Bruner's Possible Worlds

In the attempt at steering cognitive psychology towards its very early object, that is, meaning and its construction rather than information and its elaboration, Jerome Bruner (1986, 1990) accepted Nelson Goodman's (1976, 1978, 1984) "constructivist" philosophy. We regard it as another version of radical constructivism. According to that, "there is no unique 'real' world that preexists and is independent of human mental activity and human symbolic language; that what we call the world is a product of some mind whose symbolic procedures construct the world" (Bruner, 1986, p. 95).

[1]This feature of complementarity is redolent of phenomenological themes, for example Merleau-Ponty (1945/1962): "The world is inseparable from the subject, but from a subject which is nothing but a projection of the world; the subject is inseparable from the world, but from a world that the subject him/herself projects".

The worlds we create may arise from the cognitive activity of the artist, or in the sciences, or in ordinary life. Such worlds have been constructed, but always out of other worlds, created by others, which we have taken as given.

> We do not operate on some sort of aboriginal reality independent of our own minds or the minds of those who precede or accompany us. . . .
> On Goodman's view, then, no one 'world' is more 'real' than all others, none is ontologically privileged as the unique real world. (Bruner, 1986, p. 96)

We shall comment upon Bruner's constructivism in a later section.

Radical and critical constructivism according to Mahoney. The difficulty in transcending the realism/idealism opposition is clearly illustrated by Mahoney's comment on von Glasersfeld's interpretation of Piaget. According to Mahoney (1988a), in fact, von Glasersfeld's radical constructivism is "basically indistinguishable from 'idealism'" in that it denies the existence of any reality. Mahoney opposes to it a *critical constructivism* which does not deny the existence of a real physical world, although acknowledging our limitations to its knowledge (p. 4). Mahoney's critical constructivism, however, in our opinion is indistinguishable from critical realism. Mahoney himself, after all, says that "*critical constructivists* . . . are essentially 'realists', albeit 'hypothetical, critical, or representational realists'" (p. 4).

This distinction rests on an evident misunderstanding. When von Glasersfeld (1981/1984) states that "radical constructivism . . . is *radical* because it breaks with convention and develops a theory of knowledge in which knowledge does not reflect an 'objective' ontological reality, but exclusively an ordering and organization of a world constituted by our experience" (p. 24), he is referring to the *objectivity of knowledge*, not to the *existence of an ontological reality*. After all the notions of *fit* — that is, of *adaptation* among the constraints of experience — and of *viability* refer directly and clearly to a reality. Kenny and Gardner (1988) point out correctly that "both Kelly and von Glasersfeld indicate the existence of two 'realities', that of extralinguistic reality and that of the constructed experiential reality of the subject" (p. 16). Both of them, in other terms, envision an interaction between the subject and the object of knowledge. Von Glasersfeld (1991) himself has subsequently made clear that "constructivism deals with *knowing* not with *being*. . . . As a constructivist I have never said (nor would I ever say) that there is *no* ontic world, but I keep saying that we cannot *know* it" (p. 17).

Anyhow, on the basis of his (mis)understanding, Mahoney considers Kelly and the most of contemporary constructivists as critical constructivists. This allocation appears to us as an unjustified trivialization of PCT. On the contrary, we agree with Kenny and Gardner (1988) who envision in PCT a form of radical constructivism; and, in this connection, von Glasersfeld's elaboration of radical constructivist epistemology can help in defining and tightening Kelly's constructivism. But, more than this, we believe that PCT in its original formulation already had the potential — not yet fully developed — for aligning itself and giving its powerful contribution to the more explicitly social-oriented, avant-garde constructivism.

Knowledge as Specification of Domains of Reality

Mahoney's accusation of idealism would require a more complex answer if it were applied to such a kind of constructivism represented, among others, by Maturana and Varela, that Mahoney associates improperly with von Glasersfeld. Mahoney does not even take social constructionism into account. If he had done it, we think that he would have move to it the same kind of criticism. In fact, according to both the views, there is no independently existing reality.

Given that it is possible to find a similar approach to the knowledge/reality relation in the speculations of phenomenological and hermeneutic philosophers such as Heidegger, Husserl, Gadamer, Merleau-Ponty, Foucault, Habermas — and Maturana and Varela as

well as the social constructionists make frequently reference to them —, we like to define such a type of constructivism as *hermeneutic constructivism*.

Maturana and Varela's "Bringing Forth" Paradigm

Reality, in the words of Maturana (1978), is "a domain specified by the operations of the observer" (p. 55), being an observer

> a human being, a person, a living system who can make distinctions and specify that which he or she distinguishes as a unity, as an entity different from himself or herself that can be used for manipulations or descriptions in interactions with other observers. An observer can make distinctions in actions and thoughts, recursively, and is able to operate as if he or she were external to (distinct from) the circumstances in which the observer finds himself or herself. Everything said is said by an observer to another observer, who can be himself or herself. (p. 31)

Maturana and Varela arrive to this ontology of the observer starting from a biological conceptualization of living systems as autonomous systems — that is, systems defined as a unity by their organization — characterized by the "autopoietic organization"[1]. The structure of the system realizes this organization and specifies the domains of perturbations, that is, what can interact with it. As long as a living system does not enter into an interaction destructive of its organization, we as observers will necessarily see between the structure of the environment and that of the living system a compatibility or congruence. As long as this compatibility exists, environment and living system act as mutual sources of perturbation, triggering structural changes: that is, there is a "structural coupling" between them, allowing "adaptation".

When an human organism enters into structural coupling with other human organisms, it is possible that their interactions acquire in the course of their ontogeny a recurrent nature. The co-drifting organisms give rise to a new phenomenological domain. Within this consensual domain, linguistic behaviors and human consciousness (and therefore observers) can emerge as products of recursive consensual co-ordinations of actions.

Cognition is thus a phenomenon that emerges as a kind of realization of the autopoietic organization of living systems, and is constitutive of their being.

> Every interaction of an organism, every behavior observed, can be assessed by an observer as a cognitive act. In the same way, the fact of living — of conserving structural coupling uninterruptedly as a living being — is to know in the realm of existence. In a nutshell: to live is to know (living is effective action in existence as a living being). (Maturana & Varela, 1984/1987, p. 174)

The usefulness for PCT of Maturana and Varela's comprehensive theoretical construction seats, in our view, in its invitation to consider that (a) there is the possibility of giving up the idea of the existence of an ontological reality without falling into idealism; (b) personal knowledge is constitutive of the person: that is, a person does not *have* a construct system, but *is* a construct system; (c) personal development occurs necessarily in social interactions: the personal and the social dimensions are inextricably intertwined. All these issues are present in Kelly's theory, but not adequately considered and elaborated by personal construct psychologists. Furthermore, we feel that a consideration of cognition as a biologically rooted phenomenon within a strictly constructivist framework can help in making clear the relation between core constructs and mainte-

[1] "Autopoiesis" is a word composed of the Greek words for "self" and "to produce". In fact, autopoietic systems are defined as "a class of dynamic systems that are realized, as unities, as networks of productions (and disintegrations) of components that: (a) recursively participate through their interactions in the realization of the network of productions (and disintegrations) of components that produce them; and (b) by realizing its boundaries, constitute this network of productions (and disintegrations) of components as a unity in the space they specify and in which they exist" (Maturana, 1978, p. 36).

nance processes within a personal construct system that, in our opinion, is vaguely defined in PCT. We shall come back to this particular aspect later on.

The Social Construction of Reality

The recognition of the role played by language in the discourse about the world is at the basis also of the social constructionist movement (Gergen, 1985). Within this movement, in fact, references to the theses of von Glasersfeld, von Foerster, Maturana and Varela are not rare, so much so that the term "constructivism" is also used in referring to it. The term "constructionism", however, is preferred by the Authors that want to stress the differences between the constructionist and the constructivist approaches and emphasize a linkage with Berger and Luckmann's (1966) seminal volume *The Social Construction of Reality*[1].

The main difference, according to Gergen and Gergen (1991) consists in the persistence of a subject/object dichotomy in the constructivist approaches. From the perspective of the social constructionist stance,

> it is not the cognitive processing of the single observer that absorbs the object into itself, but it is language that does so. Accounts of the world (in science and elsewhere) take place within shared systems of intelligibility — usually a spoken or written language. These accounts are not viewed as the external expression of the speaker's internal processes (such as cognition, intention), but as an expression of relationships among persons. From this viewpoint, it is within social interaction that language is generated, sustained, and abandoned. . . The emphasis is thus not on the individual mind but on the meanings generated by people as they collectively generate descriptions and explanations in language. (p. 78)

In our opinion, this distinction applies correctly to radical constructivism, not to the approach of Maturana and Varela that Gergen and Gergen associate to von Glasersfeld.

We shall see later on that social constructionism represents a conceptual point of reference for the social psychologists and psychotherapists that have adopted a hermeneutic perspective and that make use of the notion of narration[2].

ANTICIPATION, SELF-ORGANIZATION, AND STRUCTURAL DETERMINISM

[...]

CONSTRUCTS, SYSTEMS, AND COMPLEMENTARITY

[...]

IDENTITY, SOCIALITY, AND THE MIND/BODY PROBLEM

[...]

MAN AS A SCIENTIST AND THE NARRATIVE APPROACH

[...]

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[1]At present, Harré (1979, 1983), Gergen (1982; Gergen & Davis, 1985) and Shotter (1984; Shotter & Gergen, 1989) are the main representative of the social constructionist movement.

[2]See for instance the volume edited by McNamee and Gergen (1992).

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Per una versione completa e riveduta della relazione si veda:

Chiari G., Nuzzo M. L., *Personal construct theory within psychological constructivism: Precursor or avant-garde?* In Walker B. M., Costigan J., Viney L. L. & Warren B. (eds.), *Personal construct theory: A psychology for the future* (pp. 25-54). Sydney: The Australian Psychological Society

Per un approfondimento dell'argomento si veda:

Chiari G., Nuzzo M.L., Psychological constructivisms: A metatheoretical differentiation. *Journal of Constructivist Psychology*, *9*, 163-184

Per una trattazione dell'argomento in lingua italiana si veda:

Chiari G., Nuzzo M. L., Le basi epistemologiche delle psicoterapie cognitive. In B. G. Bara (a cura di), *Manuale di psicoterapia cognitiva*. Torino: Bollati Boringhieri