Constructivist Realism: An ontology that encompasses positivist and constructivist approaches to the social sciences

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Abstract: It has been argued that positivist and constructivist ontologies are irreconcilable. According to LINCOLN and GUBA (2000), positivism's "naive realism" holds that reality is both "real" and "apprehendable," whereas constructivism maintains that meaning is generated by individuals and groups. This analysis implies that the quantitative and qualitative methodologies associated with positivism and constructivism, respectively, are also incommensurable. In this paper, constructivist realism is proposed as an alternative ontology that accommodates positivism and constructivism and the methods that they sub tend. The first step is to acknowledge a social world (or worlds) that is reflected in the natural attitude of daily life and exists prior to and independent of either positivist or constructivist analysis; hence realism. Phenomena are understood as processes which cut across the physical, social, and personal (self) worlds. Qualitative and quantitative researchers examine these phenomena, offering rich descriptive accounts or precise analyses of functional relations, respectively. It is assumed that both approaches to research practice face the problem of constructing "data" and are therefore subject to potential bias. While description has traditionally been viewed as preceding hypothesis testing (i.e., natural history precedes hypothesis testing), the two approaches are viewed here as complementary and in parallel. Qualitative methods offer an in-depth account of underlying processes and can help frame hypotheses that test specific functional relationships, while empirical findings related to processes can suggest areas which might benefit from detailed descriptive examination.

1. Theory

The central goal of this paper is to demonstrate the complementary roles played by quantitative and qualitative methods in the analysis of social phenomena. Quantitative and qualitative methods are generally practiced by scholars from radically different disciplines and it is assumed "that the claim of compatibility, let alone one of synthesis, cannot be sustained" (SMITH & HESHUSIUS 1986, p.4). LINCOLN and GUBA (2000) have similarly argued that the ontological foundations of positivist and interpretivist paradigms that underlie these methods are fundamentally incommensurable. The basis for this argument is revealed in their account of the "Basic Beliefs (Metaphysics) of Alternative Inquiry Paradigms." Positivism's ontology is termed "naive realism"—reality is deemed
both "real" and "apprehendable," while postpositivism's "critical realism" maintains that "real" reality is "probabilistically apprehendable." LINCOLN and GUBA reject any absolutist criteria for "judging either 'reality' or validity" (p.167). Critical theory offers "historical realism," a "virtual reality shaped by social, political ..., and gender values; crystalized over time" (p.165). Finally, constructivism represents "local and specific constructed realities" (p.165) wherein social phenomena are products of "meaning-making activities of groups and individuals" (p.167). [1]

To build bridges between different social ontologies, we must engage in a transcendental act of reflection and look for similarities in the midst of supposed differences. On face value, positivism holds that the observer is separate from the observed and that findings are "true," whereas constructivism is transactionally oriented with its findings subjectively tinged and "created" (LINCOLN & GUBA 2000). But if physical scientists acknowledge HEISENBERG's principle that phenomena are transformed in the act of measurement, then the positivist observer is never really independent of the phenomenon under investigation. Similarly, the principle of indeterminacy holds that events in the world are open-ended and, hence, one cannot account for all the variance in a given episode, physical or social. So positivist scientists are well aware of the fact that they are not independent of a world that cannot be fully predicted. [2]

On the other hand, in discussing "orienting to the phenomenon," BEACH (1990) argued that the "social order, evident in and through the detailed and contingent activities of societal members, exists independently of social scientific inquiry (p.217). Thus, even while individuals and communities might construct interpretations of events that reflect relative values and interests, the underlying phenomena do not rely on them for existence. Both positivist and constructivist researchers are therefore engaged, though they responsibly endeavor to develop principles and accounts which are not restricted by arbitrary biases. The researcher is in-the-world at each stage of a project, shaping it and being shaped by phenomena in it, and by pressures from communities of scholars. [3]

A reconciliation of positivism and constructivism can only be accomplished by eliminating the arbitrary boundaries and assumptions that separate them. Getting rid of concerns about truth and apprehension is a good place to start. Constructivists take for granted the notion that truth is relative to individuals and communities. But what about "scientists"? While they may be in search of first principles of "nature," scientists also know that individual events are indeterminate and that theories are always being replaced over the course of time. Therefore the notion of "truth" may be a hold over of religious concerns about ultimate realities which are knowable only by deities. Social scientists need not have such pretensions and can be forgiven if they place truth to the side and get on with their business of understanding and relating to the natural and social worlds. [4]

The notion of apprehension reflects the epistemological constraints of British Empiricist philosophy with its emphasis on experience and abhorrence of nativist
ideas. Accordingly, knowledge of the world passes through a linear model in which sensory data mediate between objects and contents of the minds. But even here expectations play an important role, as HELMHOLTZ pointed out with his concept of unconscious inference. It was opposed by what has been termed the "act approach" in psychology (see BORING 1950), which encompasses ideas about mental faculties going back to AUGUSTINE, French and German rationalism, and cognitive operations of 20th century scholars. The act model is more appropriate where judgment is needed to resolve problems of meaning. Negotiating a room on the way either to food or an exit is a problem for surface sensory analysis of visual information. Negotiating a conversation entails deeper linguistic and interpretive analyses. One can therefore speak about modes of apprehension and shift between examination of the contents of the mind that are culturally acquired and the form of the mind which determines how they are apprehended and preserved. [5]

Even the concept of validity need not isolate the positivist and constructionist scholarly communities. Both communities express a concern for ecological validity, the extent to which a finding meaningfully reflects an event or process in the world. Both also bear the burdens of their doctrinal commitments. In the case of positivism, precise operational definitions can so deplete a phenomenon of its richness and texture that it all but disappears in the rush to actuarial prediction. On the other hand, constructionists can so link a phenomenon with a particular interpretive context that it runs the risk of being isolated within collective solipsism. The two communities therefore have different albatrosses dangling from their epistemological necks. In the case of positivism, measurement can transform meaning into nothingness. For constructivists, the priestly use of impenetrable language can generate meaning, but only for the initiated. [6]

Inquiry can be treated as a kind of action (NELSON, MEGILL, & McCLOSKEY 1987) engaged in by researchers in the process of generating knowledge. This systematic and systemic activity extends to all phases of the research project, from the noticing of a phenomenon, to framing the research problem, decisions about method, the collection and analysis of data, the interpretation of findings and their communication in oral and written forms, and reflections on the outcome of the project both by the researcher and various audiences. Reconciliation must begin with a shared notion of social phenomena in-the-world and therefore of what is "real." Just as people can share the "facts" of everyday "reality," even while differing in interpretations of their meaning, positivist and constructivist "realities" are not necessarily foundationally incompatible. [7]

We confront the problem of what is real, and how we know or act in relation to it, in everyday life and in philosophy of the social sciences. Not surprisingly, it appears easier to address the nature of "reality" in everyday life than in philosophy. If you were to ask people on the street for examples of what is real, they could readily respond. Giving birth is real. Catching AIDS is real. Being left by someone you love is real. Getting tenure (or not) is real. So the standing of what is real does not appear to necessarily challenge people. It is real enough when a context is clear. In daily life, we frequently ask ourselves: "Is it real or
simply a figment of my imagination?" We can wonder whether or not a comment was said in jest or if an offer of assistance was sincere. Does so and so "really love me" or is it simply "wishful thinking"? Similarly, people are aware of intense states of subjectivity. "I liked the movie very much even though you hated it!" "I like that painting and I want it, and I'm paying for it!" "But, this is our house, so where are you planning to hang it? I hate it!" [8]

The juxtaposition of objective fact with subjective opinion is something that we struggle with both as children and adults. People of "good judgment" can generally parse the social world in an accurate manner, correctly attributing causal influence to worlds outside and inside the self. Pragmatic wisdom dictates that the two domains interact: suggestions that arise in the external world meet connections in the self. Accommodation to possible shared meanings is never far from the projection of idiosyncratic personal meaning. In short, the boundaries between outside and inside are illusory and predicate a dichotomy between external physical objects and correlated sensory knowledge; a distinction that does not readily generalize to a social world of hearts and minds. [9]

People as individuals or as researchers live in a common world or common worlds. Locally we can distinguish a number of worlds that exist in parallel, including: the physical world of animate and inanimate objects, the social world, and the personal world of the self. A positivist scholar and his constructivist neighbor next door will be in full agreement regarding physical events which confront them both, such as the unexpected arrival of 20 cm of snow. They may even agree about the reality of having a difficult neighbor who consistently fails to shovel the sidewalk in front of his house. But the level of shared experiences diminishes as we move from the physical burdens of weather to the social realities of neighbors and the personal realities of feelings and memories of neighbors-past. [10]

My point is simply this. Worlds are multilayered with many levels of interacting structures ongoing simultaneously. Phenomena are physical or social events, or episodes, that take place in the world, apprehended by some or all, and which are more clearly explained or understood when placed in appropriate contexts that brings them into sharp relief. Physical phenomena can exist without human apprehension but they only become meaningful events, in the sense of influencing action, when noticed or observed by a group of people, however small. Social phenomena are contextualized events which are perceived intersubjectively and defined as such. Phenomena are therefore events that unfold and recur in the flow of time and are only meaningful when understood in context; they are processes and not essences. [11]

In the social world, phenomena are difficult to observe because they are not restricted to sense-data but involve the application of judgment. To the extent that phenomena are embedded in the Eigenwelt (i.e., world with the self) or the Mitwelt (i.e., world with others), they tend to be incorporated into the habitual "natural attitude" and are taken for granted. In order for an event to take on the quality of a salient phenomenon, it must be perceived as possessing a coherent
structure and observed against a social or physical background. For example, the domination of one group over another only becomes a phenomenon when it is seen against the background of non-domination. To the extent that the practice is habitual within a society and the alternative is not given consideration, then the notion of domination and its negative implications will neither be observed nor understood. A social phenomenon is born when recurring social events are noticed inter-subjectively by a subset of members of a society and a context of understanding is sought out. Viewpoint enters in when an effort is made to attach meaning to the event. In this manner, the seal hunt is seen by aboriginals as a source of food and income, and as a form of torture by animal rights activists. But these same activists might return from a protest march to their comfortable homes not thinking about the impoverished labourers in Asia who made their clothes or furniture. The boundaries of awareness can be quite self-serving. [12]

An abstract account of a phenomenon places it within an intellectual framework or nexus of general ideas and exemplary instances. The intellectual framework therefore stands in a complementary relationship with the phenomenon. The phenomenon can only be discerned in relation to an intellectual framework, but the phenomenon in turn provides an opportunity to both elaborate and clarify the theory. It cannot exist without a collective mind that apprehends it against some kind of intellectual background (i.e., context). At the same time, a mind that cannot perceive patterns, similarities, or repetitions is lost in a concrete and arbitrary solipsism, and cannot engage in abstraction. [13]

A productive theory is one that balances abstract ideas against the particularity of relevant events. Such a theory summarizes across instances of individual historical episodes, while fostering predictions pertaining to the timing and qualities of future ones. In a sense, a productive theory is like a lens which, when interposed between the viewer and particular instances of a phenomenon, permits a closer look at their various qualities without distorting them. While theory is at first grounded in observational data, whether of a direct sensory or mediated-instrument origin, mature theorizing searches for coherence among the various concepts and propositional assertions. This fosters clarity and parsimony, the aesthetic hallmarks of a coherent theory. [14]

Both positivists and constructivists can orient toward social phenomena that exist independent of their scholarly disciplines. These phenomena do not rely on either group for their existence. Consequently, as members of a society they can agree on the existence of these phenomena and, therefore, on a shared reality that is prior to them. But the way that scholars parse these phenomena and explicate their underlying processes will depend on different goals. Positivists have a greater interest in uncovering specific functional relationships between operationalized variables; it is the predictability that counts most. Constructivists will be more interested in describing the coherent structure of a multilayered phenomenon; this strengthens the fabric of understanding. [15]
2. Method

Positivist and constructivist ontologies underlie quantitative and qualitative methods, respectively. It was argued above that the two ontologies represent different ways of approaching real phenomena that are not predicated on them. Quantitative and qualitative methodologies also share something in common when it comes to examining these phenomena. They are deconstructive when it comes to disturbing the fabric of natural unfolding episodes in the social world. Somehow the flow of events in everyday life is stopped or segmented off and turned into an object or subject of inquiry. Both approaches deal with data, which means that they break the flow of events in the social world and selectively focus on this or that action, utterance, or behavior of individual respondents or subjects. Something becomes the subject or object of inquiry and this selectivity is an immediate source of bias and distortion. This act of segmentation, whether by a "detached" experimenter in the laboratory or an "engaged" interviewer, is always selective. In the laboratory situation, selection is a function of the manipulated and measured variables. In the interview situation, the data are constrained by the setting and the very questions that are posed. In other words, the "raw" materials that constitute data are always shaped by the researcher. [16]

At the same time, the two approaches bring distinctive qualities to the research process. The qualitative approach is holistic in orientation, treating the phenomenon as a whole system and searching for patterns that lie within its bounds. This effort after meaning is exhaustive and incorporates as many episodes as possible to appreciate the ways that different parts of the structure affect each other. A coherent account of the dynamics of social process is one that accommodates the greatest number of individual episodes. It reflects an empathic understanding as if the structure of the social world is seen through the eyes of its participants. Taking the roles of others lends a phenomenological grounding to understanding the dynamics of the social world. The process is constructive in that meaning is generated from a world that is observed and understood by scholars who generally come from outside it. [17]

The quantitative approach in psychology is analytical in orientation and, while it acknowledges the facticity of social phenomena, it fractionates them and reduces them to simpler and more or less analogous models. Given that individual variables are isolated and operationalized, the process is self-terminating (rather than exhaustive) once a critical list of variables is determined. For example, the process of "help-giving" has been variously reduced to adherence to salient social norms, guilt, or mimicking a helping role model. While greater precision is derived from this kind of simplification, many aspects of the phenomenon are neglected. In this approach to research, attention is focused on only one facet of the problem and the resulting findings are primarily actuarial. For example, one can conclude that the simple presence of words denoting positive affect in autobiographical narratives is highly predictive of long term mental and physical well-being (STEIN, TRABASSO, & ALBRO in press). In this case, affect words are not located within a framework of existential or phenomenological meanings, but reside, instead, in the domain of functional relationships. [18]
This is a derived world, an abstracted world, one that is real for the quantitative psychologists who reside in it and share a common operational language. To the extent that laboratory procedures and experimental paradigms generate conditions for observed effects, they become the plane of observation and the given for the researcher. Debate surrounds parametric variations of the critical stimulus conditions for producing variations in judgment speed or accuracy. A rhetorical strategy of exclusion is used to eliminate alternative explanations for simple effects. With an emphasis on productivity to ensure advancement within the field, the experimental paradigm can become functionally autonomous, floating free of its original mooring in ecologically meaningful processes. Reference to the original phenomenon that first attracted the community of researchers may be lost. Assumptions underlying the paradigm are never fully explicated in the search for simple functional relationships. In short, conditions are ripe for a modern form of scholasticism involving carefully orchestrated conditions yielding data which are internally consistent but lack external reference. The essential attitude and limitations of analytical philosophy is well represented in cognitive psychology. [19]

BAZERMAN (1987) has shown how the "official style" of rhetoric favored by the Publication Manual of the American Psychological Association reveals a movement away from explicating phenomena and toward digressions into operationalization. In early research journals, such as Psychological Review, researchers "reveal themselves as problem-solving reasoners ... deriving the methods from the nature of the phenomena to be investigated" (BAZERMAN 1987, p.131). In these experiments, "the true object of inquiry remained internal phenomena" (p.133) with the subjects as active participants (DANZIGER 1990), skilled at introspection, and designated in the text by their initials. [20]

With the development of behaviorism, "authors emerge as reasoners and persuaders" (BAZERMAN 1987, p.135) and the "audience ... is invited to choose sides, not just between ideas, but between persons: Watson and Freud" (p.136). As the behavioral program became predominant, and with the appearance of the first APA style sheet in 1929, there was increasing formalization of discourse about research. "By 1950 statistical talk ... becomes a standard part of the results section ... Instead of a reasoner about the mind, the author is a doer of experiments, maker of calculations, and presenter of results" (p.138). We discover that "the main rhetorical function of the methods section is not to present news or innovation ... [but] ... to protect the researcher's results by showing that the experiment was done cleanly and correctly" (p.138). In short, "the methods section no longer serves as an intellectual transition between the problem and the results ... The results become the core of the article" (p.138). [21]

Over time, "Articles tend to be treated as accumulated facts; literature reviews in the articles tended to lack synthesis, problem-orientation, or interpretation" (p.139). Therefore, the goal of research and the description thereof becomes "incrementalism," the mere accruing of facts. The most important point is this: "The confirmation of a single descriptive statement replaces the examination of a large phenomenon from a number of angles" (p.140). Consistent with this is the
emphasis on technical vocabulary and specialized knowledge. Readers "are presumed to be looking for additional bits of knowledge to fit in with their previous bits" and a critical emphasis is placed on finding fault and determining whether or not a fact represents a contribution. Authors must "display competence to the audience rather than persuade readers of the truth of an idea" (p.140). In sum, "The APA manual still serves basically as a codification of behaviorist rhetoric" and "the chaos of intellectual differences is eliminated" (p.141). [22]

BAZERMAN has provided a clear account of how positivist psychology could end up seeming irrevocably alienated from an interpretivist or hermeneutic perspective. But the radical forms of behaviorism, and isolated phenomena which are grounded in laboratory operations, rather than in observed phenomena in-the-world, do not readily bridge to any community outside of those committed to the set of operational definitions. At the same time, they are not more extreme than those postmodern scholars who interpret social phenomena against arbitrary contexts whose relevance is difficult to uncover. Only those committed to the socially grounded but doctrinal constructs can hope to understand the endeavor and its implications. How far is it from a commitment to positivist operational measures to a commitment to concepts of social criticism? There is room for ample arbitrariness in both domains. [23]

Ultimately, accounts of process require an abstract approach regardless of whether it is qualitative or quantitative in nature. From an abstract viewpoint, data cannot exist outside of an intellectual frame of reference. Further, the researcher must always be considered as the active agent who adduces the frame of reference and the attendant data set which are chosen in relation to it. In the case of the abstract-qualitative approach, this implies that discourse can only have meaning if a frame of reference is specified. The mere fact of collecting speech utterances does not imply that their meaning will be understood. It is a central idea in the constructivist approach to literature and aesthetics that meaning is polyvalent (SCHMIDT 1982) or multilayered (KREITLER & KREITLER 1972) and can therefore only be understood in context. Similarly, from a psychodynamic perspective, meaning cannot be derived from a single source (e.g., a dream) but only converged upon from a series of repeated images seen in a relevant life context. [24]

The constructivist perspective suggests several things which can advance the abstract approach to qualitative data collection. Since the process is ultimately interpretive, one can only hope for coherence in the analysis (MADILL, JORDAN, & SHIRLEY 2000); there can never be an absolute match between a prediction and a result. Coherence will be enhanced if there is a point of reference shared by the respondent and the researcher. Sometimes this point of reference is hidden, as when emotional dynamics make it difficult to uncover a critical and trauma context. A number of researchers have underscored the value of the semi-structured interview method about recent life events to get a clearer picture about the dynamics underlying social relations (BROWN & RUTTER 1966; HOFFMAN 1960). In essence, "the concentration on detail helps, by the touching-off of associations, the recall of the total picture" (BROWN & RUTTER 1966,
The research endeavor is further facilitated when the respondent and researcher have a shared point of reference. This event or "stimulus" should ideally be selected by the respondent because only then will its meaning be personally and phenomenologically derived. [25]

The abstract-quantitative "effort after process" approach explores relationships among different variables in a causal matrix. It must be stated from the outset that a mere comparison between two groups on a set of relevant dimensions (i.e., simple main effects) provides normative and therefore concrete information. The fact that one group scores higher than another is superficially descriptive and can be used to tag it as X, Y, or Z. This is the path of essentializing and stereotyping description, and leads to concrete and limited knowledge because it does not provide an account of underlying processes. Process can only be inferred by examining interactions among independent variables, thereby determining the boundary conditions for an effect or phenomenon. Why a phenomenon is observed in one context and not another provides a basis for reflection and theory construction. A rhetorical strategy of inclusion is one which specifies with increasing precision the circumstances (i.e., sets of conditions) under which a phenomenon occurs. [26]

On the issue of complementarity between the two approaches, it has generally been assumed that natural history precedes experimental science which implies that qualitative research precedes a quantitative hypothesis testing phase. A natural history involves the rich and in-depth description of observed phenomena, including observed patterns and relationships. Empirical science involves a particular attitude, one in which selected variables are abstracted from the overall phenomenon and their interaction is carefully observed, for example, by manipulating one domain and determining its effects on another one. To the extent that this abstracted set of variables is operationalized, the phenomenal plane of observation is replaced by an abstracted plane of observation. [27]

The notion of a qualitative-quantitative sequence is best replaced by one which views them as complementary. The sequence does not matter because the process is recursive and one approach feeds back into the other. While qualitative research is a rich source of data, it remains unclear as to how one arrives at firm conclusions. According to the principle of indeterminacy, it is impossible to determine the "true" or final meaning of any single event. Quantitative research, on the other hand, involves precision and can yield statistically significant effects, but their meaning and ecological validity are open to question. [28]

If the two approaches offer complementary views of the social world, this implies that richness can enhance precision because the in-depth account encompasses more information, while a focus on precision can lead to a clarification of basic concepts. The thick descriptive data produced by qualitative research can shape the choice of variables in quantitative research. Reciprocally, the effects derived from experiments can help reframe the problem and provide a new focus for in-depth descriptive study. The potential interplay between these two approaches
implies that in fact they share many qualities in common as part of the research enterprise. Thus, in a very positive way the two approaches are both constructive, because they create data, and mutually constitutive reflecting the challenging interplay between words and "variables." [29]

3. Conclusions

*Constructivist Realism* is therefore a position which acknowledges that social phenomena exist in communities quite independently of professional researchers. These *real* phenomena will be observed and named by members of the natural community, and understood by experienced or wiser people of good judgment. Scholars can approach this *real* world each in their own way. An empathic approach would be one in which an attempt is made to understand these phenomena holistically and from the perspective of the participants. It is here that a qualitative method can be used to exhaustively tap all perspectives. But, to the extent that the scholar comes from outside the community, there will be speculative leaps in the search for a coherent account of the phenomenon. A sympathetic approach involves an expression of interest in the community and a sincere desire to work productively with its *real* phenomena. The questions asked are more limited and external to the social system and the quantitative models that are brought to bear are but a pale shadow of the original phenomenon. Precision is gained but at the loss of subtlety. [30]

Both types of scholars are selective of their facts and ultimately engage in acts of construction. Both begin with a concrete world and step into another world of abstraction. The same criterion of value can be applied to both kinds of constructions. If we hold the *real* social phenomenon in one hand with an extended arm and interpose our theoretical accounts with the other hand, as lenses focused on the phenomenon, is it brought more clearly into view? If our abstract concepts do not account for patterns in the lived-world then our theories lack in value, however they are derived. But if the in-depth examination of a phenomenon helps clarify patterns that lie within it and these patterns are formally described, then the qualitative and quantitative approaches will have done their duty; richness and precision will have complemented each other. [31]

I have argued in this paper that the fundamental goal of social research should be to reveal the processes that underlie observed social phenomena. Social phenomena are multilayered events as is the inquiring mind of the social scientist. Qualitative method should not be seen as providing access to the "meaning" of individual events, texts, and so on. Rather, understood within the tradition of observation in natural history, qualitative method provides a basis for "thick" description. This rich source of data is most productive when it focuses on events or episodes in which the phenomenon in question is well represented. To the extent that the interviewer and the respondent share an ongoing reference point, it makes it easier to locate the respondent's concrete discourse in a meaningful abstract theoretical context of interest to the interviewer. This enhanced intersubjectivity provides a basis for reconciling the problematic of realism-relativism in a "grounded" fashion (RENNIE 1995; 1998; 2000). [32]
Quantitative method can yield insights to the extent that evocative stimuli design are presented to relevant groups and the resulting statistical interactions help tease out the underlying processes. Statistically significant effects can draw our attention to socially meaningful events which are then re-examined in descriptive depth. This interplay between descriptive richness and experimental precision can bring accounts of social phenomena to progressively greater levels of clarity. Together, qualitative and quantitative methods provide complementary views of the phenomena and efforts at achieving their reconciliation can elucidate processes underlying them. Constructivist realism is an ontological position that accommodates the best of positivism and interpretivism.¹

Acknowledgments

The author would like to thank David RENNIE and Andrew WINSTON for their helpful comments on an earlier draft of this manuscript. The helpful editorial comments and suggestions of Margrit SCHREIER and Nigel FIELDING were very much appreciated.

References


¹ Constructivist realism in this sense should not be confused with "constructive realism," which holds "that the results of science should be understood as constructions rather than descriptions" (WALLNER 1994, p.11), generated by "procedures" that produce microworlds.


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**Citation**


Revised 7/2008