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Knowing without metaphysics and pretensiousness. A Radical Constructivist proposal.

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The initial question for this paper is: why do the sciences in general, and archaeology in particular, present themselves as serious enterprises? I can see at least two reasons for scientific seriousness.

(1) Scientists deal with very serious issues. Scientists gain knowledge about things such as the laws of nature and the nature of human beings. A commentator remarked that one essential task of scientific knowledge is "putting the universe into words" (Callon 1995: 35). Scientific knowledge can also be of great seriousness when it is applied, e.g. in industry, in the military, or in politics. A good example for the latter is provided by the recent British beef scare where experts with different opinions influenced the policies of different countries. Moreover, science itself is a serious business. Scientists compete with each other about things as serious as money, power and fame. Doing science is about winning (or losing) grants, political influence, and prestige (see Barnes 1985; Callon 1995).

(2) Most scientists deal very seriously with the issues. This has to do with the notion that scientific knowledge reveals how things *really* are; its validity is usually evaluated against metaphysical categories, such as Reality and Truth. In most cases, scientific knowledge is exclusive: either hypothesis (a) or hypothesis (b) about a given issue will best represent 'reality', but not both. As a result, every new knowledge claim pretends to be superior to all previous knowledge claims about the same matter. As time goes on and other scientists come up with new serious knowledge, many of the old claims go out of the window and reveal themselves for what they were: idle constructs by idle people, owing more to their authors and the circumstances in which they were created than to reality. If taken seriously, this is of course a fairly pretensious statement in itself, which is

liable to being overturned and applied to itself in the future. And so is this. And this.....

It is this pretensious seriousness and arrogance of so many scientific knowledge claims which I attempt to challenge in this paper. So please listen carefully to what I have got to say, but try to enjoy it too. I will argue that there are good reasons for letting go of all high-flying metaphysics and will evaluate knowledge on modest earth-bound grounds instead.

Knowing beyond epistemology

Various influential approaches within the philosophy and sociology of science of recent years effectively deny that science can produce re-presentations of reality or re-constructions of the past. Unlike previous approaches in the sociology of knowledge, 'constructivism'[1]—the broad label by which these approaches can be referred to—considers not merely distorted, but all knowledge worth studying as 'constructions'. Constructivism therefore challenges the modern project of science as a whole (Knorr-Cetina 1981; 1983; Gergen 1985; Gergen and Semin 1990; Latour 1988; Holtorf 1994b; 1995).

The founder and most prominent proponent of the school of 'Radical Constructivism' (see Fischer 1995) is the American psychologist Ernst von Glasersfeld (e.g. 1987a; 1991; 1992a; 1995). Among his followers and critical supporters are Gebhard Rusch (1987; 1990), Siegfried Schmidt (1987) and Niklas Luhmann (1992; 1993). Glasersfeld's thinking is highly interdisciplinary, but it is mainly built on the work of the French psychologist Jean Piaget, as well as on insights from cybernetics, i.e. the study of self-contained systems (Glasersfeld 1994; Portele 1994). Piaget's studies on the cognitive development of children led to the often cited conclusion: "Intelligence organizes the world by organizing itself" (Piaget 1937: 311). This means that knowledge is a self-organised cognitive process of the human brain; it is not aimed at a 'true' image of the 'real' world but at a viable organisation of the world as it is experienced. Similarly, cybernetics deals with continously recursive, i.e. circular, processes of observing and learning, but from an entirely technical point of view. Self-regulating devices only know what they have sensed by feedback. A 'second order cybernetics' (Heinz von Foerster) in turn observes how such systems observe, and in this reflexive manner it includes the current observer in the field of study. Radical

[1] For an overview over various schools of 'Constructivism' see Schwandt (1994) and Frindte (1995).

Constructivism is, if you will, 'second order knowledge', taking into account its own procedures too (I will come back to that later).

Radical Constructivism puts forward two main claims (Glasersfeld 1989: 162):

> "(a) knowledge is not passively received but actively built up by the cognizing subject; (b) the function of cognition is adaptive and serves the organization of the experiental world, not the discovery of ontological reality."

It is worth noting that Radical Constructivism differs from Darwinian models of evolutionary epistemology in as much as it does not propose that different constructed knowledges gradually converge and eventually will merge into one knowledge system representing 'the real world' in full. Radical Constructivists argue that all knowledge is constructed rather than discovered, and that it is impossible to tell (and quite unnecessary to know) if and to what degree knowledge reflects an 'ontological' reality. This is not to deny an ontological reality as such, but to deny that our knowledge has necessarily anything got to do with it. Both ontology and epistemology thus become irrelevant **non-issues** for scientists and other knowledge producers. This is why it has been said that Radical Constructivism deals with "knowing without metaphysics" (Glasersfeld 1991), or 'post-epistemology' (Glasersfeld 1992b: 20). Niklas Luhmann speaks in a similar context of a *De-ontologisierung der Realität* (1993: 37). But this does *not* imply a complete relativism, or that 'anything goes' (Luhmann 1992: 177). All Radical Constructivists claim is that knowledge cannot be judged according to its representation of ontological, or *meta*physical, reality. There are other criteria (see also Holtorf 1996).

Radical Constructivism holds that the 'fitting' of knowledge to our experiences, or its cognitive *viability*, is the key to evaluating competing knowledge claims and is also the mechanism by which we learn. Knowledge therefore is not adapted to the natural world, but the very world is adapted to our cognitive needs. Human knowledge about the world corresponds to—and is constrained by—reality as we *experience* and *make sense* of it. I have argued elsewhere that this process of making sense can be described as a process of interpreting in the light of a particular understanding or reception (Holtorf 1995; forthcoming): "to know is to understand in a certain manner" (Johnson 1987: 206). Different understandings of reality might 'fit' equally well, and thus prove equally viable for different experiences (Glasersfeld 1987b: 141; 1987c: 199). Instead of a unique adaptation

to a single reality, there are an infinite number of real experiences and therefore realities. According to Radical Constructivism, there is no unified world meant to be correctly understood by an observer; the traditional subject-object dualism is thus overcome (Rusch 1987: 218). Knowledge does not reflect an ontological reality but is constructed according to its fitness and viability for individuals. Obviously, this viability of knowledge is to a large extent dependent on contingent social circumstances which partly, though not exclusively, define what does and what does not make sense to individuals in a given situation (Berger & Luckmann 1966; Glasersfeld 1991: 20f.; Frindte 1995; cf. Hodder 1993). But this does not alter the claim that reality is essentially constructed by cognitive operations of the human mind which tries to achieve an "equilibration in the cognizing subject's experiental world" (Glasersfeld 1986: 115; see also 1994). What we know about the world is thus a viable construction of our mind, nothing more but also nothing less.

Recently, Gebhard Rusch showed that Radical Constructivist claims about human cognition can be illustrated, and substantiated, by reference to recent biological, biochemical, biophysical, physiological, psychological, linguistic and sociological evidence (1987). But Rusch rightly points out (1990: 71; see also Lohmann 1994) that this is *in no way* equivalent to an empiricism or realism smuggled in through the backdoor, because Radical Constructivism cannot of course be proven by known evidence which had to be constructed as such in the first place. What it means however is that, ironically, even rigourous realists would possibly have to become supporters of Radical Constructivism simply due to empirical evidence (Rusch 1987: 212)!

Perhaps the most important characteristic of Radical Constructivism is that no reference to metaphysical notions such as 'reality', the 'real world', or 'truth' is necessary. I would therefore like to think that in Radical Constructivism, knowledge loses the basis for much pretensiousness. But then, is this not a fairly pretensious and therefore self-defeating statement in itself? No! Radical Constructivism escapes self-defeat, because it is reflexive and fully applicable to itself. It is indeed one of the biggest strengths of Radical Constructivism that it does not exclude itself from its findings. Radical Constructivism is also 'second order knowledge', i.e. knowledge about itself; it judges its own value against the same yardstick as that of all other knowledge: namely its cognitive viability, or whether it makes sense. Ernst von Glasersfeld writes (1991: 13):

> "I would be contradicting one of the basic principles of my own theory if I were to claim that the constructivist approach proved a *true* description of an *objective* state of affairs. As I see it, Radical Constructivism merely provides a different way of thinking and its values will depend mainly on its usefulness in our experiental world".

Radical Constructivism is therefore not pretensious, but very tolerant and modest towards alternative knowledge claims. I like it, because it makes a lot of sense to me. If it should not make sense to you, there is no problem either. But you ought to be aware that if you decide that another theory seems to be more viable with your experiences in the world, and you thus adopt an alternative theory about the character of human (or scientific) knowledge, this would in fact prove the central assertion of Radical Constructivism: human knowledge is evaluated according to its cognitive viability in the minds of individuals. The Radical Constructivist proposal may therefore prove irresistable indeed.

Knowing the Past

If knowledge, including scientific knowledge, is constructed rather than discovered, this has considerable implications for all knowledge claims, namely those by the sciences. The notion of gaining knowledge about an ontological reality, past or present, cannot be maintained. It appears also that scientific knowledge as such cannot insist on being epistemologically privileged over non-scientific knowledge (see. e.g. Latour 1988: 231f.). Consequently, the class of professional academics has to be 'de-privileged' (Steier 1991: 8); all knowledge, no matter where, how, and by whom it is produced, ought to be discussed unrelated to an ontological reality (of which we know nothing). History and archaeology must not be exceptions here.

What does the adoption of a Constructivist perspective mean for archaeology specifically? The challenge it poses to archaeology (and indeed history) is twofold: firstly, if it is assumed for the present that knowledge and understanding are constructed, one should take into acount that this was also the case in the past; our task as archaeologists is it then, as much as anything, to re-construct these past constructions. The question is how this can be achieved (Nünning 1992: 102f.). But Constructivism also suggests that, even *in* the past, the present of the time was seen and known in different ways. There never was anything like 'the past' in the first place: an objective knowledge of historical events and processes must have been as inaccessible for people of the past as it is for the modern-day

(pre-)historian (Nünning 1992: 96). The facts do not speak for themselves—nor even exist as such—and this is true for both the past and the present (cf. Rusch 1990).

Secondly, and more importantly, our own knowledge and understandings of the past are also constructed and reflect above all the present conditions under which we have constructed them (Nünning 1992: 97, 118; Rusch 1987: chapter 4.2). In fact, the whole concept of a 'past' (like 'time', or 'world') is a cognitive and social construction that does not exist anywhere but in relation to the experiences of present-day human beings (Rusch 1987: 416–419). Note that I am not talking about mere biases of modern observers or simply different perspectives between different observers; I argue that knowledge (about the past) and reality (of the past) are two completely separate entities. Such a Radical Constructivist claim does not deny the existence of the past, but the possibility for us human beings to know anything "as it really was" (*contra* Beckenbauer 1993). At least, we could never tell because we lack an objective—meta-historical—standpoint from which to judge. Archaeological objects such as prehistoric monuments are not disputed in their physical existence, but it is claimed that we cannot know any meanings or facts which are somehow inherent in them, and do not depend on cognitive operations within our own minds.

From a Radical Constructivist perspective, it becomes **irrelevant** whether the past existed or not (as this has no effect on our knowledge of it), and how we can know the past is beside the point (as knowledge about the past evidently exists among people). A Radical Constructivist archaeology holds that (pre-)history and (pre-)historic objects, in all the different forms they are, or were, seen in and made sense of by different people, are constructions of the respective presents. It follows that academic archaeology of the present is just one of many possible ways to come to terms with the past, and to make sense of the material remains of the past (Holtorf 1995). No knowledge claim about the past, including those by academic archaeology, can *epistemologically* be privileged over any other, in the sense that it would reflect more closely the 'real' past. (Pre-)History is a construction, no matter who constructs it, and all constructions of (pre-)history and its remains will have to be discussed on a par (Rusch 1987: 475f.; see also Holtorf 1994a; forthcoming; Shanks and Hodder 1995). This second challenge of Radical Constructivism to archaeology clearly overshadows the first one, because no attempt to reconstruct past constructions can avoid the pitfall of being a construction of the present itself.

For a Radical Constructivist archaeology, I can see three main avenues of future research. All three tasks imply that archaeologists are not in the business of discovering original meanings of prehistoric processes or archaeological remains in the past. Instead they focus on what these processes or remains can mean to people in various receptions and under different conditions (cf. Olsen 1990: 197–202). One task is to keep making sense of the past ourselves, and to add more viable and useful constructions of the past and its remains to the existing ones (e.g. Tilley 1991), or to extend the cognitive scope of existing constructions (Rusch 1987: 237). It means to make the most of the situation we are in and get on with putting together some great constructions. This is what most orthodox studies (academic or not) currently seem to be occupied with. The other two tasks focus on construction processes of the past rather than on the past itself. To study how the past is constructed does not in any way alter the status of the knowledge gained—which is still that of a construction—, but it can create additional viability and be of greater use within present society (see Holtorf 1994a; 1995). A second task is therefore to become self-reflective and study the constructions of archaeologists, or how the past comes into being among academics. This is to focus on the history and sociology of the discipline, on discourse analysis, modes of writing and the deconstruction of current approaches, thus trying to understand what we do and what exactly the (serious) business is we are in as archaeologists (e.g. Tilley 1990). A third possible task is to study the various receptions beyond the academic discipline of archaeology in which (pre-)history and its remains are, or were, constructed in society (e.g. Holtorf 1994a; forthcoming). This has not only increasingly social, political and ethical significance, but it may also help us as archaeologists in finding a viable role for us in future society.

Conclusions

According to various schools of Constructivism, academic knowledge as much as any other knowledge is socially and cognitively constructed, and the yardstick for its evaluation is not, and cannot be 'reality', past or present. We have no means of finding out to what extent our knowledge re-presents a reality, because we cannot step outside the conditions of mind and society which determine our knowledge. What we are, and should be, concerned with is not the 'truthfulness' of knowledge but whether it *makes sense*, fits and is viable in the context of our own experiences (the same applies of course to this very argument). There can be no pretense anymore about one hypothesis representing reality better than

another, because they apply to different realities. If you transfer the insights of Radical Constructivism to archaeology, we can therefore have a realistic hope for an end of all this pretentious seriousness in archaeological arguments, publications, or conference papers (and proceedings).

It may by now have become apparent that Radical Constructivism, as a theory, is not serious—in the sense that it does not present its claims as the one and only valid position. This modesty of Radical Constructivism prevents self-defeat and makes its radicality so respectable. In fact, I suspect that the lack of seriousness may be the most important reason why you should adopt Radical Constructivism in your own work. It is simply more enjoyable to be a Radical Constructivist, for yourself, but also for those who disagree with you! The beauty of Radical Constructivism—how I know it anyway—is that it allows to strip knowledge of its metaphysics and pretensious seriousness, unpretensiously. This doesn't make scientific knowledge funny. To the contrary—it may make the serious business that science is, the serious contexts it is applied in, and the serious issues it deals with, become even more evident.

References

BARNES, BARRY. 1985. *About Science*. Oxford: Blackwell.

BECKENBAUER, FRANZ. 1993. *Wie es wirklich war*. München: Goldmann.

BERGER, PETER, AND THOMAS LUCKMANN. 1966. *The Social Construction of Reality*. New York: Doubleday.

CALLON, MICHEL. 1995. "Four Models for the Dynamics of Science," in *Handbook of Science and Technology Studies.* Edited by S.Jasanoff, G.E.Markle, J.C.Petersen and T.Pinch, pp. 29–63. Thousands Oaks etc: Sage.

FISCHER, HANS RUDI (ed). 1995. *Die Wirklichkeit des Konstruktivismus: zur Auseinandersetzung um ein neues Paradigma.* Heidelberg: Carl-Auer-Systeme.

FRINDTE, WOLFGANG. 1995. "Radikler Konstruktivismus und Social constructionism—sozialpsychologische Folgen und die empirische Rekonstruktion eines Gespenstes," in Fischer 1995, pp. 103–129.

GERGEN, KENNETH J. 1985. The Social Constructionist Movement in Modern Psychology. *American Psychologist* 40, No. 3, 266–275.

————. AND GÜN R.SEMIN. 1990. Everyday Understanding in Science and Daily Life, in *Everyday Understanding. Social and Scientific Implications.* Edited by K.J.Gergen and G.R.Semin, pp. 1–18. London: Sage.

GLASERSFELD, ERNST VON. 1986. "Steps in the Construction of "Others" and "Reality": A Study in Self-Regulation," in *Power, Autonomy, Utopia.* Edited by R.Trappl, pp. 107–116. London and New York: Plenum.

————. 1987a. *The Construction of Knowledge.* Seaside: Intersystems Publications.

————. 1987b. "The Concepts of Adaptation and Viability in a Radical Constructivist Theory of Knowledge," in Glasersfeld 1987a, pp. 135–143.

————. 1987c. "An Introduction to Radical Constructivism," in Glasersfeld 1987a, pp. 193–217.

————. 1989. "Constructivism in Education," in *The International Encyclopedia of Education. Research and Studies.* Supplementary Volume one. Edited by T.Husen and T. Neville Postlethwaite, pp. 162f. Oxford: Pergamon Press.

————. 1991. "Knowing without Metaphysics: Aspects of the Radical Constructivist Position," in *Research and Reflexivity.* Edited by F.Steier, pp. 12–29. London: Sage

————. 1992a. "Konstruktion der Wirklichkeit und des Begrffs der Objektivität [1985]," in *Einführung in den Konstruktivismus*. Edited by H.Gumin and H.Meier, pp. 9–39. München: Piper.

————. 1992b. "Aspekte des Konstruktivismus: Vico, Berkeley, Piaget," in *DELFIN 1992. Konstruktivismus: Geschichte und Anwendung.* Edited by G.Rusch and S.J.Schmidt, pp. 20–33. Frankfurt/M.: Suhrkamp.

————. 1994. "Piaget's konstruktivistisches Modell: Wissen und Lernen," in *DELFIN 1994. Konstruktivismus: Geschichte und Anwendung.* Edited by G.Rusch and S.J.Schmidt, pp. 16–42. Frankfurt/M.: Suhrkamp.

————. 1995. "Die Wurzeln des 'Radikalen' am Konstruktivismus," in Fischer 1995, pp. 35–45.

HODDER, IAN. 1993. Social Cognition. *Cambridge Archaeological Journal* 3:2, 253–257.

HOLTORF, CORNELIUS J. 1994a. Die heutigen Bedeutungen des Gollensteins von Blieskastel. Für eine empirische Rezeptionsforschung der Archäologie. *Saarpfalz* 43, 1994(4), 11–21.

————. 1994b. Constructing Monuments. Unpublished M.A. thesis, University of Wales.

————. 1995. 'Problem-orientated' and 'object-orientated' approaches of archaeological research—reconsidered. *Hephaistos* 13, 7–18.

————. 1996. Why fascists don't like 'post-processualism'. *Assemblage* 1. URL: http://www.shef.ac.uk/~assem/holtorf.html.

————. forthcoming. "Constructed Meanings: the Receptions of Megaliths after the Neolithic," in *Megalithic Tombs—Their Context and Construction.* Edited by P.-O. Nielsen. Copenhagen: The National Museum. URL: http://www.lamp.ac.uk/~cjh/Kalundborg.html.

JOHNSON, MARK. 1987. *The Body in the Mind*. Chicago: Chicago University Press.

KNORR CETINA, KARIN D. 1981. *The Manufacture of Knowledge.* Oxford: Pergamon Press.

————. 1983. "The Ethnographic Study of Scientific Work: Towards a Constructivist Interpretation of Science," in *Science observed.* Edited by K.Knorr–Cetina and M.Mulkay, pp. 115–140. London: Sage.

LATOUR, BRUNO. 1988. *The Pasteurization of France*. Cambridge, Mass. and London: Harvard University Press.

LOHMANN, GEORG. 1994. "'Beobachtung' und Konstruktion von Wirklichkeit. Bemerkungen zum Luhmannschen Konstruktivismus," in *DELFIN 1993. Konstruktivismus und Sozialtheorie*. Edited by G.Rusch and S.J.Schmidt, pp. 205–219. Frankfurt/M.: Suhrkamp.

LUHMANN, NIKLAS. 1992. *Die Wissenschaft der Gesellschaft.* Frankfurt/M.: Suhrkamp.

————. 1993. "Das Erkenntnisprogramm des Konstruktivismus und die unbekannt bleibende Realität," in *Soziologische Aufklärung 5: Konstruktivistische Perspektiven.* By N.Luhmann, pp. 31–58. 2nd edition. Opladen: Westdeutscher Verlag.

NÜNNING, VERA. 1992. "Wahrnehmung und Wirklichkeit. Perspektiven einer konstruktivistischen Geistesgeschichte," in *DELFIN 1992. Konstruktivismus: Geschichte und Anwendung.* Edited by G.Rusch and S.J.Schmidt, pp. 91–118. Frankfurt/M.: Suhrkamp.

OLSEN, BJØRNAR. 1990. "Roland Barthes: From Sign to Text," in *Reading Material Culture.* Edited by C.Tilley, pp. 163–205. Oxford: Basil Blackwell.

PIAGET, JEAN. 1937. *La Construction du réel chez l'enfant.* Neuchâtel: Delachaux et Niestlé.

PORTELE, GERHARD. 1994. "Die ontogenetische Entwicklung und die soziale Konstruktion der Wirklichkeit," in *DELFIN 1994. Konstruktivismus: Geschichte und Anwendung.* Edited by G.Rusch and S.J.Schmidt, pp. 103–138. Frankfurt/M.: Suhrkamp.

RUSCH, GEBHARD. 1987. *Erkenntnis, Wissenschaft, Geschichte: von einem konstruktivistischen Standpunkt.* Frankfurt/M.: Suhrkamp.

————. 1990. "Zur Konstruktion von Geschichte – Bausteine konstruktivistischer Geschichtstheorie," in *Philosophie und Wissenschaften.* Edited by G.Pasternack. Frankfurt/M.: Peter Lang.

SCHMIDT, SIEGFRIED J. (ed.) 1987. *Der Diskurs des Radikalen Konstruktivismus*. Frankfurt/M.: Suhrkamp.

SCHWANDT, THOMAS A. 1994. "Constructivist, Interpretivist Approaches to Human Inquiry," in *Handbook of Qualitative Research.* Edited by N.K.Denzin and Y.S.Lincoln, pp. 118–137. London: Sage.

SHANKS, MICHAEL AND IAN HODDER. 1995. "Processual, postprocessual and interpretive archaeologies," in *Interpreting Archaeology*. Edited by I.Hodder et al., pp. 3–29. London: Routledge.

STEIER, FREDERICK. 1991. "Introduction. Research as Self-Reflexivity, Self-Reflexivity as Social Process," in *Research and Reflexivity.* Edited by F.Steier, pp. 1–11. London: Sage.

TILLEY, CHRISTOPHER Y. 1990. "On Modernity and Archaeological Discourse," in *Archaeology after Structuralism*. Editeb by I.Babty and T.Yates, pp. 128–152. London: Routledge.

————. 1991. *Material Culture and Text. The Art of Ambiguity.* London: Routledge.