Ascribing and inscribing presence: Intertextuality in virtual environments

Paper presented to the KNAW/VKS Text Comparison and Digital Creativity Coloquium, Amsterdam, 30-31 October 2008

Ernst D. Thoutenhoofd

v04

Ascribing and inscribing knowledge processes

In the Colloquium motivation we noted that text comparison research is changing as a result of digital technologies. In particular, we pointed out that technologies add a scientific dimension to the traditional art of philology. That scientific dimension is so-called because computation facilitates analytical approaches that are based on calculation, and that lead to the deduction of regularities and patterns from instantiated phenomena. Scientific methods tend either to be 'problem-solving' or teleologically oriented—that is, aimed at formulating general laws to which all events within the class of phenomena that are being studied will submit. These general laws are posited to have a universal validity that is independent of any other agency, including human action. It is for this reason that the most general matters of scientific fact are referred to as 'laws of nature'.

It is a conventional matter to contrast science with humanities scholarship, since their separation has become deeply institutionalised in the modern era. However, the institutional separation does not clearly map to a difference in orientation, as Wilhelm Dilthey already noted in 1924.[1] Scientists are not strangers to interpretation, nor humanities scholars to empiricism and normativity, since in both cases particular data can only become meaningful when placed within a framework of regularities. Even so, what status such claimed regularities should have within the complex patchwork of contemporary scholarship is open to debate; regular patterns reported in the humanities and social sciences are not likely to submit to clearly stated laws determining their role and status any time soon, even if they could be observed across different times, places and positions. Meantime, the spread of technologies into the humanities is troubling the separation of disciplines with respect to both methods of working and research focus; and the transformations are leading to a bewildering variety of research cultures and forms of research participation, as can also be seen across the papers presented during his colloquium. Others have already suggested that these new forms of scholarship are leading to messy shapes of knowledge that will submit to very little by way of overall regularities or patterning,[2] so that the attempt by my co-presenter van Peursen to place the colloquium papers in a single framework of interpretation should count as a truly valient undertaking.

In the papers presented during this colloquium on e-philology we can still clearly discern the two distinctive ways of knowing that Wilhelm Windelband first identified,[3] one associated with scientific

---

1 Dilthey, W. (1924:258) *Gesammelte Schriften, vol.V.* (ed. G. Misch).

2 Wouters, P., vann, K., Scharnhorst, A., Ratto, M., Hellsten, I., Fry, J. and Beaulieu, A. (2008) Messy shapes of knowledge: STS explores informatization, new media and academic work, edited by Hackett, E., Amsterdamska, M., Lynch, M. and Wajcman, J. (eds), in *New handbook of science, technology and society*. Cambridge, USA: Cambridge University Press. 319–352.

3 Windelband, W. (1894, pp136–160) *Präludien: Aufsätze und Reden zur Philosophie un ihrer Geschichte*.

approaches that he termed nomothetic or abstract knowing; and the way of knowing of the humanities he termed ideographic and that Weber instead called *verstehen*. This second way of knowing is now more commonly referred to as concrete, historical, descriptive or interpretative knowing. But here we wish to focus on the interaction of both these forms of knowing with computation in contemporary philological practice. To this end we have first of all to recognise that both nomothetic and ideographic knowing result from mediating activities that include human, instrumental and now also computational action. For want of agreed-upon terms that point to the always *mediated character* of knowledge processes, we will therefore distinguish between nomothetic knowing as activities that *ascribe* particular meaning to generalities and ideographic knowing as activities that *inscribe* general meaning in particularities.

We do not wish to suggest that this distinction between ascribing and inscribing scholarship is upheld as itself a stable regularity of practice. In fact, we put forward the contrary. Any distinction among ways of knowing the world implies a theoretical reduction. But our aim is a more holistic theory that gives us tools to study novel ways of knowing in contemporary philology. Making the distinction enables us to consider classical, interpretative philology and linguistic, computational philology symmetrically and within a unified theory of practice. e-Philologists use ascribing and inscribing processes in the construction of their research objects, as a conjoining way of knowing that become available for analysis only if we blur the older distinction between science and humanties ways of doing. Likewise, the shaping of effective work-flows and collaborative research cultures will call for the symmetrical handling of ascribing and inscribing processes within overal schemes of effort. As Hans Gumbrecht recognised, the concept of 'presence' is where symmetry—or as he argued more precisely, the lack of symmetry—in ways of knowing is most readily visible. But before discussing presence we turn first to a brief discussion of ascribing and inscribing aspects of knowing.

The supposed split that divided the human quest for understanding into two distinctive and contrastive approaches emerged in the 19th century *Methodenstreit*. Under this conceptual separation, an approach called scientific considers our world a consequence of constraints and regularities. Its methods accordingly focus on abstractions and identification of general laws. It does so by attending empirically to minimal units of meaning called data and their quantifiable behaviours. Scientific data represent lawful behaviours that exist independent of our observing them. The scientific observer undertakes a form of interpretation that is called deduction, but contributes nothing to either the deduced laws or the behaviour of data. In summary, the organised attempt at explaining we call scientific *ascribes* meaning to lawful patterns of interaction. This way of knowing equally ascribes structural features to a natural system that *subsumes* those patterns of social engagement that are the province of the humanities. Hence our reference to this way of knowing as *ascription*.

By contrast, the humanities or *Geisteswissenschaften* would consider our world, as James McAllister has recently summarised it, 'a result of contingent historical events and processes'.[4] Within that conceptual schema patterns of agreement and collective action such as those that result in languages, art movements or text editions are both mundane and durable, but never stable or lawful; instead they may be considered, following the sociologist Pierre Bourdieu,[5] to be the result of collective obeyance to unstated rules. Intricate, dynamic patterns of belief and action give rise to structuring features that have been considered from a range of disciplinary perspectives, including also philology. However, what

---

Tubingen.

4 McAllister, J.W. (2002:20) Historical and structural approaches in the natural and human sciences, edited by Tindemans, P., Verrijn-Stuart, A. and Visser, R. (eds), in *The future of the sciences and humanities: Four analytical essays and a critical debate on the future of scholastic endeavour*. Amsterdam, the Netherlands: Amsterdam University Press. pp19–54.

5 Bourdieu, P. (1977) *Outline of a theory of practice*. Cambridge, England: Cambridge University Press.

gives such perspectives their humanities credentials is not a focus on particularities at the expense of abstractions as Windelband proposed, but the recognition—called the double hermeneutic in sociology[6]—that descriptions of regularities are themselves historical and contextual particulars, so that both scholarship and scientific knowledge are world-shaping processes; in sum, humanities scholarship actively recognises that its activities *in*scribe meaning. Weber considered the inscribing element of humanities scholarship an interpretative contribution to science, while Diedel Kornet[7] has referred to it as research attention to 'instantiated general pattern'[8] that is conceptually located in between the generalised patterns of science and the contingent events of the humanities.

To the extent that inscribed data are central to humanities effort, they rarely have persistent or universal qualities. In other words, unlike what is supposed for data in the natural sciences, data in the humanities are rarely assumed to present stable units of information within a collective, timeless framework of understanding. The long tradition of text emendation and annotation in philology readily attests to this conception of research data. In summary, the organised attempt at explaining we call interpretative *inscribes* patterns of communication with clusters of meaning. This way of knowing also inscribes social systems with patterns of communication that *subsume* the perception of nature as constructed by the natural sciences. Hence our reference to this way of knowing as *inscription*.

Ascribing and inscribing ways of knowing presuppose radically different epistemologies. To put this differently, contrasting sets of admissible operations[9] apply that seem to preclude all possibility of their reunification.[10] Bibliometrics offers good examples of different outcomes for ascribing and inscribing ways of knowing, since there are telling differences in the respective dissemination and citation patterns across the sciences and humanities. 85% of scientific reference is acounted for by peer-reviewed articles, while in the humanities and social sciences this can drop to 20% or below, depending on the discipline involved. Humanities scholars can in principle be cited for years, decades or even centuries to come, while the citation curve of articles in scientific disciplines regresses to zero in the course of four years or so.[11] The pattern suggests that scientists expect to contribute new findings to an evidence-base that will eventually *resolve or abandon* the research object, while humanities scholars expect to write monographs that will add in cumulative fashion to a *diverse* library of knowledge. A further example of epistemic difference can be given with reference to the emergence of knowledge infrastructures that are motivated by the collection and long-term curation of data. Data collected in the course of ascribing meaning can more easily retain their value since the laws that govern them are assumed to pertain indefinitely. Data that have been collected in the course of inscribing meaning have a more ethereal quality, inseparable from the inscribing process itself. This difference explains why humanities data can rarely be redeployed in another domain or at another time. Examples of epistemic variation across knowledge regimes confirm that predominant allegiance in the sciences to ascription and in the humanities to inscription has led to two separate institutions engaging in two different types of practice.

Ascriptions, inscriptions and digitally mediated concepts of presence

6 Giddens, A. (1976) *New rules of sociological method: A positive critique of interpretative sociologies*. London: Hutchinson.

7 McAllister, J.W. (2002:56).

8 Kornet, D.J. (2002) Discussion: The role of laws and contingency in history, edited by Tindemans, P., Verrijn-Stuart, A. and Visser, R. (eds), in *The future of the sciences and humanities: Four analytical essays and a critical debate on the future of scholastic endeavour*. Amsterdam, the Netherlands: Amsterdam University Press. pp55–62.

9 Luhmann, N. (1995 ch.12) *Social Systems*. Stanford, California, USA: Stanford University Press.

10 Tindemans, P., Verrijn-Stuart, A. and Visser, R. (eds) (2002) The future of the sciences and humanities: Four analytical essays and a critical debate on the future of scholastic endeavour. Amsterdam, the Netherlands: Amsterdam University Press .

11 van Raan, T. (2008) Measuring research performance in the social sciences and the humanities: the role of scholarly books. Paper presented to the conference 'Dodo or dog? A challenge to the book in scholarship and higher education', in Amsterdam, 12–13 October.

This is where we envisioned that Gumbrecht's notion of presence might take centre-stage.[12] We took the various un-knowns of the material presence of texts that he notes should interest humanities scholars to be a starting point for a discussion about the character of contemporary philology; we thought Gumbrecht's reference to the role of physical materiality would form a good contrast with the 'virtual materiality' of texts in e-philology. But while these two concepts establish a useful departure for discussing the material and virtual attributes of text, they skip an important prior question: what do we actually mean by 'presence' when discussing text? Between ascriptions and inscriptions now lie new technologies of digital mediation that, as Gumbrecht noted, have special effects on the construction of meaning. Gumbrecht focussed on material presence as a distinctive element of understanding that humanities scholarship risks losing sight of in its singular focus on interpretation; the same might be said of computation. If texts are treated as no more than code, linguistic data, annotations and the digital approximation of material characteristics (virtual reality) then material presence is also lost. But if we regard digital transformation of text as a dialogue between two ways of knowing (ascription and inscription) then new forms of presence can emerge.

In the final part of the presentation we will turn to some examples of this in condensed form. The focus will be on the theory, construction and practice of supported action in a coded environment.

Presence as cognitive construct

Presence has become the research-topic of an EU-funded consortium called PEACH or 'Presence Research in Action'.[13] PEACH concerns itself with developing a greater understanding of 'how we create the experience we call *reality*'. It focuses in particular on the experience of reality that is mediated through interaction technologies, and therefore the concern is with the cognition of humans and machines and the nature of their interaction. This research on 'presence' takes as its starting point the experience of reality as a strictly cognitive event. A subject's sense of reality has a material base in our neurology, while the sense of reality that a computer constructs has a comparable material base in code. As a product of human and computer cognition, interaction between the two can be schematised on the basis of one important assumption, namely that 'in a sense, all reality is virtual';[14] this claim is then taken to support the contention that, in principle, computation can serve the same purpose as cognition, which is to mediate the experience of reality. Presence then becomes 'the experience of "being there" in a mediated environment'.[15] Because the approach taken within PEACH abstracts experience of reality to a core essence, consisting of physical events that adhere to the general patterns of lawful behaviour in a physical universe, it seems predominantly ascriptive. It treats our experience of everyday reality as outcomes of neurological activity *per sé*, while in the case of virtual reality the neurological activity that produces an experience of reality is further mediated by the computer code that generates a virtual environment.

If we were to take this ascription of presence as an experience that derives, in essence, from an ongoing flow of neural stimulation and computer code as our starting point for understanding the presence of text in e-philology, we would likely conclude that the experience of being in the presence of a digital text becomes ever more convincing as virtual environments become better at handling interaction and immersion. The contribution by Roger Boyle on the accurate representation of watermarks in paper and the *InscriptiFact* programme of work reported by Bruce Zuckerman could certainly be considered in

12 Gumbrecht, H.U. (2004) Production of presence: What meaning cannot convey. Stanford, USA: Stanford University Press.

13 http://starlab.info/peach/

14 IJsselsteijn, W. (2002:245) Elements of a multi-level theory of presence: Phenomenology, mental processing and neural correlates, in Proceedings of PRESENCE 2002. Porto, Portugal: Universidade Fernando Passoa. 245–259.

15 *Ibid*.

that ascriptive light.

Presence as digital ecology

Pavel Zahorik and Rick Jenison are psychologists at the University of Wisconsin who considered presence as part of a NASA-funded project on teleoperative and virtual environment developments.[16] They would have considered the PEACH approach rationalist, based on an untenable distinction between subjective and objective presence. Reviewing two ontological positions—one rationalist and one metaphysical—on the experience of reality, Zahorik and Jenison conclude that presence entails an indivisible coupling between environment and action. Against the rationalist position, they argue that it treats situations as a combination of object attributes and actions that are subject to general rules of performance. The experience of situations might therefore be approved by fine-tuning the object attributes so that actions appear 'more real'. The problem that Zahorik and Jenison see is that such rational approaches establish 'a framework for problem solution in which one may apply a formal system of logic to arrive at a conclusion'.[17] In other words, it is not clear how it is that particularities and general rules are to be identified or described. To give an example, the theory does not make clear how my Second Life avatar sitting cross-legged on a pillow relates to the general rules needed to make that action meaningful—and thereby 'real' as a form of meditation. In essence, what Zahorik and Jenison object to is that (re)articulating presence through ascription, in which new-media objects (whether they be avatars or digital texts) obtain presence by reference to a formal framework of attributes acting in accordance to coded rules, does not address the indivisibility of the physical and metaphysical levels of action as the precondition for actions being meaningful. The ascribing rationalist position can only assume that the existence of a 'real reality' is unimpeachable. It would therefore need to be supplemented with an inscribing kind of solipsism, since it is far from clear that there are ways of knowing other than through subjective and always mediated measures of presence.

Starting from Heidegger's phenomenology and J.J. Gibson's ecological psychology,[18] Zahorik and Jenison instead argue for presence being tied to successfully supported action in the environment. As the psychologist Gibson himself put it, 'Things must be substantial before they can be significant or symbolic. A man must find a place to sit before he can sit down to think.'[19] This indivisible unity of environment and supported action has also been articulated by Heidegger—whose methods for examining the nature of presence were informed by the interpretation of ancient texts—with reference to the concept of 'readiness-to-hand'. While objects, such as a bible, have no stable representation, whenever we wish to read about Mozes the object we call a bible is readily conceived, albeit exclusively with reference to the action that it is meant to support.[20] Zahorik and Jenison conclude that consequently, the presence of objects and self alike are manifest exclusively as successfully supported action in an environment that 'reacts, in some fashion', to lawful action, so that the ecological coupling between perception and action must be considered central to the notion of presence.[21] Any holistic construction of presence therefore calls for a strong feedback mechanism that tightly couples ascription and inscription as ways of knowing.

Presence and the design of trust

In her PhD thesis, Caroline Nevejan undertook to describe such an ecological psychology in computer-mediated communication by positing 'the thinking actor', who experiences multiple presences within a

16 Zahorik, P. and Jenison, R.L. (1998) Presence as being-in-the-world, in *Presence: Teleoperators and virtual environments*. 7(1):78–89.
17 *Ibid*:79.
18 Gibson, J.J. (1979) *The ecological approach to visual perception*. Hillsdale, New Jersey, USA: Lawrence Erlbaum Associates.
19 Gibson, J.J. (1950:199) *The perception of the visual world*. Cambridge, Mass USA: Riverside Press.
20 Heidegger, M. (1962:98) *Being and time*. London, England: Harper Collins.
21 Zahorik and Jenison (1998:87).

four-dimensional space that includes the actor, the time and the location as the first three dimensions and the range of possible actions that are supported by that space as the dynamic and unpredictable fourth dimension. Within that schema, the natural presence of the actor (what in virtual gaming would be called the first- or real-world actor) is the factor of distinction, the form of presence in which 'catharsis takes place.'[22] As is the case in 'natural presence', the psychological state of the actor influences the experience and hence the construction of presence. Nevejan supplements what Zahorik and Jenison omitted, namely the crucial fact that an environment rarely contains just one actor, hence 'for the accomplishment of an act, an actor is dependent on the work of other actors, each of whom are psychic beings operating according to dynamic rules. Under those conditions, incommensurability between the practices of agents striving after individual objectives have to be presupposed,[23] so that successfully supported action needs to account for communities of practice that have developed intricate mechanisms for negotiating incommensurability, which might be described as the unlikelihood of actors sharing the same experience of reality or being 'truly co-present.' The various constraints on action that make actors' noses point in the same direction point to social sources of trust. Emulating the collective orientations that might incite actors to place their trust in the world that is being constructed will present very particular challenges for computer-coded environments.

Nevejan's work therefore achieves a shift from an ecological psychology to an ecological sociology of mediated presence. Here language itself can take centre-stage again, since taxonomies—including lexicon and conceptual schemes—are the necessary consequence of the ways in which actors interact; they can perhaps best be considered as the historical database of negotiated incommensurability among types of mediated action, formalised into a means for achieving consensus and collaboration among actors who cannot otherwise have presence at all.[24] In that same sense, text might perhaps classify as a record of achievements in terms of presence, but in any case it is clear that both presence and text would be the result of collaborative and inscriptive processes of knowing.

Presence as ethnography

Our final example of presence and technology as a topic of investigation focuses on the work of a VKS colleague, Anne Beaulieu. Her research includes attention to how ethnographic study of medited interaction such as the internet is leading to a range of ways in which information technology might become meaningful for researchers.[25] Ethnographic accounts were mainly considered to be inscriptive, or as the ethnographer James Clifford noted 'always caught up in the invention' of cultures.[26] One of the challenges that ethnographers face when studying the internet is that it seems already inscribed: internet interaction is predominantly—although perhaps increasingly less so—seen as textual.[27] The internet therefore appears to ethnographers much the same as classical texts do to philologists: as literal output in which only traces of the social interaction that went into their making have remained. Hence ethnographers and philologists seem to develop similar questions: about the meaning and presence of the texts that are already there, and about how these texts interconnect with the texts that result from studying them; this also includes similar concerns about issues of authenticity and validity.[28]

The conclusions that pertain with respect to the notion of presence are equally less certain here, but not

---

22 Nevejan, C.: www.being-here.net/article-886-en.html

23 *Ibid.*

24 *Ibid.*

25 Beaulieu, A. (2004) Mediating ethnography: Objectivity and the making of ethnographies of the internet, in *Social Epistemology* 18(2–3):139–163.

26 Clifford, J. (1986:2) *Introduction*, in Clifford, J., and Marcus, G.E., eds, *Writing culture: the poetics and politics of ethnography*. Los Angeles, USA: University of California Press.

27 Beaulieu (2004:154).

28 *Ibid*:156.

therefore any less pertinent. In particular, Beaulieu points to the central role of strategies of objectification that researchers studying the internet will use. In strategies of objectification the researcher uses technological mediation to remove themselves from the research site, which has the effect of turning the research target into a self-referencing object. Objectification is a notable attribute of scientific method, with academic publications mostly limiting the use of personal pronouns to similar effect. Likewise, using internet technologies ethnographers may, for example, take on the role of 'lurker', attending to but never participating in opportunities for exchange in chat-rooms or online games. Another relevant strategy noted by Beaulieu is the 'disciplining of the ethnographer' by using technologies that order the internet as knowledge universe. This can be done by re-coding internet activity as communication within a network, or by categorising the internet into clusters of activity.[29]

The comparison between the conceptions of presence presented here with the re-configuration of ancient texts into corpora and categorising them with reference to the technologies used (including visual representation, linguistic tagging, or emendation) might all class as examples of strategies of objectification. But what this discussion and my brief excursion into religious spaces in Second Life point to is that whatever form presence takes is, at one and the same time, an artefact of scholars' construction of the object of research and an attribute of the kinds of social interaction that their research strategies can make visible.[30]

29 *Ibid:148–9.*

30 VKS colleagues have more recently proposed the concept of *focale* (defined as sustained attention to a research topic) as replacement in e-research for the traditional notion of being 'in the field': Beaulieu, A., Scharnhorst A. and Wouters, P. (2007:682) Not another case study: A middle-range interrogation of ethnographic case studies in the exploration of e-science, in *Science, Technology and Human Values* 32(6):672–692.