

## CAN HISTORIANS THINK IN THE ABSTRACT?

*[Talk held at the occasion of John North's departure from Groningen University; 11 May, 1999]*

I take up my question of whether historians — certainly for present purposes I feel entitled to define John North as a historian, as I am likewise — ... of whether **we** are capable of abstract thought by invoking a short newspaper item. The paper in question is the 'UT-nieuws', that is, the weekly of my home university, your closest neighbor, the University of Twente. This modest weekly recently carried a little interview with a computer science expert invited to comment upon a policy measure jointly contemplated by the Dutch ministers of Education and of Economic Affairs. As you know, among the highest accomplishments of a policy-maker is to make two policies at one stroke ('twee vliegen in één klap slaan', as the Dutch expression has it), for what could be more efficient than to solve one recognized problem by way of solving at the same time another, seemingly unrelated one? The recognized problem is the shortage in this country of computer scientists; the mode proposed to solve it is to re-educate historians, of which specimen there are judged to be far too many, thus getting them off the dole at the same, highly efficient stroke. I now translate for you the pertinent comment by that Twente computer scientist on being asked 'what do you think of the ministers' plans?' "Really a bit ludicrous", so the expert responded. "Not everyone possesses the capacities needed for programming. A well-developed capacity for abstract thought is absolutely required."

With these words the expert in question, whom I shall leave nameless, provided me with my point of departure, with the text for my little sermon, so to speak. Particularly if you consider that his next line was: "History students, for example, are people who have opted for a true humanities education," it seems a fair inference that our computer scientist at my home university is taking it entirely for granted and, moreover, as generally known in his circle that historians cannot think in the abstract, or at the very least not particularly well. And the question I want to ask myself, and John, and all of you today is whether perhaps he is right.

In jointly pondering this question, let me first seek to get rid of a methodological difficulty. If he is right, it follows that I, being a historian, am incapable of abstract thought, so what could possibly enable me to examine in the abstract manner imposed by the subject the question of whether I, and John, and a few others here present, can indeed? More than that, how could I have the acumen to spot this methodological difficulty in the first place if I lacked said capacity? We decide to resolve this truly Cretan paradox by invoking a ploy historians are mighty prone to invoke, namely, by declaring the issue to be one of **degree**. At issue is not whether John and I and our co-sufferers are capable of abstract thought — to some limited extent we are, so I now declare for the sake of convenience — but whether the extent to which we can is remarkably limited for people with a university education. Is not, so my working question shall from now on run, is not our capacity for abstract thought in the sense of a clear-headed, coherent handling of general concepts subject to disappointingly narrow bounds as compared to what, say, computer scientists or physicists or philosophers are as a rule capable of?

Let us first collect some empirical material to make a case for such a thesis. My first piece of evidence consists of the commonly shared verdict that, so I have by definition unprovable grounds for suspecting,

academics very quickly and easily settle upon once the last historian has left the room. This common verdict stems in part from the undoubtedly true, yet for my purposes today somewhat trite observation that the primary concern of the historian is with unique events rather than with laws or rules or theories. For a larger part that verdict seems to stem from the general impression many people have of the historian's job, which apparently is, dutifully to put into chronological order a range of such unique events. Or, at a slightly more elevated plane of academic sophistication, that once some pressing problem of contemporary societal and/or intellectual concern has for some time been investigated and some money happens still to be left you may call in a historian and direct him or her to add a piece on the 'historical aspect' of that pressing problem. And indeed, in these commercial times more and more historians find themselves compelled to subject themselves to that caricature of our profession, thus making the caricature coincide more and more with the reality.

In truth our job as historians-left-with-a-choice-in-the matter is not nearly so dumb, even though it is of course true that things have their historical aspects and that chronological order usually provides the solid backbone of our historical accounts. The point is that historical accounts really driven forward by **nothing but** the succession of events (I grant that they do exist, mostly in the guise of fat, bad textbooks) are almost impossible to digest. The point is that a historical account in which the past is treated chiefly as an aspect of the present suffers from the historian's cardinal sin, which sin most often goes under the name of 'presentism'. The professionalization the job of the historian has undergone in course of what for just 234 days to come we may still call the **previous** century, has by common verdict been concerned above all to devise ways and means to treat the past, not as if it were only there to prepare the triumphal advent of present-day **us**, but rather as a subject of study in its own right, driven by the primary urge to understand how **they** lived, worked, felt, and thought.

This predicament of the historian, then, that she or he seeks to deal with the past as an entity not primarily there to satisfy present-day concerns and interests but as something like a foreign country (though not in space but in time) animated by concerns not, or at least no longer, necessarily our own – this predicament has over the past decade or so come to the attention of some philosophers and sociologists. And unlike us plodding historians they quickly thought up a ready-made prescription for how once and for good to eradicate all possible presentism from their own, and by implication from all past-oriented accounts. That prescription is, never ever in our accounts of the past to employ other than ... , let me solemnly pause before I utter the solemn phrase, "**actors' categories**". That is to say, if in pondering say William Gilbert's achievement in his book *De Magnete / On the Magnet* of 1600, we wish to refrain from regarding it as a preparation of modern magnetic and electrical science but to do justice to it as an achievement in its own right and as one up for judgment in accordance with early 17<sup>th</sup> century standards, then it is both necessary **and sufficient** to consider such categories (like for example Gilbert's frequently employed expression "sphere of activity") as we find in his own works.

At first sight this is a very sound prescription. This way you can apparently rest assured indeed that you are not unwittingly to substitute the terms in which your protagonists thought and acted for your own or to mix up the ones with the others, because you have just eradicated by definition your own categories, at least for as long as you are dealing with the past. That is clearly why the admonition to employ "actors' categories" resembles nothing so much as the very solutions those 19<sup>th</sup> century pioneers of professional

historiography came up with once they had recognized presentism as a problem and had begun to seek ways and means to resolve it.

Still there are a few differences between those hoary solutions and that modern slogan, and those differences are significant ones which will actually lead us to one of the two main points you find me concerned to make today.

One difference has already rested implied in my sarcastic tone of voice — it is the at least to me somewhat incredible blend of ignorance and presumption shining through the apparent belief that just one slogan can substitute for some century and a half of historians' practice. At the back of that blend resides surely the very notion on which my talk today centers, that the finding of theoretically viable solutions cannot be left to historians with their well-known lack of capacity for even moderately abstract thought; that we historians have been clueless about our own predicament for 150 years until a philosopher/sociologist blessed with that capacity finally deigned to come around and tell us how to resolve our quandary.

Is our regrettable lack of that capacity **really** why for over a century and a half no historian has ever come forward with the proposal to confine ourselves to "actors' categories"? I do not think so. The reason is rather that following that proposal one runs a very great risk of throwing out, not only the bathwater of presentism but with it the healthy child of a good deal of historical understanding. Take William Gilbert. There is no doubt at all that there has been a time when he was read solely as the first scientist to get rid the experimental way of all kinds of superstitious beliefs then widely around about amber and the lodestone, thus setting afoot magnetism and electricity as a science. But there is also no doubt that decades before the slogan of "actors' categories" was invented historians of science have come to an awareness that Gilbert's achievement was imbued with a conception of the world at large as an organism held together by occult forces of attraction and repulsion, some corporeal like electricity others spiritual like magnetism. Surely thinking in terms of Gilbert's own categories is **necessary** in order to arrive at a better understanding of what he was up to and how he fits into late 16<sup>th</sup> century thought. But is it also **sufficient**? The typical challenge as these historians came to see it is to reconcile the one view of Gilbert with the other as **both** valid some way. After all, the resemblance between present-day introductions for high-school pupils into the first principles of magnetism and Gilbert's *On the magnet* is far too striking not to distill out of that resemblance some, surely more refined understanding concerning the rarely rectilinear, often quite crooked modes of advance taken by science over the course of history. Such more refined, non-triumphalist understanding, however, remains principally out of reach if one confines oneself to "actors' categories". Take, for a more specific example, that phrase of Gilbert's, the 'sphere of activity' he ascribes to magnetic action. Those earlier, triumphalist historians had no compunction whatsoever to identify the phrase as a 'foreshadowing' (to use their typical term) of the modern **field** concept. Historians rarely do that anymore; as noted, we care more for finding out what point Gilbert himself was concerned to make. But suppose we left it at that, i.e., at the actor's own category? Then we would be left in the end with a whole succession of scientific thinkers, like Newton, Faraday, Maxwell, Einstein to name but the greatest, all of whom were probing the mode of action of forces and in so doing used expressions like 'sphere of activity' or, with increasing frequency, 'field'. Must we treat all these men in splendid isolation from one another, each confined to, even locked up inside, his own categories? Do we not then pass by a readily available opportunity to gain an enhanced understanding of the far-away past by connecting it, not crudely triumphalist but with all due care, with the more recent past and

even the present? Is not something vital missing from our picture of Gilbert's achievement if we omit to make fuller sense of his concept of 'sphere of activity' than he himself necessarily could?

To questions like these the rarely explicit answer of most modern historians has been 'yes'. They have not wished to forgo the chance to gain such enhanced understanding out of misplaced respect for a wrong-headed or at least lethally overradical slogan, going ahead indeed to make such cross-temporal connections. Only, we have not been so good overall in finding criteria for how to do it.

From this point onward my talk is destined to take another, more self-critical turn. Prior to taking that turn, however, let me seek to state in a more general vein what I have been arguing by example so far. Broadly speaking, my concern has been to portray the historian as the inveterate 'both/and' person, as distinct from the 'either/or' posture so often taken in many another discipline like philosophy or sociology. Yes, so we historians are happy to grant, in seeking to grasp past events and thoughts we **do** need "actors' categories". **But** these must be judiciously balanced with an even better grasp of what our protagonists in the past were up to, to be gained by means of judiciously connecting it with later episodes and even with the present, knowledge of which we cannot fully liberate ourselves from in any case. Historians, in short, are balancers, and we are that at the freely accepted cost of frequently forgoing the usage of clear-cut concepts. We forgo that usage, not because we cannot think well enough in the abstract to recognize a clear-cut concept when we see one, but rather for sound, professional reasons. Our marked lack of abstract thought in this respect stems from abstention; it is functional, not personal. We could do it, but we do not want to. The clear-cut concepts of the present do not satisfy us for our historical analyses, as we have known for a long time that they lead us into presentism. The, upon historically sophisticated and sensitive investigation, likewise pretty clear-cut concepts of some episode in the past fail in the end fully to satisfy us either, because, although indispensable, they come to stand in the way of what we ultimately wish to understand most of all, which is **modes of change over time**.

In order to understand modes of change over time, a certain fuzziness in the usage of concepts is thus required, so as not to define out of existence beforehand the very kind of change we seek to grasp. All I have said so far has been to argue that we maintain that fuzziness for very good reasons. We are wont to do so in a fairly implicit manner, by skilled intuition rather than by way of some detailed, well-explicated method. Even though we are not as a rule so good at explaining to others how we do it, **we feel in our bones that somehow we know damn well how to handle change over time**. The only problem is, so I now contend, **sometimes that intuition of ours breaks down**. And **this** particular problem provides me with the second point I wish to make today. Let me present to you, by way of further empirical evidence in the matter of historians' capacity for abstract thought, two cases of such breakdown, and how two scholars from outside the historical profession, more expert than we are in the handling of concepts, came to our rescue, though to little avail so far.

My first case is about a range of historical analyses of the concept of 'sphere of activity' and, notably, 'field' as actually carried out by four modern authors on Michael Faraday. All these authors are serious historians in the non-triumphalist vein, seriously concerned not so much with finding out whether Faraday 'already' had **the** modern concept of 'field', but rather with determining at what point in his own electro-magnetic researches he had **his** concept of field. Now the striking thing about their respective determinations is that these came out radically different, with a time difference of no less than two decades in Faraday's

most productive period of experimentation and theoretical speculation, and with quite different apparent criteria for what that concept actually was. To the rescue in this curious historiographical situation came a philosopher, my then colleague at the University of Twente, Nancy Nersessian. Here, in the succinct closing words of her contribution to a book on Faraday, is how she solved the problem: "First of all, the question of 'when' Faraday had his field concept requires that we say 'what' it is. This, however, involves three questions: What is a 'concept'?; What is a 'field' concept? and What is Faraday's 'field' concept? I have argued that a 'probabilistic' view of a 'concept' fits the scientific situation better than the generally assumed 'classical' view [which involves a timeless set of necessary and sufficient conditions] and fits better with an 'historical/developmental' conception of meaning. Finally, I have attempted to supply answers for 'when' and 'what' in the Faraday case. Of course, this has not been done on the basis of the new conception of 'concept' alone. It just allows us more flexibility in interpreting the historical data. With it we can (1) attribute a 'field' concept to Faraday quite early, without having either to attribute the whole thing to him or the modern conception to him; (2) claim that its specific features developed over time, in conjunction with further experimentation and 'speculation'; (3) say that it has some features quite unlike other field concepts and (4) still maintain that it is connected with other field concepts, in particular with the modern conception." So what we have here is a philosopher helping out the historian irretrievably yet wholly unwittingly entangled in a severely unhistorical idea of what it means to have a scientific concept; that is to say, with basic issues, **and** their practical implications, in understanding the advance of science over time. Why so far hardly a historian seems to have listened, beats me.

My second case is the so-called Merton thesis. Of itself a treatise about (to cite its title) *Science, Technology and Society in Seventeenth-Century England*, this book has from its appearance in 1938 onward unleashed a debate among historians of science about, in good part, far weightier matters than the sole title suggests. These weighty matters are: How, if at all, can the historian connect in an enlightening manner something so apparently pure and untainted as scientific thought with the hustle and bustle of the society in which scientific thinkers live? and also, more specifically, Can Merton's thesis, part of which asserts that the more than proportional participation of Puritans in 17<sup>th</sup> century English science was due at least in part to a specifically Puritan ethic apt to foster the cultivation of science, serve to explain the origins of modern science in the 17<sup>th</sup> century as numerous subsequent historians have held that thesis to do? These debates have rightly been called a "morass ... which seems to exist only to swallow all those who attempt to cross it". Although enlightening at times and in some specific fragments, the debate as a whole calls to mind a remark I recently encountered with a certain grim satisfaction in the *New York Review of Books*: "... it is noticeable that historians tend to fall below their own level, they become quite unscientific, when they start discussing the 'causes' of events."

In 1971 the sociologist of science Joseph Ben-David ventured into the morass. What he did prior to crossing it was to build three bridges over it. What I mean by that is this. Ben-David saw what hardly any participant in the debate saw – inasmuch as 'science' and 'society' are extremely unwieldy concepts (both far too big and far too much subject to change over time) we must, not just give them up and then raise our hands in desperation, but rather specify them such as to make them manageable without making them fit presentist aims. Considerations like these are in my view what made him in effect introduce three intermediate concepts to serve as bridges between the domain of science proper and its social environment.

Critics were quick to take Ben-David's own explanation of pertinent portions of the Scientific Revolution of the 17<sup>th</sup> century for a mere rehash of familiar Mertonian themes — they failed to see how, in his treatment, these themes were now being organized around the powerful unifying concepts of 'the social role of the scientist', 'an ideology for science', and 'the scientific movement'. What is so great about concepts like these is that they can help organize huge amounts of historical facts in a manner that not only does justice to their contemporary meaning but at the same time, in **transcending** the notion of "actors' categories", helps explain change over time. It is about time we historians begin to listen.

It is also about time to sum up my little sermon: While there are most often good, functional reasons for historians to be conceptually as fuzzy as we are as a rule, the functionality of such fuzziness sometimes tends to break down, notably so when matters of explanation or the job of uncovering connections between developing scientific concepts over time come up. The conceptual clarity required for these and similar varieties of historical analysis is rarely provided by us professional historians, whose fuzziness has most often struck all too deep roots in our ever-balancing minds untrained in abstract thought (or, to change the metaphor, whose fuzziness, originally functional, has crusted into a personal trait). Rather, such conceptual clarity may be on offer from historical sociologists or from historically sensitive philosophers, and we had better stand on the look-out for it.

The moral of my story, I think, is clear-cut and not at all fuzzy. We historians are well-advised to listen to philosophers and sociologists, and carefully to distinguish in their messages between the infuriating and the instructive. That is why I deem John, and myself likewise, lucky in at least this particular respect to be surrounded by precisely such people in our immediate academic environments, to keep our thought from becoming all-too-fuzzy, all-too-far-removed-from-the-abstract. I do not know for sure whether John has ever felt the pull toward undue fuzziness, as I for one most certainly have, yet I **am** sure that he has known how to resist that pull over a long, productive, and most impressive career, of which I hope that today it comes to an end only in the formal sense of that most unfuzzy, utterly clear-cut, and not at all abstract piece of writing, the Dutch retirement law.

