

# **Towards Future Digital Scholarship**

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## **1. Language Philosophy's Ignorance about Media**

### **1.1 Analytical Philosophy: The Example of Quine**

In the more recent historiography of analytical philosophy the phrase “pragmatic turn” is often heard and then typically associated with Quine's first outlines of a naturalised epistemology from the 1950's. As is generally known, Quine directly opposed unjustified idealisations of traditional empiricism, even though his own philosophising was based on an idealisation of language when he conceived theories as conceptual schemes. Obviously Quine was only interested in theories whose logical structure can be perceived clearly and precisely. He does not elaborate on issues relating to the form or media in which theories are presented, nor the method whereby our thoughts intermingle.<sup>1</sup>

A Quinian web of belief is constructed according to the paradigm of propositional predicate logic. New observations may not be in line with an established theory and thus will demand its adjustment for which – as Quine points out – in every case multiple options exist. In other words: theories are always underdetermined.

Nevertheless Quine's model for the scientific processes of adaptation is still too optimistic, because he presumes that we are able to maintain a complete overview of our theories. Usually this is not the case. We are only working with fragments. Our net of convictions satisfies the ideal of consistency only locally or roughly, no matter how hard we strive.

This problem has been intensified by the increasing division of labour within modern science and scholarship. Each scientist or scholar largely relies on other academic authorities. What he believes depends considerably on the available ways and means of correlating his convictions with those of other people. In this context media are instruments of thought and must not be ignored by the philosophy of science and by epistemology.

The evidence on which we base our beliefs can be of varying nature. Not only in science but also in the humanities we start with observations. But often we transform them not explicitly into observation sentences, but rather into diagrams, drawings, photographs, motion pictures etc. These are then directly incorporated into our deliberations. Even when it comes to texts, the canonical form in which they enter the academic discourse must often first be established by dedicating a lot of effort into deciphering the relevant sources.

Notwithstanding that, for a long time analytical philosophy treated language simplistically in terms of idealised conceptual schemes and largely ignored the media aspects of communication. To a certain extent this is even true of Austin's speech act theory. Although he no longer limits the analysis of language usage to the ideal of a coherent system of propositions, he obviously does not contemplate the media aspects of speech acts.<sup>2</sup>

Of course, media theory is an established academic subject. Newspapers, radio, film and (more lately) television have been the object of numerous studies for several decades. But epistemology and the philosophy of science have not been greatly affected by these efforts. The media in which theorising takes place do not themselves appear within these theories. They usually remain unconscious and thus invisible. This is especially true for texts. We treat them as something intelligible because we assume that what a particular copy conveys can just as well be delivered by another copy of the same book or by a transcription. Sometimes we may appreciate the tactile qualities of a book's cover but for the quality of the text the material substrate is of no importance.

A medium does not catch our attention until it shows itself stubborn or until a new medium starts to challenge our subliminal habits. So, as the Internet begins to massively alter academic communication, analytical philosophy slowly becomes conscious of the impact of media on theorising.

## **1.2 Hermeneutics: The Example of Gadamer**

If we take a look at the great antagonist of analytical philosophy: the hermeneutic tradition, the situation appears to be quite similar. For instance, one chapter in Gadamer's "Truth and Method" is entitled: "Language as the medium of hermeneutic experience"<sup>3</sup>. The fact that the term "language" is used so summarily here already insinuates that in this chapter no internal differentiation can be expected regarding the diversity of language-related

media. The protagonists in this hermeneutic theory are universals like “the language”, “the understanding”, “the prejudice” or “the horizon”. This style of deliberation leaves it open as to who actually is involved when the hermeneutic process arrives at an agreement: individuals or collectives? Gadamer ignores the differences between an understanding that takes shape in the mind of an individual and a corporate understanding that emerges within an academic community.

Nevertheless, the humanities are collective enterprises characterised by the division of labour. It is a community of researchers who strive together for a better understanding of an author, for instance. A broad hermeneutic theory must also consider the means and the external conditions that influence the way such an understanding is accomplished. It is not only the human mind that is relevant here, but also distribution media, communication channels and institutions. The joint struggle for the correct comprehension of a topic utilises diverse media within varying communication scenarios. One maintains contacts, meets at symposia, publishes articles and monographs, searches for literature in libraries and second-hand bookshops, queries databases or surfs the Internet etc. In such hermeneutic processes many different things are important, such as cultural techniques (like reading and writing), a highly developed information infrastructure (including libraries, publishing houses, book shops) and suitable technology (from the pen holder to text processing software). All these components interact in various ways. Modifications in one area entail changes in other zones.

## **2. The Humanities and the New Media**

Regardless of whether it was the success of the Internet that drew the attention of philosophers to media philosophy, the importance of the “new media” for our academic work demands a close inspection. But before making some brief remarks about the impact of the Internet on philosophy in particular, I want to consider two of its aspects that are of special importance for the humanities in general.

Firstly there is the potential to use the computer for completely new types of knowledge presentation and processing. In recent years we have witnessed new publication forms combining texts, still images and motion pictures, which have been supplemented with digital modelling and interactive simulation. From computer games through multimedia encyclopaedias

to numerous innovative Internet genres we have seen the appearance of many new formats, and a lot more are likely to emerge in the next few years.

The surface of multimediality, *viz.* the combination of multiple media forms by a single presentation device, is only the outer and obvious aspect of an entanglement that actually reaches far deeper. For the functioning of research it is not only significant in what form its outcome is presented, but also in which ways different media interact with each other during the formation and justification of theories. What matters is not just the straightforward accumulation of knowledge, but also (and that is the second important aspect that concerns me here) that knowledge assets must be meaningfully related to each other.

It follows, therefore, that the Internet poses a significant challenge for the humanities in two fields: We must develop new forms of presenting knowledge, and we must design new integrative strategies to discover widely scattered pieces of information, to relate them to each other and to critically evaluate them.

## **2.1 The Development of New Representational Forms: An Example**

That new representational forms can be superior to traditional ones is best demonstrated by an example. Let us pursue the question of which representational form is the most appropriate for publishing the *Nachlass* of Ludwig Wittgenstein.

Ludwig Wittgenstein's *Nachlass* consists of various manuscripts, typescripts, and smaller notes which make up the resources from which several editors published posthumous collections, often without sufficient philological care. In recent years efforts have been made to prepare editions according to superior editorial standards.

In his lifetime Wittgenstein only published his early "Tractatus logicus-philosophicus", a vocabulary booklet for elementary schools, and one journal article. Some of his later typescripts circulated among his fellow philosophers, but were considered by himself to be incomplete. There is also no agreement as to what extent his famous "Philosophische Untersuchungen", which were intended as a posthumous work, should be treated as a completed book. In fact the *Nachlass* mainly consists of a series of manuscripts and typescripts containing subsequent revisions of previous drafts, allowing

us to follow the development of Wittgenstein's ideas over the years in very fine detail. Although (or perhaps just because) these drafts never reached the level of completeness, it has been a strong temptation for editors of Wittgenstein's *Nachlass* to reconstruct books which in reality were never written.

But the main purpose, even of Wittgenstein's most elaborate drafts, was not to communicate his ideas to others. Primarily they were instruments of thought helping him to develop complex theories. This process is holistic by nature: integrating a new idea into a web of beliefs, especially if the idea is of fundamental philosophical importance, might require reconsidering quite a lot of old convictions even in the most remote fields. In the case of Wittgenstein the conversion of his views was so extensive that it has become a custom (not adopted by all scholars, though) to differentiate between the "early" and the "later Wittgenstein". Whether some of his fundamental ideas remained the same or not, the fact that Wittgenstein was never satisfied with his writings indicates that he failed to adjust his different convictions and observations to reach a level of coherence that could put his mind at rest (at least for a moment).

All this has to be carefully considered when preparing an edition. Giving the false impression that the manuscripts contain almost settled theoretical systems has to be avoided, although it is highly desirable that an edition supports the study of the intellectual movements documented by the writings. In this respect the closest to the original is a facsimile. However, it can be tiring to decipher long handwritten passages. A diplomatic transcription, which tries to represent as many textual features as possible, might suffice for most investigations, although it can still be hard to follow the different readings. A normalized transcription tries to bypass such difficulties by skipping deletions, carrying out changes of order and correcting misspellings, but the impression it gives of its textual source can be extremely misleading, since it unavoidably covers up many tracks which otherwise could help us with arriving at well-balanced judgements about the status of the source's statements. One might consider such an edition tolerable as long as the reader is conscious of its limitations, but unfortunately Wittgenstein has been studied for a long time on the basis of editions which, while lacking even the smallest text-critical indication, often just presented rearranged selected fragments.

In recent years some efforts have been made to prepare better editions. One of these projects, located at the Wittgenstein Archives at the University

of Bergen, Norway (WAB), aimed to develop a digital transcription of the whole *Nachlass*. From this transcription a diplomatic and a normalized version for Folio Views, which is a commercial browser for CD-ROM editions, was produced and together with a digital facsimile, made by Oxford University Press, published on CD-ROM as the so-called “Bergen Electronic Edition”. A few transcriptions (but no facsimiles) were also made publicly available as HTML files on the Web-site of the WAB. In summer 2001 a working group was formed under the label “Tracing Wittgenstein” by Prof. Herbert Hrachovec (Institute of Philosophy at the University of Vienna), Dr. Alois Pichler (WAB), and myself. Our goal has been to develop a framework for the use of the digital transcription that goes beyond the capabilities of the CD-ROM edition. Alois Pichler agreed to coordinate activities to create an XML version of the transcription, Herbert Hrachovec to write a hypertextual commentary on one of the manuscripts, and myself to develop an application which allows a more adequate presentation of the primary texts and the commentary, taking into account the peculiarities of Wittgenstein's *Nachlass*.<sup>4</sup>

From the characteristics of Wittgenstein's *Nachlass*, as described before, it is clear that such a commentary ought not to treat its source as if it had presented a synchronic view of equally strong convictions. Since a commentary has to deal with a text indicating changes in Wittgenstein's net of convictions, it should in particular try to work out and explain these changes and give reasons why some routes were followed, some rejected and others never tried. Although philological observations are still the basis, such an investigation is built of systematic evaluations of arguments. Accordingly, a commentary might, but does not necessarily need to analyse the text paragraph by paragraph. Thus, a hypertextual structure allowing a flexible (re-)arrangement of passages, which was impossible to achieve with either traditional printed editions or even a smart Web-site, seems to be the best form to investigate sources of the kind of Wittgenstein's *Nachlass*.

## 2.2 The Integration of Information

Let us now turn to the second challenge for the humanities: the integration of widely scattered information resources.

Knowledge has always been a mixture of the acquaintance with certain content and the methodological competence to use various devices for the storage and processing of information. With the advance of digital storage

and communication technology more information is in principle available while the tools for its processing are being refined. Hence it becomes, even in the humanities, less crucial to amass a lot of detailed knowledge and all the more important to improve the competence of using digital information systems.

This means that net-based forms of communication favour the division of labour even within the humanities. Small bits of information can be combined more easily into new complex views of a subject.

When we publish something on an Internet database and link it to other information, we generate a net of relations that are superior to traditional cross-references used in books or journal articles because those links can be traced by computers. A computer can analyse such a net of references and thus reveal unimagined relationships and provide us with new insights that would have otherwise remained clandestine. Designing data formats and developing computer programmes for such purposes might sometimes contribute more to the advancement of knowledge in the humanities than composing long books. Where information technology changes conventional hermeneutic processes, there we should treat this as an essential and not an exterior contribution to the humanities. In this respect information technology is more than just an auxiliary discipline.

### **3. Practical Conclusions**

#### **3.1 Institutional Conclusions for the Humanities in General**

The humanities cannot expect all the technical instruments for their research to be provided for them by others. They need tools and means adequate to their peculiar research agendas and objects of investigation. Of course that does not mean that the humanities should not use whatever technology is at hand, but the more autonomously they can act, the better. It is therefore absolutely imperative to establish a series of research centres within humanities institutions dedicated to information and communication technology.

In contrast to other fields of digital communication, the primary research instruments of the humanities, in particular editions and reproductions, require an extraordinarily high level of accuracy in data collecting

and encoding because every inexactness or gap here, increases the probability of misinterpretations later.

Specific new challenges arise also from the option to cross-link such digital editions and reproductions over the Internet. Their long-term availability and accessibility must be reliably guaranteed, procedures of authentication and quality control need to be adopted, or developed and implemented. It is especially important to improve the method of cross-referencing data in open systems like the Internet, where new resources are constantly being added while others are modified or even disappear. Furthermore, we need to investigate how digital primary sources can best be supplemented by adequate tools (for example digital equivalents to conventional concordances and encyclopaedias) and how disciplinary discourses that have taken place so far in monographs and journals can be replicated on the Internet and, as well, be diversified and broadened by new forms of net-based communication. Finally with regard to practical implementation, one is confronted with the task to design user-friendly applications so that even someone who does not possess in-depth knowledge of information technology nevertheless can cope with them easily.

So far, these networking opportunities have not been widely taken up by scholars (with the exception of academic libraries that have created large networks of catalogue databases). The use of the Internet in the humanities commonly follows the paradigm of conventional forms of publication: Often it is used just for the presentation of digitised material on an individual institutional Web-site. Accordingly, most of the research in humanities computing is conducted either individually or by very small project teams.

A few universities have established service units that consult and assist scholars who want to start a digital research project. However, there are not many research centres in the world that focus on the topics of humanities computing in general, for example by developing standards, tools and applications for cross-project use. It corresponds, therefore, that humanities computing is institutionalised – at least in Germany – as a mere appendix of conventional chairs of history or literary studies.

But if it is correct that the described research fields are of great and fundamental importance for the humanities, then it is absolutely essential to draw institutional conclusions from this insight. That means that a professional discipline of humanities computing should be established that combines information technology, (digital) philology and net-based knowledge communication.



### **3.2 Conclusions for Philosophy in Particular**

Turning now from the humanities in general to philosophy in particular, I want to return to my reflections from the beginning of this article. I had argued that analytical philosophy as well as hermeneutics did not care much about the media. But in order to overcome this deficits it is not sufficient to just examine individual media phenomena according to the model where a medium is treated only as a vehicle for messages. The task of integrating widely scattered digital information resources, which I mentioned before, illustrates that for a proper understanding of media it is imperative to study their interaction among themselves and with all the other factors that determine their use. This means that a solid media philosophy and theory must account for the complete interplay of diverse media with and within all spheres: individual, social, economical, political and institutional.

As philosophy finds itself to be part of this great game, one should always remember that it is impossible for it to look at media from a completely neutral standpoint. Our ability to develop and spell out a thought or a theory is limited by the characteristics of the media at hand – unless we enhance them.

One may object that philosophy is primarily concerned with the analysis and development of new systematic descriptions of the world or the self. However, if it is correct that descriptions cannot be totally separated from the media they appear within, questions, for instance, about the features of the software tools and standards we are using for philosophising in digital media are as important to our philosophy as the literary form in which we present our thoughts when writing a book. Therefore information technology is not only an object for philosophical reflections, but also an agent that determines philosophy basically and essentially.

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## Notes

1. Quine’s two most important contributions from the mid 20th century are Quine (1951) and (1960). A good overview of his later philosophy is presented in Quine (1990).
2. See Austin (1955).
3. In the German original: “Sprache als Medium der hermeneutischen Erfahrung”, see Gadamer (1960/1990), p. 387.
4. For more information about the “Tracing Wittgenstein” project see Hrachovec/Köhler (2002), Köhler (2006) and the Web-site of the project at [<http://wittgenstein.philo.at/>].