correct". If however it be asked how this normativity works, "then the answer is that it is simply in the nature of meaning to have normative consequences." Searle, though regarding intentionality a mental phenomenon, does not even attempt to give an explanation of it in mentalistic terms. For reasons not explicated he holds that this mental phenomenon can only be elucidated in terms of the "derived intentionality of speech-acts." The difficulty involved in giving a substantial non-reductionist account of meaning in mentalistic terms becomes clear when it is noticed that such an explication can be given either in terms of introspectively accessible mental episodes, or in terms of underlying mental mechanisms. The former phenomena however seem too ephemeral to enable a substantive explication, while an explication in terms of the latter is difficult to square with the non-reductionist approach.

A second, more principled argument against the view that meaning something is a primitive mental state can be found in Wittgenstein's later work. Wittgenstein convincingly shows that the criteria regulating our application of such concepts as meaning, understanding and rule-following primarily focus on someone's overt linguistic behaviour and the public circumstances surrounding it. In that case it is quite impossible to present necessary or sufficient conditions for the application of semantic concepts in purely mentalistic terms. Any such set of conditions can in principle be overruled by the public criteria in use, and therefore any associated mental states are at best epiphenomenal.

I think this leads us to the conclusion that Kripke's paradox leaves us with no option but to take a non-reductionist approach to meaning and rule-following, while Wittgenstein's arguments in the *Philosophical Investigations* show that a substantial explication of these notions should be along praxiological rather than mentalistic lines.

References


Toward a Complete Edition of the Wittgenstein Papers: Prospects and Problems

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The current catalog of the Wittgenstein papers lists 82 manuscripts (c. 12,000 pages) and 45 typescripts (c. 8,000 pages). To date, less than a quarter of it has been published, with a minimal editorial apparatus and few indications of how sources and published texts are related. An electronic edition of the published Wittgenstein occupies about 8M, roughly equivalent to 2000 published pages, or 1,000,000 words. The accompanying software permits searches for key terms, plus a variety of statistical analyses. Unfortunately, the present software is relatively slow and cumbersome: searches of the whole database with a plain PC can take hours, and yield many cryptically numbered files.

While microcopies of Wittgenstein's unpublished writings are available, they leave much to be desired. Although most pages are legible, many frames are unclear or even missing, and no systematic searching is possible. However, the Norwegian Wittgenstein Project, which has already developed a transcription protocol, recently received approval from Wittgenstein's literary trustees to produce an electronic edition of the *Nachlass.* Huitfeldt and Rossvær estimate it will occupy 40M, well over 5,000,000 words. While this would partly consist of drafts of published remarks and coding for variant drafts, erasures and rearrangements, there is also much new material. In view of the huge quantity of material and the intimate and complex relationship between drafts, the sophisticated concordance and indexing capabilities provided by an electronic edition will be an exceptionally valuable tool. While it could also provide the basis for a print edition, that would require much more editorial work.

The 12,000 manuscript pages in the *Nachlass*, as yet almost entirely unpublished, provide a detailed record of how Wittgenstein's later work developed. Concentrating on a few topics at any one time, he would draft remarks that might be used or revised in subsequent work, tagging them...
with a sign to show his evaluation. Selections were typed up, revised, rearranged, and typed up once again. Over forty typescripts record the revision and rearrangement that led up to his most polished work. In the manuscript volumes, Wittgenstein raises questions, rejects old ideas and develops new ones; the revisions and the typescripts show what he accepted and how he used it. Just as the publication of the 1914-16 notebooks changed our understanding of his early philosophy, so the post-1929 manuscripts are starting to have a comparable impact. But at present they are only accessible to a few determined and patient scholars, with no means of systematically surveying them. An electronic edition will make it possible to trace the genealogy of Wittgenstein’s variant drafts and rearrangements, exploring the emergence of the published texts from the typescripts and manuscript notes.

Within the last five years, many of the most important texts in the history of philosophy have become widely available in electronic editions. But while philosophers have already begun to routinely use these resources to provide accurate quotations, find references, and track the use of key terms, there has been little discussion of the radical implications of the new medium. Electronic text facilitates the creation of hypertexts, where the sequence of published pages is only one selection from a potentially infinite set of alternatives, each generated by tracing different connections. In hypertext, each paragraph or screenful of text is linked with many others, such as other drafts or editions of the same text, editorial information, translations, cross references, a concordance, and so forth. But while this kind of intimate acquaintance with the text has, until now, only been possible for scholars who have spent years studying the texts, this information can now be made available to anyone almost instantaneously.

Because electronic editions will enable researchers to rapidly answer questions that would previously been unanswerable, they will facilitate new approaches and the exploration of connections that have received little attention in the past. In addition to automating certain kinds of research, they will weaken the lines that separate one text from another, and so lead to new perspectives on the history of philosophy. But it is also possible that this new technology will divert attention from the primary task of understanding, interpretation and evaluation. Thus Hintikka has argued that the importance of electronic texts has been overestimated. He suggests that their “main role perhaps lies in verifying results rather than in reaching them” and also sees a “clear danger that Wittgenstein research, or part of it, will be directed by the increased reliance on computers into philosophically unimportant directions.”4 He is surely right to insist there can be no substitute for sensitivity to the philosophical and conceptual issues involved, and so no guarantee that computer-based research will improve scholarship. However, while it is an open question whether these developments will enrich scholarship, scholars are increasingly likely to read primary texts next to a computer equipped with an electronic edition, and so we need to consider how such resources can best be used so that they will make a positive contribution.

One clear advantage of electronic searching is that it facilitates systematic comparison of Wittgenstein’s use of key terms. For instance, one can find every use of such terms as ‘Lebensform’ and its cognates. While it is well known that Wittgenstein only uses the term rarely, an electronic search makes it possible to establish that it only occurs in four places in the Investigations and two other places in the published corpus. One can also look at Wittgenstein’s other uses of ‘Leben’ and identify the use of ‘pattern of life,’ an expression that is clearly closely related. Further exploration of related passages indicates that there was considerable discussion of the notion of ‘life’ or ‘soul’ of a proposition in Wittgenstein’s work in the 1930’s, e.g. in his discussion near the beginning of the Blue Book of the view that mere signs are ‘dead’ unless our use gives them life. I hope this abbreviated example suggests the kind of connections that one can easily explore using electronic text. I will bring a notebook computer with this software to the conference and look forward to further exploring how it can be used.

Obviously, one of the dangers of these new tools is that of allowing these technical resources to determine the character of one’s scholarship. New tools permit new questions to be asked, but they are no substitute for the kind of careful study that enables the scholar to identify the appropriate questions. There is a real danger that these new resources will only engender a pseudo-scientific manipulation of word frequencies and a caballistic search for underlying numerical patterns. For instance, McKinnon describes the application of an analytical technique to a literary corpus that is supposed to identify its “dimensions.”5 He uses computer programs that compare the frequency of the most common nouns and proper names in each text, searching for words with complementary patterns of occurrence. “Profiles” are then calculated. A word’s profiles are the percentage of its occurrences in each text; a text’s profiles are the percentage of occurrences of each word under analysis. The program makes the two sets of words with the most dissimilar profiles its first “dimension”; the next most dissimilar pair are the second “dimension,” and so forth. In effect, the program finds one set of terms that occur frequently in one group of texts and rarely in a second group of texts, and a second set of terms that occur frequently in the second group and rarely in the first.

McKinnon has recently sent me the results of a “dimensional analysis” of the electronic Wittgenstein corpus, which has only served to confirm my suspicions about its limitations. First, it is unclear why his sets of terms should be grouped into opposed binary pairs, rather than simply listed one by one. Second, this approach assumes that the distribution of the frequency of occurrence of the most common terms over the author’s published works provides the key to the structure of the author’s thought. But often the most important terms are ones that are used very

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5 See McKinnon 1989.
rarely, such as 'Lebensform'. And, as Wittgenstein famously stressed, the meaning of a word is not an entity that can be separated from the specific propositional contexts in which it occurs. Furthermore, there are particular difficulties in using such a method on a posthumous corpus, where the boundaries of the "works" are the product of editorial decisions. Finally, as most of the corpus was composed in German, but about an eighth is in English, this method actually yields two dimensional analyses. All that such an analysis can show is that certain terms are used much more frequently in some texts than in others, which should have been obvious from the start.

The electronic edition of Wittgenstein's published works will make it possible to look at his writing as an interconnected whole, rather than as a discrete number of self-contained texts. While there is some danger that the new technology will only introduce new jargon into an already jargon-infested secondary literature, it does offer the prospect of instantaneously surveying and exploring Wittgenstein's writings along lines that should be extremely informative and productive. Perhaps one of the most important morals that the later Wittgenstein drew from his critique of his own earlier work is that there is a great danger in philosophy of taking a particular way of seeing things as though it were the only way things could be. His editor's decisions as to how to best present his work have shaped our perceptions of his writing to an extent that is hard to appreciate until one looks at his alternative drafts and other arrangements of the published material.

In the case of the unpublished writings, an electronic edition would not only permit such sophisticated research, but would also serve the more basic purpose of making the corpus relatively easily available. For while recent scholarly work on the unpublished Wittgenstein papers has solved some exegetical problems, it has created others, as it inevitably depends on appealing to texts that are unavailable to most scholars, who consequently are unable to check on the new interpretations. This can only have an unhealthy effect on Wittgenstein scholarship as a whole. Yet if one adds together the material in electronic form in the Bergen Wittgenstein archive and von Wright's unpublished editorial work on the pre-Investigations typescripts it is clear that many of the unpublished papers have already been transcribed and edited, and could soon be available.6

An electronic edition of the complete works will be an invaluable research tool, but it will be no substitute for a printed complete works; both will be needed. It is at this point, while an electronic complete works is still in preparation, that we need to consider what form it should take, so that workers in the future will not be stymied by an inadequate edition. Huitfeldt and Rossvaer appear to have considered this issue carefully, and their discussion of the resources and limitations of their program is an exemplary attempt to anticipate such difficulties, while recognizing that a "dream" system that offered maximum flexibility and ease of use might take so much labor to prepare and require such sophisticated hardware

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6See von Wright(1982: 6-10.)