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## Advantages of a Machine-Readable Version of Wittgenstein's Nachlaß

The advantages of a machine-readable version of Wittgenstein's Nachlass can be divided into two subsections: the advantages of the availability of texts in electronic form in general, and the advantages of a machine-readable version of Wittgenstein's Nachlass as opposed to a book edition. I will discuss both these issues, but will lay most emphasis on the latter.

The advantages of machine-readable texts in general can be summarized as follows:

1. Machine-readable texts have the great advantage of enabling easy, cheap, space saving and fast production, reproduction and distribution. Having produced a text in electronic form in my office in Bergen I can send it across the network to my colleague in Japan, and he receives it in a few seconds instead of the time taken by ordinary mail.

2. Machine-readable texts are open for revision, including corrections and additions, change of format, font and style etc. Anyone who works with electronic text processing is familiar with the benefits of the PC when it comes to first the production and later the revision of texts.

3. Machine-readable texts are open for all types of computer assisted analyses, be they statistical, grammatical, stylistic etc., or content analyses. Not only are you able to find within seconds a certain word or string of words in a large text corpus, but more importantly, the computer is able to recognize similar formulations (similar of course according to the definition of similarity you give the computer) and produces indices and concordances for you.

4. Machine-readable texts can be converted into paper printouts and book editions, while books cannot be converted as easily into texts in electronic form. The way from a machine-readable version to the book is always shorter, cheaper and less complicated than the transition from a book edition to a machine-readable version. In addition, it always leaves you with more choices and possibilities than the other way round.<sup>1</sup>

Concerning a machine-readable version of Wittgenstein's Nachlass in particular, I would like to emphasize the following:

<sup>1</sup> For further reading see e.g. Butler 1992.

### *Advantages of a Machine-Readable Version of Wittgenstein's Nachlaß*

Wittgenstein's Nachlass as a whole confronts us with a series of problems which can only be dealt with by a machine-readable version. Let me give you three examples:

1. On his return to Cambridge in 1929 Wittgenstein started writing on the right hand pages of von Wright's Nachlass-catalogue (von Wright 1982) no. 105. Then Wittgenstein continued on the right hand pages of no. 106. The entire sequence of the texts in nos. 105 and 106 is roughly speaking as follows:

Right hand pages of no. 105

Right hand pages of no. 106

Left hand pages of no. 106

Left hand pages of no. 105

Editing this in book form, one has to decide: Do I want to keep the physical sequence of the text, i.e. edit the text in the order of the von Wright numbers - this would result in an edition where left and right hand pages have little to do with each other and the reader has to skip over one page in order to follow the text order. Or do I want to stick to the text order, which means printing first the right hand pages of no. 105, then the right hand pages of no. 106 etc. One might bring in a third criteria and care only about the content and therefore split up what in the chronological or physical orders are unities.

All of these interests are justified; only, producing a book edition, you have to decide which one you choose - unless you produce three books - while, producing a machine-readable version, you can encode the transcription in such a way, that it allows you to extract from the transcription all the three possibilities.

2. Think of a much discussed case, the edition of *PHILOSOPHICAL GRAMMAR*, for which the editor Rush Rhees has been - to a large extent unfairly - much criticised. If you were to edit Wittgenstein's philosophical ideas of the early 30s in book form, you would be confronted with at least two problems: 1. Which of the many formulations of an idea are you going to choose? 2. Which one of the arrangements of these formulations are you going to choose? Always the latest ones? If, in the later arrangement, remarks have been omitted, will you include the earlier versions?

In the case of the manuscript sources of *PHILOSOPHICAL GRAMMAR*, Part 1, you are confronted with a problem similar to the former case of nos. 105 and 106, but still more complicated: Shall one publish the remarks in their chronological order (let's make the erroneous claim that this can be uniquely identified), or shall one follow Wittgenstein's instructions to reorganize the whole (as Rush Rhees did)? If you choose the latter, then you reorganize three

manuscripts (nos. 114, 115, 140) and one typescript (no. 213) into one text, by omitting, selecting, rearranging and replacing remarks with other remarks. What if you had a medium which allowed you to get both a text which corresponds to the physical structure of the sources and a text which represents the result of the intended reorganization? In fact, Rush Rhees might have warmly welcomed the notion of a machine-readable version of what has become PHILOSOPHICAL GRAMMAR.

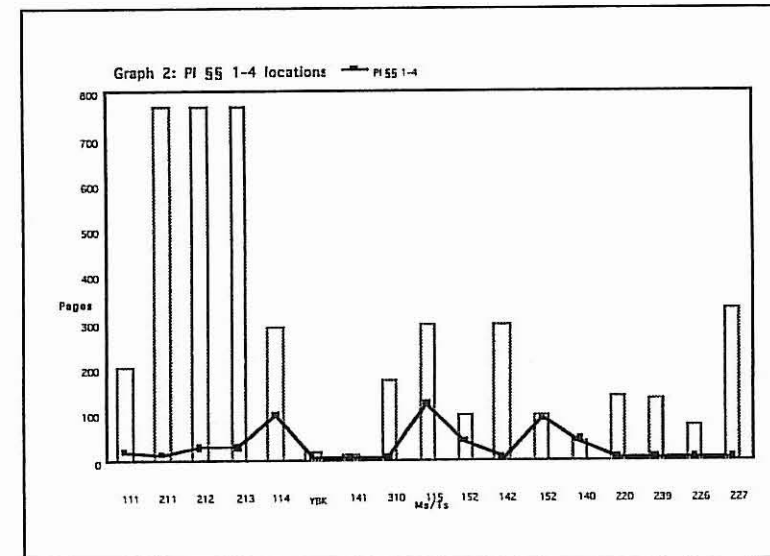
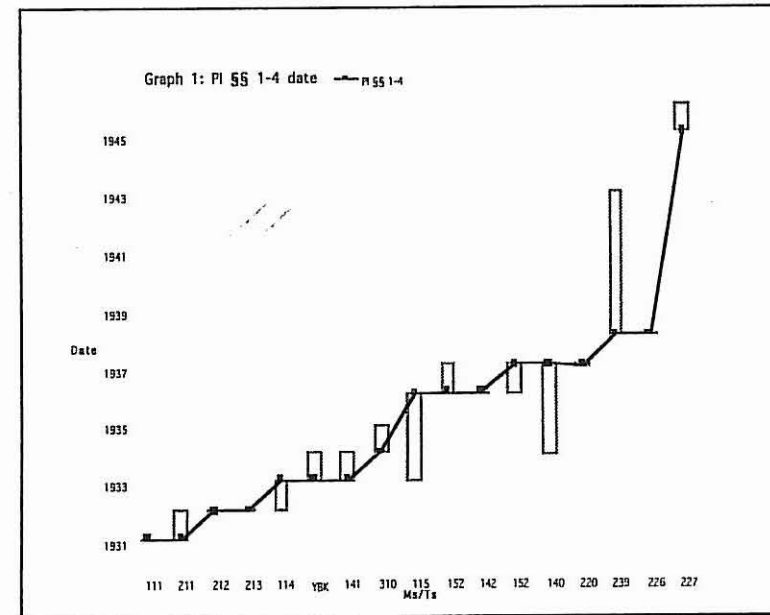
But the greatest advantage of a machine-readable version is in this case, that it allows you to make so-called hypertext-links which guide you - at a keystroke - from a certain remark to its variants in the same or a different manuscript, instead of - as in the case of a book edition - 1. having to resort to printed concordances or a critical apparatus and 2. having to follow up the reference in the same or a different book volume. This advantage becomes even clearer in the next example.

3. Wittgenstein's Nachlass contains "several 'layers' or stages of basically similar pieces of text"<sup>2</sup>. One example are the many versions of PHILOSOPHICAL INVESTIGATIONS §§ 1-4, whose history is illustrated in the following two graphs.

Graph 1 shows the development in time and relates the dates of the individual versions to the dates of the manuscripts/typescripts in which they are located. Graph 2 marks the positions of the individual versions within the number of pages in the manuscripts/typescripts. MS and TS numbers refer to von Wright's Nachlass-catalogue.

Dictation 311 is referred to by its publication in "The Yellow Book" (YBK) in *Wittgenstein's Lectures: Cambridge, 1932-1935* (since access to the original dictation was not possible). MS 142 was only recently discovered<sup>3</sup>, and it has therefore not yet been possible to investigate it. However, one can assume that it contains another version of the paragraphs in question.

Not all the indicated versions of the paragraphs contain the complete text of PI §§ 1-4. PI § 1e e.g. stems from MS 115: p. 79f (ca. 1933) and is - in the manuscripts which were available for investigation - first intended as a part of the whole from MS 140 (1937) onwards.



<sup>2</sup> Pichler 1993: p. 55, Huitfeldt 1994a: p. 38.  
<sup>3</sup> See Koder 1993: p. 52f.

It would clearly be a big advantage to be able to jump over from one version to another without having to use concordance volumes and without having to look through different book volumes. Or, what about getting all these versions by just letting the computer search for the word "Augustinus"?

Let me focus here on the following question: What are the texts in this case? Are they the physical units nos. 111, 211 etc.? Or parts of them? Or do we again have to adopt an intertextual, - or "hypertextual" - view regarding what text is, as in the case with the sources of PHILOSOPHICAL GRAMMAR? What about seeing as texts the lines which the single remarks draw throughout the Nachlass?

With a machine-readable version you can obtain both printouts which correspond to the physical division of the Nachlass and printouts which run counter to the physical criteria, but fulfil other criteria such as chronological, thematic, or, as I would wish in this case, evolutionary criteria.

I do not want to say that book editions of Wittgenstein's Nachlass make no sense. But editing the entire Nachlass in book form is an undertaking which would not only cost too much in relation to what it would achieve, but would also be confronted with many difficult editorial problems, for which today's computer technology can provide simple solutions.

Producing a machine-readable version might eventually also result in book editions of the Nachlass. However, one thing is clear from the point of view of the Wittgenstein Archives: A book edition of the whole, without a more comprehensive and open "mother" machine-readable-version to which you can refer, is of little value. But, having this machine-readable version, you are free to choose your stylesheet for desired prints on paper, i.e.: text, which has been deleted in the original, can be printed in the main text (marked as deleted), put in a footnote or entirely omitted; words underlined in the original can be printed as underlined, in italics or with any other emphasis marker; given several alternative readings you have the opportunity to choose exactly how you want to present them. You may only want to display one of the readings; you may want to display them all in the main text; or you may want to display one in the main text, the rest in a footnote, etc.etc.<sup>4</sup>

Let me close with a remark about the impact which I think a machine-readable version of the Wittgenstein Nachlass has on the notion of text and text editing. Machine-readable versions make it more clear to us what texts are and what text editing means: Texts are not objectively existing entities which just need to be discovered and presented, but entities which have to be constructed.

<sup>4</sup> For further reading see: Huitfeldt 1991, Pichler 1993, Huitfeldt/Letnes/Pichler 1993, Huitfeldt 1994a, Huitfeldt 1994b, Stern 1994.

They are products of both the author and the reader. All that exists in the case of Wittgenstein's Nachlass are scripts which first of all need to be identified, interpreted and organized. Having a machine-readable version of Wittgenstein's Nachlass provides a multiplicity of ways to organize and construct texts, it makes this easy - and it makes it obvious that there is an element of construction.<sup>5</sup>

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<sup>5</sup> On this point see further Alois Pichler, "Transcriptions, Texts and Interpretation" in this volume.

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