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BRIDGING THE GAP; SPLITTING THE BRIDGE? STUDYING *HUMANITIES COMPUTER SCIENCE* IN COLOGNE

The university of Cologne offers since a few years the possibility to study a field "Informationsverarbeitung". Within this field of study, two specializations are possible: A "Sprachliche Informationsverarbeitung", which is relatively close to the concept of Computer Linguistics, a discipline, which in itself appears within Germany in a number of variants, which are reflected by a very finely shaded nomenclature.

Fairly unique, however, is the second specialization, which the speaker represents, the "Historisch-Kulturwissenschaftliche Informationsverarbeitung". Fairly unique in two respects: The University at Cologne considers this a distinct academic subject, which can be studied at *all* levels, from the functional German equivalent of a BA right through to a doctoral programme. As a distinct academic subject, just as German philology, history or other conventional subjects - not as a module within a conventional course, nor as an "add-on" diploma, neither as a one year MA on top of a traditional subject.

Fairly unique, on the other hand, in being molded according to the concept of a "Humanities Computer Science", with the understanding, that the graduates of the field are as close, and in some respects probably closer, to general computer science as those of other applied variants of computer science as being taught at Economic faculties, faculties of Law or Medicine.

Not totally unique: parallels exit, e.g., to the concept of *Humanistisk Informatikk* taught at Bergen University, to the *Historische Fachinformatik* at the University of Graz, Groningen's *Alfa-Informatica* or Tito Orlandi's *Informatica applicata alle scienze umane*. Very fundamental differences exist, on the other hand, to the concept of *Humanities Computing*, as implemented particularly by the plethora of British courses, e.g., *The Humanities Advanced Technology and Information Institute* of the University of Glasgow.

While the current course of study leads to an MA or onwards to a doctorate, the University also provides currently a "Diplomstudium" in *Medienwissenschaft*en within which a field *Medieninformatik* will be offered. It should be clarified, that a "Diplomstudium" within the German system does not imply the kind of very low quality frequently associated with a "diploma" in the English usage of the word,

but a totally serious degree, which is more focused upon preparing for a specific type of employment, as opposed to the traditional German understanding of a university degree, which gives a focused academic education, but does (at least in theory) not prepare for a specific occupation.

The basic difference between the Cologne concept and that of *Humanities Computing*, is of course that between computer *science* and computer *applications*. From the students point of view that means, that the curriculum contains rather heavy demands in general knowledge, about algorithms, data structures, technical concepts and a lot of relatively general computer skills: A fairly intensive training in Higher Programming languages, with the understanding, that the graduate should be able to realize non trivial software systems; rather intensive involvement with XML, not as a vehicle to formulate a DTD, but as a general representation for data, which are not only to be represented by the DTD written, but also to be processed by the software the student has learned to write.

On the intellectual level the differences are even more fundamental. While the concept of *Humanities Computing* usually assumes, that the Humanities apply mainly tools and occasionally concepts developed by others, the Cologne concept assumes, that information as occurring within the Humanities has inherent properties, which from the narrowly focused point of view of a more general computer science are so exotic, special or peripheral that they do not merit closer study; just as it is neglecting those problems, which have lead to the creation of independent computer science research in the business schools. Business administration, according to the common (mis)understanding of computer science is much closer to it than the Humanities. If it still needs its own special brand of computer science, how much more so do the Humanities, which are much further removed from the common (mis)understanding of what computer science is all about? This notion of relative closeness between the disciplines *is* a misunderstanding. Computer Science is not concerned about computations in the numeric interpretation but with the general question how information can be represented and how these representations can be processed. This definition does not reduce, but establish the claim for a special brand of Humanities' computer science. After all, the Humanities have a very long tradition in the usage of complex, fuzzy and vague information, which is extremely relevant to overcome the information glut much complained about. Much more so, than the elegance of purposefully produced information as processed by our colleagues in the hard sciences. That the Humanities in general, are much to timid at the moment to claim their proper relevance for the solution of the problems of an information society is something the confessing Humanities' computer scientist can only diagnose; he can not be required to share that timidity.

On the intellectual level the differences are probably even more fundamental. While the concept of *Humanities Computing* usually assumes, that the Humanities apply mainly tools and occasionally concepts developed by others, the Cologne concept assumes, that information as occurring within the Humanities has inherent properties, which from the point of view of a more general computer science are so exotic, special or peripheral that they do not merit closer study. While for all practical purposes that difference is fairly fundamental, it can, in theoretical discussions, relatively easily be generalized away - particularly when only a fairly fuzzy concept of what computer science is about exists. Similarly one could say, that on

a very general level, no such things as German, Roman or Slavic philology exist: In principle a student of a much more general philology would just have to know all the languages and literatures concerned sufficiently well, to work on them in a consistent, integrative and cumulative way. It cannot be the task of a self-confessed specialist of a Humanities computer science to explain, why this general philology seems to be rare; observation shows, however, that it is.

While the paper presented will try to explain in more detail, what the concept implemented at Cologne means, we will continue with a proposal to see the relationship between elements of computer science and the Humanities as a continuum, which allows for three levels of interdisciplinary curricula, which should be carefully discussed separately, not to be unjust to any of them.

We will speak of *embedded* curricula, when a university of faculty discusses the need to integrate elements of computing into another discipline, where such elements consist exclusively of skills which themselves become in know way the topic of academic discussion.

The most frequently discussed type of curriculum recently has probably been one where computing knowledge is provided as an aim in itself, usually with an eye to perspectives of employability. The difference between an embedded curriculum and one of this type is that embedded curricula try to provide computer skills which are completely connected to requirements of individual disciplines, while what we are discussing now aims to provide a complete picture of a broader field of computing applications, explicitly understood to be applicable outside the traditional field of study. This type of curriculum we will call an *explicit* one.

Finally, there are attempts at defining curricula which, analogously to the notion of Computational Linguistics, include the ability to define (and possibly to implement) new types of computer-based solutions, derived from a thorough understanding of the substantial requirements of both historical research on the one hand and computer science concepts on the other. We will call these *interdisciplinary* curricula.

A very careful reader may wonder, why in the last paragraph we have switched from the *Humanities* to *History* in the preceding paragraph. A few readers might know, that that is the case, as the last three paragraphs are, partially verbatim, quoted from a text written by the speaker in 1993 as introduction to a slim volume on a European Core Curriculum in History and Computing.

A reflection on the reasons why the last three waves of attempts to establish courses and degrees combining computational and Humanities' knowledge have lefts so astonishingly few traces, that the author felt entitled to repeat these old arguments almost ten years later, will close the presentation.