ATLAS.ti – How It All Began. (A Grandfather's Perspective)

Heiner Legewie

Abstract

In this article Heiner Legewie describes the story of ATLAS.ti – from the first idea that resulted in the research project ATLAS (*Archive of Technology, Life World and Language*), to the various stages of developing the software ATLAS.ti from a first prototype up to its first commercial version. The story includes a number of anecdotes from this time showing the human touch behind the software ATLAS.ti that is still present even many years later.

Keywords

ATLAS.ti history, ATLAS project

From ATLAS To ATLAS.ti

Let me begin the story of ATLAS.ti with a quotation:

> "This work is like a dragnet to bring to light all the words of this language with their exact and metaphorical meanings, and all their ways of speaking, and most of their practices, good and evil."

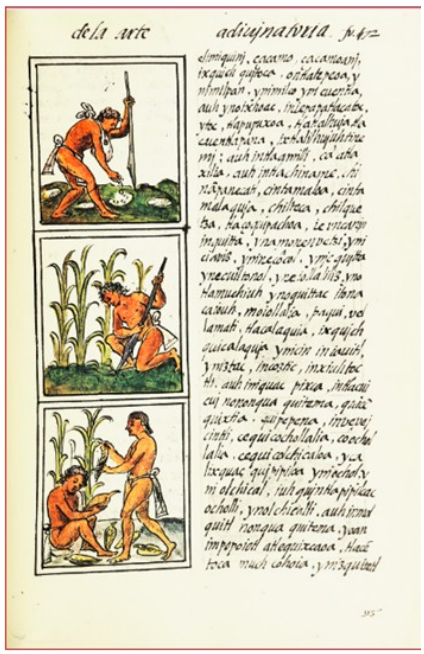

Figure 1: Historia general de las cosas de Nueva España

These lines are taken from the famous Florentine Codex *Historia general de las cosas de Nueva España* (Figure 1) . Written in 1569 by the Franciscan monk and ethnologist Fray Bernardino de Sahagún, it describes Aztec cosmology and everyday life according to reports by native eyewitnesses who had survived the Spanish conquistas. The metaphor of a powerful dragnet with the potential to reveal meaning was a vision in my head when we started to develop the ATLAS project at the Technische Universität Berlin in 1989.

The original idea of the project, however, was not only to develop a software program for qualitative data analysis, but also to build an archive of documents of our everyday culture, similar to Fray Bernardino de Sahagún's undertaking with the Aztecs. We intended to build an archive of modern everyday culture by compiling a database with all sorts of verbal data from different qualitative research studies that could be used as a resource for secondary analysis. Meanwhile, this idea has been realized by different institutions such as the ESDS Qualidata project in the United Kingdom and the *Archiv für Lebenslaufforschung* at the Univer-

sity of Bremen. Evidence that we may just have been megalomaniacs can still be detected in the name ATLAS.ti. The acronym "ATLAS" does reference the Greek hero who carried the world on his shoulders. In German, "ATLAS" was created as a true acronym that stood for "Archive of Technology, Life world and Language". We originally intended to develop a software system for text interpretation (which is the meaning of the ".ti" in ATLAS.ti), and to link it to a comprehensive qualitative data archive. In the second phase of the project, we developed a software tool (called "ATLAS.thesaurus") for thesaurus construction. Strangely enough, only ATLAS.ti made its way from the prototype stage to its current status as a product of worldwide renown. The reason for this astonishing career is quite simple: It is the child of its most avid developer, Thomas Muhr. And based on this genealogy, I am proud to call myself the grandfather of ATLAS.ti.

After this brief excursion in "prehistory", I will now turn to the element of qualitative data analysis. The need for QDA software grew out of our qualitative research tradition in the Department of Psychology at the Technische Universität Berlin. In 1986, after the Chernobyl nuclear disaster, we started an extensive longitudinal study with 60 in-depth interviews. Each interview lasted up to several hours and we ultimately had more than 4,000 pages of transcripts. We did not adhere to any algorithmic methods of verbal data analysis because we were deeply convinced that only competent human speakers would be able to understand and analyze the field notes or interview transcripts. Our preferred methodology of data analysis at the time was the grounded theory approach developed by Glaser and Strauss. Thomas and I both visited Anselm Strauss several times in San Francisco (see Figure 2).

Figure 2: Anselm Strauss in 1994

We had the opportunity to discuss the ATLAS project with him, and he became my mentor in grounded theory and my friend.

In those years, you could not find any software that supported hermeneutic text interpretation. What we needed was a software tool that would help qualitative researchers keep their many text documents in check, code or annotate selected text segments and construct semantic networks out of the code lists that emerged in the course of a research project. Erhard Konrad (the project's computer science co-director to whom I'll come back in a moment) declared that we were actually developing a new type of software program: text interpretation support as a complement to text processing.

Apart from practical reasons, there was still another reason to develop software for QDA. In the Department of Psychology, we were engaged in a real "battle" with the majority of our colleagues who believed that social research should only be done using quantitative and statistical methods. In line with the *zeitgeist* of those years, we hoped to dignify qualitative research by showing it could be done using a

computer program. Nowadays, this attitude within the scientific community may seem as ridiculous as the whole quantitative versus qualitative debate. Nevertheless, besides its helpfulness in QDA proper, a software tool like ATLAS.ti is simultaneously an excellent means for quality control in the research process: while data analysis by the good old paper & pencil methods was more or less intuitive and uncontrollable, "Hermeneutic Units" in ATLAS.ti, as well as other functions, provide an exhaustive digital documentation of every single step in QDA.

But how could a psychologist like me realize a software development project? I had to look for partners in other university departments, like computer scientists and linguists. I knew that scientists in almost all departments were competing for the computer scientists to cooperate in their projects and therefore I did not have high hopes of motivating a colleague from the Department of Computer Science to start a project with me. But when I asked Erhard Konrad, an expert in artificial intelligence and a critic of its naïve over-assessment, to join me in an interdisciplinary project, I was amazed and pleased that he was immediately interested in my project proposal. He explained to me that, for him as a computer scientist and artificial intelligence scholar, it was a challenge to work in the domain of everyday language. It also was easy to motivate Friedrich Braun, a linguist, to join the project because computer methods were a newly developing field in linguistics, too.

As we were waiting on the funding for our interdisciplinary project by the Technische Universität, Erhard Konrad told me about a recent graduate who was highly qualified and motivated to work within the project. His fear was that this student might have been offered another job and would therefore be lost to us. Thankfully, the funding came just in time because it turned out that Erhard Konrad's star student was Thomas Muhr, whom I already knew because he had graduated from our department in psychology before starting to study computer science! (A memory of this time is a photo shot by Thomas in 1978 as a freshman at one of our famous departmental parties Figure 4).

The next four years from 1989 to 1992 were one of the most thrilling periods of my professional life. The project was situated in a comfortable 6th floor office near the *Zoologischer Garten* railway station. Besides the project leaders, our team consisted of three to four full-time scientists – the psychologist and project coordinator Andreas Böhm, the linguist Hanna Pishwa, the computer scientists Thomas Muhr, and additionally for the second half, Josef Willenborg, plus a number of research assistants and graduate students. In our interdisciplinary team first we had to learn a shared common language to be able to advance psychological, linguistic and software concepts regarding ATLAS. From the very beginning, Thomas' job was the central one: development of the QDA-

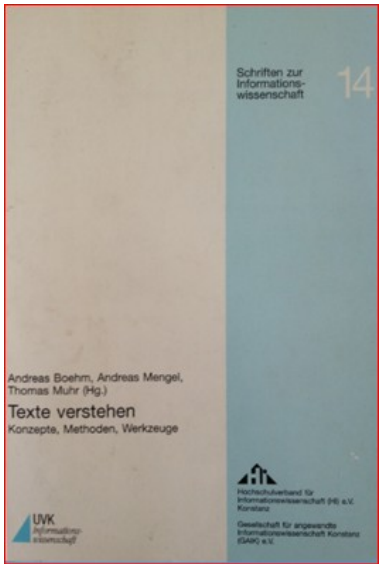

Figure 3: Proceedings of the 1994 symposium

software. He introduced the rapid prototyping approach, enabling us to test all the tools integrated in the later version of ATLAS.ti at an early stage. This also allowed us to give continuous feedback about the handiness of all features Thomas designed. But, despite all this hard work, we had wonderful parties too, which Thomas enriched with his guitar and the Beatle-inspired songs of his band, "Midlife Chrysler."

After two years, the project had to be evaluated, an occasion which we seized to organize a symposium with multiple brilliant speakers. The keynotes of the conference were published in 1994 in the "Proceedings of Computer Science" under the title "Understanding Texts: Conceptions, Methods, Tools" (Figure 3).

Figure 4: ATLAS.ti - The Early Days

Normally, project evaluations are followed by budget cuts, but our reviewers were deeply impressed by our work and therefore recommended that the university hire an additional project scientist for the remainder of the project.

At the end our output were a modest qualitative data archive, a couple of master's and Ph.D. Theses, and a lot of gray papers on different aspects of QDA (our "Proceedings of the Interdisciplinary Research Project ATLAS" (Figure 5 below). And, of course, the most important result: The prototype of ATLAS.ti, an MS-DOS program that was not at all fit for the new Windows world.

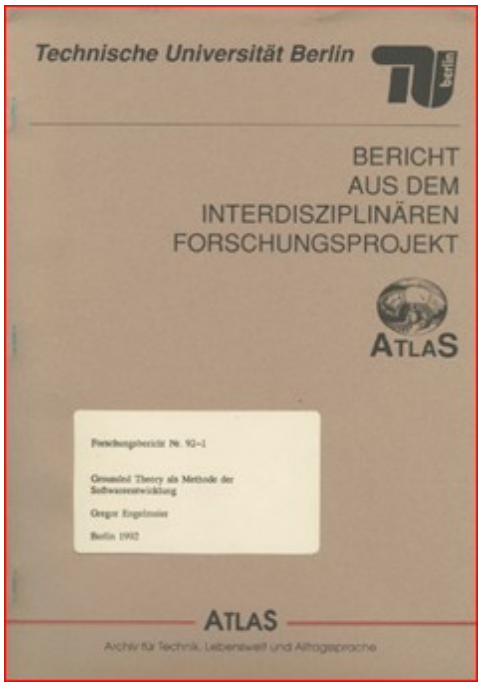

Figure 5: ATLAS project summary

Academic culture may have changed by now, but in the 90s prototypes developed in the course of projects often remained buried in the departments' research repositories for some years before being cleaned out completely. But that was not the fate of Thomas's project: In four years of hard work, he developed the first commercial version of ATLAS.ti for Windows and founded his own company, *Scientific Software Development.*

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Before I conclude with a grandfather's heartfelt wishes for the future of my grandchild, I will end the review of the early days of ATLAS.ti with the Story of the Red Dot. A few years ago, I visited Thomas while he was under a lot of stress because of the pending release of a new version of ATLAS.ti. He showed me the cover of the program CD-ROM – green with a lovely red dot as an eye catcher, a

really professional layout by a seemingly gifted designer. Then he told me that he had designed it all by himself. But he was disappointed with the print shop because it had not able to correctly reproduce the red he had selected, and so he worked for hours with the printer to get the result he wanted.

Figure 6: Another namesake: Atlas

To me, the red dot is emblematic of Thomas's working style: perfectionism down to the smallest detail. ATLAS.ti users all over the world appreciate this perfectionism in the product. As I view my "grandchild" ATLAS.ti, it is not only functionally perfect, but it is also *beautiful* software!

Heiner Legewie

Prof. em. Dr. Dr. Heiner Legewie holds degrees in medicine and in psychology. In 1977 he became full professor of Clinical Psychology at the Technical University Berlin. His orientation of research, teaching and practical work was focused on Community Psychology, Public Health, and Urban Health Promotion. Accompanying his field research, he developed a special interest in the methodology of qualitative social research. In 1989, he initiated the interdisciplinary A.T.L.A.S. *project at the TU Berlin. Part of the project included the development of a program that evolved into ATLAS.ti. Since his emeritation in 2002 he continues conducting research and teaching at the* Zentrum Technik und Gesellschaft *of the Technische Universität Berlin. Email: Legewie@ztg.tu-berlin.de*

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