HUMANISTIC ASPECTS OF TEXT AND IMAGE INTERPRETATION



HEINER LEGEWIE

FIVE LECTURES



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FIVE LECTURES

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GREETING

Jörg Hecker (Managing Director ATLAS.ti)

Dear readers,

It is with great pleasure that I welcome you to the publication of Prof. Dr. Heiner Legewie's lecture series "Humanistic Aspects of Text and Image Interpretation".

Rooted in a longstanding tradition of humanities and social sciences research, this lecture series accompanies an innovative stride taken in the 1990s at the Technical University of Berlin. Driven by Heiner Legewie's vision, an interdisciplinary research project was initiated with the goal of developing a software system for supporting the interpretation of texts, images and multimedia, offering a digital alternative to the conventional "paper and pencil" methods of that time. This initiative led to the creation of the prototype of ATLAS.ti by computer scientist and psychologist Thomas Muhr, who later on founded ATLAS.ti Scientific Software Development GmbH and made ATLAS.ti a leading software for text and image interpretation worldwide.

As the current CEO of ATLAS.ti Scientific Software GmbH, I've witnessed a transformation in text and image interpretation, largely due to advances in artificial intelligence. Tools like ChatGPT represent a new era, enhancing our interpretative capabilities and prompting a critical examination of the philosophical and communication-theoretical grounds of interpretation– crucial for understanding AI's role in this domain.

I'm proud to support the publication of Heiner Legewie's updated lectures on our platform and in print. The series not only traces ATLAS.ti's origins but also delves into the philosophical and communication-theoretical bedrocks of interpretation, a topic as vital now as during the software's inception, given AI's rapid evolution.

Enjoy this enlightening read. I eagerly anticipate joining you in discovering qualitative data analysis's future in our fields.

I extend my deepest gratitude to Heiner Legewie for his seminal work.Warm regards,

With kind regards, Jörg Hecker CEO, ATLAS.ti



FOREWORD

In the 1990s, traditional text and image interpretation in the social sciences and humanities was transformed by the introduction of interpretation support systems such as ATLAS. ti. Today, these systems are undergoing rapid change through the latest AI developments, especially through Large Language Models in applications such as ChatGPT, Perplexity, Bing Chat, which trigger enthusiasm as well as criticism and anxiety among social scientists and humanities scholars. It seems important to me, therefore, that we take a look at the philosophical and communication-theoretical foundations of the interpretation of human utterances in text and images, not least in order to develop a deeper understanding of the potentials and limitations of the use of AI in interpretation work.

Who is the lecture series aimed at?

This series of lectures deals with the hermeneutic, semiotic, phenomenological and communication-theoretical prerequisites and foundations of understanding and interpreting texts and images. It is aimed at

- empirical social scientists who collect and analyze non-numerical qualitative data in psychological, pedagogical, sociological, health science or other research contexts with the help of observation, interviews, video and multimedia
- People in the humanities, communication, culture, art, politics and history, in urban planning, in business, in investigative journalism, in creative research and art or in large-scale project management: everywhere qualitative data is involved when speech and visual documents come into play.
- Even if you are simply interested in the philosophical and communication-theoretical foundations of everyday life, culture and society, you will find the lectures very interesting.

So if you work with qualitative data in any of these fields, this lecture series will help you develop a deeper understanding of interpretation work, whether you work with "paper and pencil" or with software systems like ATLAS.ti.

What will you learn?

This lecture series is not about teaching the many individual methods of text and image interpretation, for which there are excellent introductions, handbooks and webinars.

Instead, I would like to take you on a journey through the interdisciplinary foundations of human communication and interpretation of human expressions as qualitative data - from hermeneutics, semiotics and phenomenology to the theory of communicative action. The fifth lecture occupies a special place. Here the "philosophy" of qualitative projects is described; it is about the logic of discovering new insights. Finally, I outline the grounded theory method as a comprehensive strategy for developing theoretical concepts in a hermeneutic dialog with the data. In all of this, I will endeavor to convey even sophisticated theoretical approaches in an understandable way.

My aim is to make this lecture series an exciting intellectual adventure and to provide you with a rich background knowledge of text and image interpretation. Along the way, you will gain insights into existential questions such as the position of consciousness in the material world or the prerequisites for understanding others and communication.



1. LECTURE

HOW THE ATLAS.ti PROJECT BEGAN - THE HERMENEUTIC RESEARCH PARADIGM

Ladies and Gentlemen,

Welcome to this series of lectures on *Interpreting text and images* presented by the ATLAS.ti Academy. My name is *Heiner Legewie*, I am Professor Emeritus of Clinical Psychology, Community Psychology and Public Health at the *Technical University of Berlin*. One of my main areas of research is qualitative methods.



In this lecture series, I would like to take you on a journey to explore the interdisciplinary fundamentals of qualitative research. I will begin by talking a little bit about the origins of ATLAS.ti which came out of an interdisciplinary research project under my direction at the *Technical University of Berlin* from 1988 to 1992.

Fig. 1.01: Heiner Legewie

1.

HOW THE ATLAS.ti PROJECT BEGAN

This lecture series came into existence in the 90s in parallel with the development of the ATLAS.ti software system. I would like to take a brief look at this backstory so that you can better grasp how these two developments came about concurrently.

As a young academic at university and at the *Max Planck Institute of Psychiatry* in Munich, I grew up exclusively on quantitative and experimental research methods. After being appointed Chair of Clinical Psychology at the *Technical University of Berlin*, I launched the borough-wide *Advising in Moabit* project, together with a group of students. Working with mentally ill and at-risk people, it became clear to me how little standardized questionnaires and statistics could help us to understand the everyday problems of the people who came to see us. Participant observation methods and conversations, or interviews, on the other hand, promised much more direct access to the conditions, in which mental health and mental illness exist. It was about two different approaches to investigation and research, *Measuring* and *Understanding*, which I will address in more detail in the final section of this first lecture. In order to also research the everyday lives of people outside of the advice center, I moved to a deprived neighborhood in West Berlin, the *Stephanviertel* district of Moabit, in 1980 where I lived for a year and a half, exploring this foreign world like an ethnologist.

A second important research project was a more extensive study on the psychological consequences of environmental threats, for which we conducted around 60 lengthy open interviews after the *nuclear disaster at Chernobyl in 1986*. By the end, we found ourselves faced with the task of evaluating more than 1000 pages of interview transcripts. Which at the time still meant working with paper and pen, and scissors and glue. In this *Copy & Paste era*, all quotes that were relevant for each code or keyword would be cut out from the transcribed texts, arranged according to category and glued onto a large poster-sized piece of paper or pinned to a cork board. Relationships between the codes were then marked with colored arrows. The walls of our rooms back then looked like intriguing pieces of written artwork.



Fig. 1.02: "Understanding Texts – Concepts, Methods, Tools"

These two projects gave rise to the idea of developing a software system that would help to evaluate interview texts. With research funding from the *Technical University* of Berlin, we were able to launch the interdisciplinary research project ATLAS in 1989. In German, the acronym ATLAS.ti stands for: "Archiv für Technik, Lebenswelt und Alltags-Sprache", or "Archive for Technology, Life-World and Everyday Language", with the .ti representing text interpretation.

The collaboration of psychologists, linguists and computer scientists created a unique intellectual atmosphere where the problems of qualitative research were discussed from different disciplinary perspectives. Published in 1994, the volume *Texte verstehen* (*Understanding Texts*) brings together our interdisciplinary approaches.

At the time, the social science community was still not taking qualitative research particularly seriously. Computer-aided analysis of text and multimedia therefore simultaneously constituted a groundbreaking

scientific advance for qualitative research by documenting each individual step of an evaluation, allowing it to be reconstructed. The design of the ATLAS.ti software system, and also my accompanying lecture series, was heavily influenced by, among other things, a dialog with American sociologist *Anselm Strauss* (1916 – 1996). His *Grounded Theory Method* – developed together with *Bernie Glaser* (1930 – 2022) – is a research style and a strategy that allows us to develop theoretical concepts from qualitative data (see Lecture 5). After we met during a long interview (see Legewie & Schervier-Legewie 2004, <u>https://www.qualitative-research.net/index.php/fqs/article/view/562</u>) *Anselm* became my mentor for qualitative methods in the 90s and we remained connected as friends and colleagues until his death.

With its diversity of methods and the flexibility of its design, Grounded Theory inspired the design of ATLAS.ti. In order to avoid any misunderstanding of ATLAS.ti as a software system designed chiefly for working in the style of Grounded Theory, however, I would like

to emphasize at this point that from the very outset, our goal was to develop a tool which was suitable for the full range of different approaches and methods in qualitative research: genuine hermeneutic text interpretation as well as different other approaches to qualitative data analysis including quantitative evaluation strategies. All these techniques are equally supported by ATLAS.ti. I will come back to this versatility at various different points throughout this lecture series.



Fig. 1.03: The author interviewing Anselm Strauss in 1990

As the "grandfather" of ATLAS.ti, I would like to introduce to you the father and creator of this software, that is now used around the world, *Thomas Muhr*, without whom it would not have been possible to publish this lecture series here. When he's not in the lab, you'll find him guitar in hand at <u>www.facebook.com/midlifechrysler</u>.



Fig. 1.04: Thomas Muhr with project coordinator Andreas Böhm 1992¹

Thomas started out studying psychology at the *Technical University of Berlin*. After graduating, he began a computer sciences degree and we lost track of one another.

¹I am greatful to Andreas Böhm, Susanne Friese, and Thomas Muhr for corrections and suggestions on these lectures.

Then, when the interdisciplinary research project ATLAS (1989 – 1992) launched, an IT colleague involved in the project came to me and waxed lyrical of a computer scientist who had just finished his studies and who he wanted at all costs to bring on board our ATLAS project.



Abb. 1.05: Thomas Muhr today

His instincts were not wrong: *Thomas* was an intellectual center for the project, his ideas on how to implement the demands from our practice of interpreting texts quickly leading to an initial prototype of ATLAS.ti programmed in MS DOS (who here remembers that clunky command language, the one without the graphic interface that is so completely indispensable these days?). It was also around this time that Thomas introduced *Rapid Prototyping* as a development principle for ATLAS.ti, meaning that we as users could oversee the development of the program from the very beginning and adapt its functionality to our data analysis requirements.

Without *Thomas*, ATLAS.ti would most likely have ended its life like so many prototypes do in the "archive morgue". But *Thomas* had set himself the task of turning this prototype into a commercial, internationally competitive software system initially in a "garage" phase due to some financial hardships. And doing so, he dedicated his professional life to ATLAS.ti.

On a visit to San Francisco, he also had the opportunity to introduce *Anselm Strauss* to ATLAS.ti so that he could be one of the first to test out the program and offer tips on how to develop it further. *Thomas* has continued to be involved in the development of theories and concepts in qualitative data analysis as it is presented in this lecture series.



© Thomas Muhr

Fig. 1.06: Thomas Muhr: Sketch of ATLAS.ti data flow

I would like to take a moment here to tell you the "Story of the Red Dot" as an example of *Thomas*' perfectionist attitude to his work. He always took care of everything himself. When I visited him just before the release of the first Windows version of ATLAS.ti, he was working on the CD case for the program. He told me that he had spent the last 2 days trying to get just the right color for the red dot on the cover, and to position it exactly where it should be.I could



hardly see any difference on the printouts, while Thomas insisted on getting the perfect print, just as he envisaged it.



Fig. 1.07: Red dot and ATLAS.ti logo

The attention to quality that *Thomas* exhibited over this seemingly unimportant detail shaped the design of ATLAS.ti right down to its bones. As a lover of art and active amateur musician, the aesthetics of the user interface were always just as important to him as the functionality of the program. And as it happens, the red of that red dot has survived all the changes that have been made to the design of ATLAS.ti over the years and is still in use to this day.

Now, *Thomas'* company *Scientific Software Development* (later *ATLAS.ti Scientific Software Development GmbH*) can look back on almost 30 years of international success. That first modest Windows version from the mid-90s that was only capable of analyzing texts in .txt and .rtf format has grown into a rich pallet of applications for all common document types, including multimedia. Each new version - most recently version A23 - has brought with it important innovative features like *AI-based text recognition and coding using Machine Learning*.

ATLAS.ti is now available as a native *Mac* and *Windows* version, plus *iOS* and *Android versions* and an independent web version. The web version makes getting into *Qualitative Data Analysis (QDA)* easy and allows teams to code in sync, with multiple coders able to work on the same project at the same time, plus several other features.

In addition, the latest AI developments based on "big language models" have been integrated into ATLAS.ti, enabling the screening of larger data sets. Specifically, these are Named Identity Recognition, Sentiment Analysis, Open AI Powered Summeries and Coding. https://atlasti.com/atlas-ti-ai-lab-accelerating-innovation-for-data-analysis

There is also free phone and chat support worldwide for learning how to use the software. Video tutorials on specific versions are also available for all versions, plus a network of over 500 trainers and consultants (<u>https://atlasti.com/trainers</u>) who support software users locally. The lectures and webinars in the ATLAS.ti Academy (<u>https://atlasti.com/research-hub</u>) offer a further opportunity not only to get to know the software in all its many facets, but also to take advantage of offers on fundamentals and methodology – offers like this lecture series, for example.

2. AREAS OF FOCUS IN THE INDIVIDUAL LECTURES

In the following section, I will begin by giving you an overview of the lecture series that should help you to pick out which lectures are relevant for you:

Lecture 1, *How the ATLAS.ti project began*, introduces the topic and describes the development years of the *ATLAS.ti prototype*. In the final section, you will learn about two basic approaches or *paradigms of research*:

Quantitative, which is based on counting, measuring, mathematics and statistics, and *qualitative research*, which is based on communication and understanding.

Lecture 2, *Semiotics*, is about the *paradigm of signs* in the exploration of the world, about fundamentals of communication, the way in which signs become signifiers, and about a theory of culture and meaning based on the use of signs.

Lecture 3, *Phenomenology*, is about the location of *subjective experience* in the physical world, the phenomenological view of our everyday live, and about conditions for understanding others.

Lecture 4 focuses on philosopher and sociologist *Jürgen Habermas' Theory of Communicative Action* which provides a comprehensive theoretical basis for human communication, and therefore also for qualitative research and for validating its results.

Lecture 5 provides an overview of the process of qualitative data collection and analysis. First, it addresses the characteristics of qualitative projects. Then, the steps of traditional text interpretation are described as a blueprint for implementation in software systems for qualitative data analysis. In the last part, grounded theory is presented as a research style for gaining new insights and a comprehensive method for qualitative data collection and analysis.



3. TWO RESEARCH PARADIGMS: UNDERSTANDING AND MEASURING

The concept of a scientific *paradigm* (a pattern of thinking) was introduced by philosopher of science *Thomas S. Kuhn* (1922 – 1996) in his groundbreaking book *The Structure of Scientific Revolutions* (1962). According to the general view that had previously been held, scientific progress occurs cumulatively: A continual refuting (falsification) of incorrect hypotheses in the natural sciences should produce ever more precise knowledge. *Kuhn's* starting point was a historical study of the development of physics, astronomy and chemistry. In doing so, he hit upon the central meaning of scientific patterns of thinking which direct all research in an area of study without the research community being at all aware of these in most cases.

Unlike individual theories, which can be refuted using observational data, a paradigm consists of a network of convictions and ways of thinking in the minds of the scientists in any one field which constitute the "world view" of this field, so to speak. The paradigm determines the nature of research and how theories are formed, and affects the entire scientific enterprise, from selecting which subjects are considered "worthy of study" and questioning tolerated methods, to the theories that are established and the criteria of truth that apply.

According to *Kuhn*, scientific progress - at least in the natural sciences - goes through three phases:



Fig. 1.08: Thomas S. Kuhn (1922 - 1996)³

• In the first phase of *normal science*, scientific inquiry and progress takes the form of "solving puzzles" within the context of a generally fixed paradigm. In physics, this paradigm was for centuries the Newtonian world view. Knowledge actually grows cumulatively within the paradigm.

• Yet puzzles that are "unsolvable" for the currently accepted paradigm continue to appear. This brings into question the scientific community's self-image. The general foundations are brought into doubt and a *paradigm crisis* occurs, as was the case for Newtonian physics at the end of the 19th century. In this phase, entirely new and often contradictory concepts appear as candidates for a new paradigm.

• The paradigm crisis ends with a *scientific revolution* when the scientific community turns to a new paradigm that promises to solve the puzzles better. Thus, the geocentric view of the world was replaced by the heliocentric view

during the "Copernican Revolution", while Newtonian physics was revolutionized by Einstein's theory of relativity. A new paradigm leads to a reexamining of all the questions, methods and theories of the science and to the rewriting of textbooks.

³ Reproduced by permission of the author (see Sigurdsson 2016)



Fig. 1.09: Nicolaus Copernicus (1473 - 1543)⁴

What is crucial for the discussion of scientific theory, according to *Kuhn*, is the acknowledgment that a paradigm cannot be founded purely on logic, rather it is made up of the common convictions of the scientific community.

For the theory of science, *Kuhn's* work represents a scientific revolution in itself: The truth of a theory depends first and foremost not on whether it reflects reality (*Representation theory of truth*), but rather on the consensus of experts (*Consensus theory of truth*). In other words: Scientific knowledge is literally constructed by the community of scientists through their shared perception of the problem, their concepts and their methods. This corresponds to the scientific theoretical position of *Constructivism*.

While paradigms replace one another in the highly developed natural sciences, in the social sciences it is not possible to consistently identify any strict replacement of paradigms.

Rather, what we see is different paradigms existing alongside one another either permanently or for extended periods of time. This does not appear to have anything to do with the social sciences being less advanced, rather it is due more to the fact that we can both observe and measure humans and society as physical objects and also communicate with and understand them through the use of symbols.

Understanding and Measuring (including Counting as the simplest form of measuring) are the two fundamental paradigms which social and cultural sciences are based on, together with their methodology and individual methods. On the one hand is the *hermeneutic*, or qualitative understanding of science if you will. (*Hermeneutics* is the art of interpreting signs, named after the Greek messenger god *Hermes*). This approach emphasizes the contexts of understanding and cultural history. On the other is the *Cartesian understanding of science* which aims at measurements and mathematical laws and can be traced back to French philosopher *René Descartes (1596 - 1650)*. A simple comparison is as follows:

⁴ "Portrait of Nicolaus Copernicus" by University Library Leipzig is marked with CC PDM 1.0



HERMENEUTIC

- Knowledge is conditioned by historical culture
- Subject is part of cognitive process (enlightenment of the self and of objects)
- Understanding contexts of meaning as a basic methodological principle
- Forming theories by interpretation (hermeneutic circle)
- Discourse metaphor
- Aim: To change discourses
- Qualitative methods
- e.g. ATLAS.ti

CARTESIAN

- Knowledge is not bound by space and time
- Strict separation between subject and object of knowledge
- Breaking down object of knowledge into measurable "variables"
- Deduction from general, mathematical laws
- Machine metaphor
- Aim: Prediction/Control
- Quantitative methods
- e.g. SPSS

TWO PARADIGMS OF SCIENTIFIC UNDERSTANDING

The *hermeneutic understanding of science* is based on a tradition that stretches far back in human history, one of understanding nature through *interpreting signs*. According to this view, nature is a book whose words and sentences the informed person can read and interpret based on their experiential knowledge (more details in Lecture 2 on *Semiotics*). The meaning of a sign reveals itself not on the grounds of mathematical laws, but through the context, in which it finds itself.

Knowledge is not unbound from space and time, rather it is bound to the knowing subject and to the context, in which a phenomenon is embedded. In *philosophical hermeneutics*, this mode of knowing has been investigated in particular using the example of interpreting language texts (Bible, legal, historical, literary texts), as well as visual works.



Fig. 1.10: After the title of a book by Umberto Eco, Hermeneutics in the Middle Ages: Monks interpreting Holy Scripture

Understanding and interpreting a word or sentence is only ever possible by using the overall context, at the same time as this overall context is made up of individual words and sentences.



Left: Subject-Object relationship; S1, S2 = Subject enriched by understanding (S), O1, O2 = Better understood object (O) *Right:* Part-Whole relationship; P1, P2 = Part enriched by understanding (P), W1, W2 = Whole enriched by understanding (W)

Interpretation moves from the detail to the whole and back to the detail in a circle (*hermeneutic circle*; see Fig.). This same circular movement also occurs between the object of knowledge (text, image, symbol) and the subject of knowledge (interpreter).

In developing ATLAS.ti, we took as our starting point the hermeneutic understanding of text interpretation. Today, when we speak of qualitative data analysis instead of text interpretation, this always also includes the hermeneutic basis of understanding and analyzing texts, images and symbols as the ineluctable first step in qualitative data analysis. At the same time, text interpretation can be followed by additional analytical steps, from the structuring of concepts explored interpretatively in graphic form, to statistical evaluations. As a toolbox for qualitative data analysis, therefore, ATLAS.ti is just as well suited to interpreting texts and multimedia only hermeneutically, as it is to taking further steps in data analysis.

The *Cartesian understanding of science* follows the philosophical tradition of *rationalism* (ratio = reason) which can be traced back to *Plato (b. 428/427 BC)*. Its most striking rendering comes from the French philosopher *René Descartes*. *Descartes* assumed a strict separation between the knowing subject (the scientist) and the object of knowledge. By breaking down the object of knowledge into measurable elements and inferring the interaction of these elements from general mathematical laws, it should be possible to calculate and predict the behavior of humans and nature like a perfect machine. Even today, these principles form not only the foundation of natural sciences and technology, but have also conquered the social sciences and even proven extremely successful in planning, bureaucracy and administration.



The *Cartesian world view* can thank its claim to making the future predictable and thus controllable for its appeal and its success. The fact that neither nature nor human beings function like clockwork - as *Descartes* imagined - is accommodated for in modern rationalism by introducing probability theory and the computer as a new machine model. The *Cartesian world view*, in unison with the Biblical command to "Subdue the earth", has established the global triumph of occidental civilization. Today, this world view is reaching its limits, as evidenced most clearly by the global environmental crisis.

But a strict contrast between Explaining and Understanding is no longer relevant in scientific theory today. In fact, it has turned out that even the exact natural sciences have to rely on interpretative understanding for their law-based explanations.

The juxtaposing of the *Cartesian understanding of science* with the *hermeneutic understanding* should not be misinterpreted such that one paradigm is correct and the other incorrect. Rather, it is about different perspectives regarding the object of the social sciences that must not be played off against one another. *Neither Understanding nor Measuring can be regarded as a silver bullet in the social sciences*.



Fig. 1.12: Two basic research methods in the social sciences

Measuring or understanding-based research methods do not simply describe different aspects of social reality, rather the methods each create or construct their own reality (*constructivism in scientific theory*). Accordingly, it is wrong to assume that this or that method would describe the reality better, or lead to better, more correct results.

Under this assumption, the question is: What approach to research is appropriate for the respective question and objective? Depending on the question, understanding and measuringbased methods exist in a complementary relationship. Any claim by either of these directions to exclusive agency is to be rejected in all cases. Since both approaches allow different aspects of social reality to be described, the approach that is proving fruitful for ever more questions is a *mixed-method strategy*, i.e. an approach, in which quantitative and qualitative methods are combined such that the strengths of both strategies can be used to answer the research questions at hand. Working with ATLAS.ti also allows mixed-method strategies to be used, such as by generating frequency tables which can be exported from ATLAS.ti for statistical evaluations. Conversely, statistical tables and graphs can be integrated into ATLAS.ti projects as documents and used in the interpretation process.

Quantitative, qualitative and mixed-method research strategies all together exist only in a social context of action, according to their objectives and research questions, which as a researcher it is worth reflecting on when collecting and analyzing data.

4.

PROMPTS FOR DISCUSSION

In order to absorb the content of the lectures in greater depth, we recommend actively engaging with the content, rather than just reading it. Suitable approaches include writing short essays and discussing with colleagues. At the end of each lecture, you will find a brief set of questions that are intended to provoke you to actively engage with the material.

Look for examples of a paradigm shift in different areas of life.

- Identify occasions when you use communication or counting and measuring techniques to solve everyday problems. How do each of these problems differ?
- Think of some examples of fluid transitions between everyday understanding and the use of controlled methods of understanding (e.g. interviewing).
- Explain the meaning of the hermeneutic circle using an example (e.g. a written historical document).
- Think of some examples of scientific questions which might be better solved with either understanding-based or counting and measuring-based methods.
- What skills are required for counting and measuring-based processes, on the one hand, and understanding-based methods of data collection and analysis on the other?



5. LITERATURE

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2. LECTURE

SEMIOTICS: SIGN AND MEANING

Ladies and Gentlemen,

Today's lecture is about the study of signs, or semiotics (from the Greek sema/semeion = sign).

1

INTERPRETING SIGNS

Umberto Eco (1932 – 2016) was a bestselling Italian author, polymath, polemic columnist and essayist, media and cultural theorist, bibliomaniac and one of the most important semioticians.



Flg. 2.01: Umberto Eco (1932 - 2016) ¹

Working from the ancient metaphor "the world is a book whose text is given to us to read", *Eco* gives us an illustrative introduction to the art of interpreting signs in the first few pages of his novel *The Name of the Rose* which I would like to quotation from to start this lecture:

The first-person narrator, the novice Adson of Melk, tells of how, in his youth, he and his master, William of Baskerville, climb the steep path to an abbey where the novel takes place. William lingers for a moment at a tree-lined bend in the road to carefully examine a track in the snow and a few bent branches. Then, when a group of agitated monks appears, he explains to their leader that "Brunellus, the favored horse of the abbot" has run off and describes what the horse looks like and where to find it. Once the monks have run along, the following dialog unfolds between student and master:

'And now tell me how did you manage to know?'

'My good Adson, during our whole journey I have been teaching you to recognize the evidence through which the world speaks to us like a great book. I am almost embarrassed to repeat to you what you should know. At the crossroads, on the still-fresh snow, a horse's hoofprints stood out very neatly, heading for the path to our left. Neatly spaced, those marks said that the hoof was small and round, and the gallop quite regular–and so I deduced the nature of the horse, and the fact that it was not running wildly like a crazed animal. At the point where the pines formed a natural roof, some twigs had been freshly broken off at a height of five feet. One of the blackberry bushes where the animal must have turned to take the path to his right, proudly switching his handsome tail, still held some long black horsehairs in its brambles. ...

'Yes,' I said, 'but what about the small head, the sharp ears, the big eyes ...?'

"File: Italiaanse schrijver Umberto Eco, portret.jpg" by Bogaerts, Rob / Anefo is marked with CC0 1.0



'I am not sure he has those features, but no doubt the monks firmly believe he does. As Isidore of Seville said, the beauty of a horse requires 'that the head be small, .. short and pointed ears, big eyes, flaring nostrils, erect neck, thick mane and tail..'

'All right,' I said, 'but why Brunellus?'

'May the Holy Ghost sharpen your mind, son!' my master exclaimed. 'What other name could he possibly have? Why, even the great Buridan, who is about to become rector in Paris, when he wants to use a horse in one of his logical examples, always calls it Brunellus.' *(Eco 1983, pp.26-27).*

Eco illustrates here the different contexts, in which signs can appear, be it in the form of natural signs (bent branches as an indication of the size of the horse) or as artificial signs which are created by humans, e.g. in order to express a certain idea (the name of the horse which is intended to indicate its noble nature).

In his book *II Segno (The Sign) (1973), Eco* defines signs as *"something that stands for something different for someone"*, i.e. something that has a *meaning* for the receiver of the sign. In the following overview, he proposes a differentiated classification into natural and artificial signs.



Fig. 2.02: Classification of signs (modified after Eco 1973, p. 44)

Particularly significant for human communication, and thus also for qualitative data analysis are signs that are produced expressly for the purpose of designation, that is for indicating something such as written and spoken language, images, artistic representations. A second group are signs like facial expressions and vocal quality that are produced by humans unintentionally. A third group are tools, in the broadest sense, and also the built environment, including architecture. Tools possess not only their utilitarian function as a tool (hammering with a hammer, entering through a door, living in a house) but also a sign function. Thus, the *primary sign function* of the door is to show me where the entrance to the house is; its decoration as a majestic portal constitutes its *secondary sign function*, whereby it indicates the social status of the owner or the significance of a public building.

2. SERENDIPITY AND THE MORELLI METHOD

In 1983, Italian historian and cultural theorist *Carlo Ginzburg* (*1939) wrote a witty cultural and scientific history of the use of signs that reads like a crime novel under the title *Clues: Roots of an Evidential Paradigm (Ginzburg 1988)*.



Fig. 2.03: Carlo Ginzburg (b. 1939) ²

In this paper, he contrasts the quantitative understanding of science that goes back to *Galileo* and *Descartes* with the much older search for knowledge based on clues, traces, indicators or signs. He sees the beginnings of this in "the hunter crouched in the mud, searching for traces of his prey". *Ginzburg* shows that - unlike the experimental method that is based on reproducibility - the *indicator paradigm* produces knowledge of the individual and the unique.

Fundamental here is the conclusion of the underlying cause (fire) from an effect (smoke) and of the whole from often seemingly insignificant details. In *lecture 5* I will return to this method of conclusion called *abduction* - the only logical conclusion which leads to *new* findings.

Ginzburg shows us that *Umberto Eco's* story of Brunellus the horse appears as an ancient motif in a fairy tale that is widespread among Kyrgyz people, Tatars, Hebrews and Turks, in which three brothers are able to describe a stolen camel - or a horse, in another version - to a court based on a multitude of traces as accurately as if they had seen it themselves.

This story was further expanded in a collection of novella in Persia and first appeared in Italian in the 16th century under the title *The Three Princes of Serendip*. English writer *Horace Walpole (1717 - 1779)*, inventor of the Gothic novel, took up the story and coined the neologism *Serendipity* for "discoveries made by accidents and sagacity". Today, serendipity is a common source of discovery in sociology and data retrieval. Serendipity is also one of Thomas Muhr's favorite concepts and played a role in the development of ATLAS.ti.

Of particular interest for *Ginzburg* is the so-called *Morelli method* which can be traced back to the Italian physician and art historian *Giovanni Morelli (1816 – 1891*). In the 1880s, under the pseudonym *Ivan Lermolieff, Morelli* introduced a startling innovation to the differentiation between originals and copies within art history.

² Photo by Claude Truong-Ngoc / Wikimedia Commons - cc-by-sa-3.0 (<u>claude.truong.ngoc@gmail.com</u>)



According to this innovation, when it comes to attributing a painting to an artist, those parts of an image that have been carefully executed, such as faces, are far less instructive than its apparent trivialities such as the form of fingernails and toenails, or earlobes.



Fig. 2.04: Details on attributing paintings (from: Ivan Lermolieff 1880) ³

In the Old Masters Picture Gallery in Dresden alone, 46 paintings had to be re-attributed to different painters after *Morelli's* publications. The most famous example is *Sleeping Venus*, one of the few original works by Renaissance painter *Giorgione* which it had previously been thought was a copy of a work by *Titian*.



Fig. 2.05: Giorgione (1478 - 1510) "Sleeping Venus" (Old Masters Picture Gallery, Dresden) 4

 ³ <u>https://digi.ub.uni-heidelberg.de/digit/morelli1880/0001 (p. 104)</u>
⁴ <u>https://commons.wikimedia.org/wiki/File:Giorgione__Sleeping_Venus_-_Google_Art_Project_2.jpg</u>

Observing the smallest, seemingly unimportant details is also important in criminal investigations and in Morelli's time was being used as a tool of suspense in the crime novels of *Edgar Allan Poe* and Arthur *Conan Doyle*, with Conan Doyle's master detective *Sherlock Holmes* also taking an interest in the shape of earlobes to solve a case of murder.



Fig. 2.06: Sigmund Freud's Couch - in the background, his art collection ⁵

I would like to take a famous piece of writing from *Sigmund Freud* (1856 – 1939) to give you an insight into interpreting a work of art. Freud initially took an interest in the *Morelli method* as a collector of art. In his study *The Moses of Michelangelo* (1969, p. 207), published in 1914, he writes:

"It seems to me that [Morelli's] method of enquiry is closely related to the technique of psychoanalysis. It, too, is accustomed to divine secret and concealed things from despised or unnoticed features, from the rubbish heap, as it were, of our observations."

Freud uses the *Morelli method* to explore the psychological condition expressed by *Michelangelo* in his *sculpture of Moses*. In a meticulous description of the left hand of *Moses* that is reaching into the thick strands of his beard, he writes:

"[The] fact remains that the pressure of the *right* index finger affects mainly the strands of hair from the *left* side; and that this oblique hold prevents the beard from accompanying the turn of the head and eyes to the left. Now we may be allowed to ask what this arrangement means and to what motives it owes its existence" (*Freud 1969, p. 209*).

⁵ Study with the couch, Freud Museum London, 18M0138.jpg - CC-BY-SA-4.0 (Self-published work)





Fig. 2.07: The Moses of Michelangelo (1475 – 1564) ⁶

From this and other "Morellian" signs, Freud explores the presumed sequences of movements that preceded the moment in time that has been frozen by Michelangelo: convulsed by the clamor of the Israelites dancing around the Golden Calf, with an iron grasp plunged into his beard, at the same time he reverts the impulse of convulsion and hastily withdraws his hand in order to save the Tables which threaten to slip from his hand. Thus, for Freud, the Moses of Michelangelo - unlike the Biblical Moses becomes

",a concrete expression of the highest mental achievement that is possible in a man, that of struggling successfully against an inward passion for the sake of a cause, to which he has devoted himself" (*Freud 1969*, *p. 217*).

In his monumental work *Michelangelo*, published in 2021, the Berlin-based art historian and pictorial theorist *Horst Bredekamp (b. 1947)* rejects the reason for *Moses' inner* agitation that was assumed by *Freud* and his contemporaries: The discovery of the worshiping of the Golden Calf is incompatible with the seated position of *Moses*. (*Moses* broke the first tablets after this discovery). The horns of Moses - actually rays of light that were mistranslated as "horns" - clearly refer to the time after he received the tablets for the second time, the tunic on *Moses'* right knee serving to conceal the rays that are so formidable for the people. *Bredekamp* assumes that *Michelangelo* is depicting the moment when *Moses* learns from God that he himself will no longer be able to enter the Promised Land in front of him as he will die before then. *Bredekamp* summarizes his interpretation:

"[*Moses*'] rage is not about the downfall of the Israelites, it is about the shock of this moment when his death is proclaimed. This marble figure, that was seen as the ultimate image of power, wrath and the patriarchy, is rather the negation of everything that the 19th and 20th centuries saw in it." (*Bredekamp, p. 305*)

Despite the obvious misinterpretation, *Bredekamp* calls *Freud's* description of the movement of Moses' fingers and strands of hair "a pinnacle of the German language." Freud's "analysis of the psychological and physical inner movement of Moses has ineluctably shaped the image of this marble figure". (*Bredekamp 2021, pp. 300 and 302*). What we are dealing with here is a lesson on the possibilities of error in the interpretation of signs when interpreting the inner experience. *Freud* seemingly interpreted the presumed inner experience of *Moses* in an ingenious manner by carefully analyzing his outward display - and yet he made a grave error because he misjudged the context. However, *Freud* and *Bredekamp* do agree in their interpretation that *Moses* is expressing not wrath but self-control or devotion to God's will.

I would like to conclude this brief excursion into art criticism by looking to modern art. In the 60s, *Umberto Eco* coined the term *Open Work (Eco 1973)*, a concept which had a huge influence on art. In doing so, he gave the interpretation of art a *dialogical perspective*, according to

⁶ Moses by Michelangelo JBU140.jpg. Creative Commons (CC BY 3.0)

which the work of art is only completed by the interpretant. For Eco, each work of art is multilayered and ambiguous and thus exhibits a certain openness. Moreover, in *Modern Art*, artists *consciously* strive for openness:

"In other words, the [artist] offers the interpreter [...] a work *to be completed*. He does not know the exact fashion in which his work will be concluded, but he is aware once completed the work in question will still be his *own*. It will not be a different work, and, at the end of the interpretative dialogue, a form which is *his* form will have been organized, even though it may have been assembled [...] in a particular way that he could not have foreseen." (*Eco 1973, p. 55*).

I find it important to take the concept of the *Open Work* into account in qualitative data analysis too, any time we are dealing not with a depiction of factual circumstances, but with modern works of art, with art always also including trivial art, advertising and mass media in the view of the theorist *Eco*. Such a consideration requires different types of reading performed by the most diverse of interpretants to be juxtaposed as equals in the interpretation of texts and multimedia.

3. TECHNICAL AND HUMAN COMMUNICATION

What is the relationship between a sign and its message? *Information theory* provides a simple answer: the *sign* (signal) is allocated to the *information* which it is meant to convey through its *coding*. The *coding* is a type of user manual for how to get from the sign to the message. In the context of telecommunications, we are also dealing with the *transfer of information* in human communication which passes from the *coding* through the *speaker* and the *channel of transmission* to the *hearer* and his or her *decoding* (see Fig. 02.08).

Linguistic communication, however, is far more complex. Due to the complexity of language and the differences in the socialization of speaker and hearer, the coding and decoding rules only ever overlap partially for the speaker and hearer. There also exist particularities in the conscious, as well as unconscious, non-linguistic elements of facial expressions and gestures, in the contextuality, i.e. the embedding of linguistic communication in the *speech situation*, in the *social context*, and in the dependence of language on *social norms*. A further particularity is the distinction between the *denotation* (the sign function) and *connotation* (the associated field of meaning) of linguistic expressions.





Fig. 2.08: Linguistic communication (modified after Herrlitz 1973).

C = Coding SW = Sound wave D = Decoding S= Speaker SC= Soundchain H = Hearer $\mathbf{D}_1 \mid \mathbf{D}_2$ = Denotation $\mathbf{Con}_1 \mid \mathbf{Con}_2$ = Connotation

4.

SEMIOSIS

The connection between sign and meaning, the subject of semantics, is just as central to semiotics and social sciences. How does a random physical object (e.g. a bent branch, a succession of sound waves, or printer ink on a piece of paper) become a sign?

Eco's answer we know already:

A physical object (e.g. a sound or letter) becomes a sign in that it stands for something else (the signified) for someone (the interpreter).

Let us look more closely at the process of signifying *(semiosis)*. The very perception of a physical phenomenon as meaning "something" occurs on the basis of the interpreter's experiential knowledge of the life-world. (Example: A plume of smoke means in one instance "fire", e.g. a forest fire, but in another context signals the "papal election" - white or black). The interpretation of the sign as something "else" is a *creative act of finding meaning*, for which the context of the sign and the experiential knowledge of the interpreter are meaningful. Yet any interpretation is only ever temporary, and new points of view may necessitate its revision. The process of potentially never-ending interpretation is indicated by the term *hermeneutic circle* which we met in Lecture 1 (Fig. 01.12).

The quest for the connection between sign and signified conceals an epistemological problem. The view taken by *naive realism*, according to which the signs correspond to the objects they signify, is therefore untenable for the simple fact that there are many signs whose meaning does not refer to any object. As an example, let us say we want to look for the meaning of the word horse (the spoken sequence of sounds or the written sequence of letters /horse/). Do we mean a specific horse, e.g. Brunellus? Are we including all horses? What about photos or Stone Age drawings? And Pegasus, the winged horse of ancient legends? In what sense do we talk about the car as the "horse of the technical age"?

The *semiotic triangle* (or triangle of reference) illustrates the complex relationship between sign and signified:



Fig. 2.09: Semiotic triangle (modified after Eco 1977).

The *symbol (or sign)* /horse/ does not just stand for an object or *referent*, i.e. for a specific horse (e.g. Brunellus). The legendary horse Pegasus, for example, never existed as an object. Rather, the sign /horse/ allocates the reference (*thought or idea*) of the "horse being" to an open class of different *referents*: living, dead, drawn, photographed, imagined horses, indeed even people ("A Man Called Horse").

While *sign* and *referent* (object) are clearly defined unambiguously in the semiotic triangle, the status of the *reference* is still a matter of debate in philosophy and the social sciences today:

- According to the view taken by *behaviorism*, a reference corresponds to a tendency to react to a class of referents (objects) with the sign allocated to them. (An example of the "horse" class triggers the sign /horse/).
- According to the view taken by *mentalism* (from Latin mens = mind), the reference is an unobservable concept or idea (the "ideal horse" or the idea of the horse) in the consciousness of people.

Umberto Eco rejects both views. For him, the reference "horse" is itself another sign! The function of this sign is to *interpret* both the sign /horse/ and diverse referents, meaning concrete and metaphorical horses that could also be called /horse/. The reference is therefore also called *interpretant*. The *interpretant* of a sign has the characteristic of translating the sign into another "expression-substance".



Thus, the image of a horse may serve as an *interpretant* of the linguistic sign /horse/, or conversely the word or caption /horse/ may function as an *interpretant* for an image (such as in an art exhibition). Whether the *interpretant* is realized as a concept in the mind or as a perceptible physical sign does not play any fundamental role in the process of signifying. Each interpretant interprets a sign and also allows itself to be interpreted by another sign. References are not predetermined "ideas", rather they are interwoven with other references, through which they can be interpreted in a theoretically unending process (*unlimited semiosis*). They are nodes in a network of signs that define one another. *Eco* calls this network a *system of sign systems* - his definition of *culture*.

This view of culture is shared by ethnologist *Clifford Geertz* (1926 - 2006). The blurb of the German version of his volume on *Thick Description* (1987) summarizes:

"I espouse a semiotic concept of culture. Culture is a system of common symbols, with which the individual can impose form and meaning on his experience. Its discourse is both social and public, which takes place in the house yard, the marketplace, and the town square. Through observable social actions of people, cultural forms find articulation: thus they provide information not just about themselves, they also point to more fundamental cultural meanings. Through their ,thick description', they open up the possibility of understanding culture. Unlike the ,thin description' which is restricted to collecting data, ,thick description' means working out the complex conceptual structures, many of them superimposed upon or knotted into one another, thereby gaining access to the conceptual world in which our research subjects live, so that we can, in some extended sense of the term, converse with them."

For qualitative data analysis with ATLAS.ti, the *semiotic triangle* is meaningful when it comes to *coding* quotations in texts or multimedia. *Coding* is a key step in qualitative data analysis. The interpreter (or, in the case of automatic coding, the program) assigns a *code* or keyword to a passage of text or piece of multimedia. The meaning of the code in question can be additionally defined or described in the corresponding *code comment*.

The *code* (an ambiguous term which is defined differently here during coding to how it is defined in information theory) corresponds in the semiotic triangle to the *sign (symbol)*, the coded quotation (passage in the text or unit of meaning in multimedia) to the referent or *meaning*. The *reference* or the *sense* is also a sign (or a chain of signs) which can be equated with the *code comment* since it defines or describes the sense of the code (see Fig. 02.10).





The possibility described above for the sign /horse/, that sign, referent and reference can signify one another in sequence, applies accordingly to the coding in qualitative data analysis: Each individual quotation which is assigned to a code is one of its possible referents and at the same time a complex sign which signifies this code. The reference of a code is identical with its meaning. In ATLAS.ti it should be outlined in its code note. The totality of all quotations assigned to a code most closely reflects the reference or meaning of the code: all quotations under a code exhibit a *familial similarity*. That is to say, *the meaning of the code is defined by the common meaning of all passages in the text, to which the code refers*. In other words: the quotations assigned to a code are *examples of its use*. This leads us to the use theory of meaning.

5.

USE THEORY OF MEANING

The semiotic concept of language and culture at the same time gives us a clue as to the important question of how the meaning of a sign - a linguistic expression, a word, a term, a sentence or an image - can be ascertained or analyzed in the first place: ultimately by classifying it within the semantic network of structures of meaning which the sign is knotted into.

Clifford Geertz, however, shows that this is less about an abstract or theoretical analysis, than it is about at least virtual *participation in the conversation or discourse* of a language community. The connection between language and world becomes understandable only at this *pragmatic level*. So how can the meaning of a word, sentence or image be investigated? Austrian-British philosopher *Ludwig Wittgenstein (1889 – 1951)* developed a *use theory of meaning* for just this purpose.

It is worth taking a look at the life and scholarly journey of this genius. As well as his works, I also refer here to the descriptions in *Time of the Magicians (Eilenberger 2020)* which are as exciting as they are profound.





Fig. 2.11: Ludwig Wittgenstein (1889 - 1951) 7

Wittgenstein was the son of one of the richest industrial families in Europe. After studying engineering at the Technische Hochschule Charlottenburg (later the Technical University Berlin), he studied philosophy in Cambridge under the great British philosopher Bertrand Russel (1872-1970), co-author of Principia Mathematica. While volunteering on the front during the First World War, he finished his first major work, the Tractatus logicophilosophicus (Wittgenstein 1921) which he had first begun writing in 1912 and which, according to his foreword, he believes "the problems (of philosophy) have in essentials been finally solved", writing that "the truth of the thoughts communicated here seems to me unassailable and definitive".

The aim of his logical-philosophical analysis was to differentiate between significant, senseless and

nonsense sentences. The *Tractatus* is comprised of sentences numbered in sequence. The first and last sentence have become the most famous: "The world is everything that is the case" and "Whereof one cannot speak, thereof one must be silent".

In his *Tractatus, Wittgenstein* starts from the *representation theory of language.* What the case is are atomic facts, i.e. the existence of circumstances, which are made up of connections of things. Propositions (sentences) consist of names for the things and their logical linking. In true propositions, the names of the things exhibit the same logical links as the things do in the circumstances assigned to them, otherwise they are false propositions. Significant propositions are statements about facts, such as propositions in the natural sciences. Senseless propositions are propositions that are always true regardless of the circumstances, they are tautologies. Nonsense propositions, on the other hand, are propositions whose names do not correspond to things, e.g. statements about good or bad - and all propositions in philosophy. This also applies to the propositions of the *Tractatus logico-philosophicus* which conclude with:

"My propositions are elucidatory in this way: he who understands me finally recognizes them as senseless, when he has climbed out through them, on them, over them." Shortly before this, however, he alludes to a sphere beyond the expressible: "There is indeed the inexpressible. This *shows* itself; it is the mystical."

The horrors of the war had led *Wittgenstein* to mysticism and religion. After the war, he rid himself of his entire inheritance and spent several years working as a village school teacher, living under the most meager of conditions in the Austrian mountains.

At the end of his 20s, he returned to philosophy and became the founder of ordinary language philosophy. In a later work, *Philosophical Investigations (1945)*, which turns the *Tractatus logico-philosophicus* on its head, he developed his *use theory of meaning*, among other thoughts.

' By Clara Sjögren Public Domain, <u>https://commons.wikimedia.org/w/index.php?curid=56059352</u>

His thesis is: "The meaning of a word is its use in the language". Wittgenstein explains this for human language by using the metaphor of a *language-game*:

"But how many kinds of sentences are there? Say assertion, question, and command? - There are countless kinds: *countless* different kinds of use of what we call "symbols", "words", "sentences". And this multiplicity is not something fixed, given once for all; but new types of language, new language-games, as we may say, come into existence, and others become obsolete and get forgotten ...

Here the term *"language-game"* is meant to bring into prominence the fact that the speaking of language is part of an activity, or of a form of life.

Review the multiplicity of language-game in the following examples, and in others:

- Giving orders, and obeying them -
- Describing the appearance of an object, or giving its measurements -
- Constructing an object from a description (a drawing) -
- Reporting an event -
- Speculating about an event -
- Forming and testing a hypothesis -
- Presenting the results of an experiment in tables and diagrams -
- Making up a story; and reading it -
- Play-acting -
- Singing catches -
- Guessing riddles –
- Making a joke; telling it -
- Solving a problem in practical arithmetic -
- Translating from one language into another -
- Asking, thanking, cursing, greeting, praying.

It is interesting to compare the multiplicity of the tools in language and of the

ways they are used, the multiplicity of kinds of word and sentence, with what logicians have said about the structure of language." (*Wittgenstein 1958*, § 23)

The use theory of meaning is of practical significance for qualitative data analysis because it highlights, on the one hand, the nature of linguistic terms, with their multitude of functions, as rules of conduct or rules of a game. Furthermore, we obtain an effective approach for determining the meaning of a term: We analyze its *use* in the context in which it occurs, which for qualitative data analysis means: in *textual examples*. Of critical importance here is a consideration of the respective language community and (sub)culture, in which the term is used.

In qualitative data analysis, this specifically means *not* assuming fixed or preconceived meanings of terms, but rather investigating empirically how terms - e.g. friendship, happiness, health and illness - are used in the texts to be analyzed or interpreted, and what their relationship is with related and differing terms.

This principle is also used by the "big language models" on which chatbots such as ChatGPT are based. Here, machine learning based on immense text corpora is used purely statistically to determine the meaning of human-made words or phrases. The chatbots' seemingly human-like responses have nothing to do with human text comprehension. Linguists therefore call these chatbots based on stochastic processes "stochastic parrots." Basically, the answers are plagiarism machines that work statistically.

As we have already seen above with the use of the semiotic triangle when coding in ATLAS.ti, the sense or *meaning of a code* in a corpus of text to be analyzed is ultimately also defined by its use, specifically by the familial similarity of all quotations which are connected to it. At the same time, this means that the meaning of the code can change every time a new quotation is found or an existing one is deleted.

The use of artificial intelligence in qualitative data analysis, which is gaining an ever more prominent role, also utilizes the use theory of meaning, even though the creators of the machine learning tool do not exactly invoke *Wittgenstein* at any point. To investigate the meaning of a linguistic expression, a suitable text corpus is combed for examples of the use of the sentence or phrase to be coded with the help of learning neural networks.

With ATLAS.ti, this can then be used as a basis for automatic *Sentiment Analysis* which investigates sentences, or alternatively phrases, in a text that is being analyzed exhibiting a positive, neutral, or negative emotional connotation. Automated searching for concepts should also be mentioned here. The identification of concepts is based on an analysis of similar nominal phrases.

6.

PROMPTS FOR DISCUSSION

- What is a sign? To what extent is the use of signs and thus the coding of a text a twofold creative act?
- Discuss the classification of signs according to Umberto Eco.
- Discuss the relationship of *sign referent or signified object reference* using the semiotic triangle (triangle of reference). What does *Eco* understand by "unlimited semiosis"?
- Apply the semiotic triangle to coding in ATLAS.ti.
- Umberto Eco and Clifford Geertz talk of a semiotic theory of culture. What does this mean?
- Describe the game metaphor of language use according to *Wittgenstein* and the *use theory of meaning* which he derived from this. Practical applications?

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3. LECTURE

PHENOMENOLOGY - SUBJECTIVE EXPERIENCE AND THE EVERYDAY LIFE-WORLD

Ladies and Gentlemen,

Today, the question we want to ask is what theoretical fundamentals can we work from in social and cultural research which focuses on our *subjective experiences* and our *life-world*. Central to this question are findings from the *cognitive sciences* and from philosophical and sociological *phenomenology*.

My *subjective experience* is the immediate way in which my world is given to me - and me alone - in my everyday existence. In the first part of this lecture, we will see what world riddle the natural and cognitive sciences are faced with in light of the phenomena of experience and what problems subjective experience throws up for a theory of understanding others and for qualitative research.

The rest of the lecture looks at the phenomenological analysis of basic cognitive structures in our everyday *life-world*. As unquestioned assumptions, these structures define our thoughts and our actions but are usually taken for granted in social and cultural research and are thus not taken into consideration. Yet an understanding of them provides important foundations for the hermeneutic approach in qualitative research and data analysis.

Allow me to begin by providing a personal remark. I am not a trained philosopher, rather I have dealt with the phenomenon of consciousness from the perspective of the social sciences. However, the *philosophy of mind* is one of the most complex areas of modern scientific thinking for which I cannot even come close to providing an overview. Therefore, all I can offer here is a rough guide to what I as a qualitative researcher find to be important to know.

1 SUBJECTIVE EXPERIENCE

Have you ever tried to tell someone what it felt like to experience serious pain? Each of us can only ever speak of our own subjective experience in the first-person singular. I can only ever convey to another what my pain, the color red or a feeling of happiness feels like *indirectly*, e.g. through facial expressions and language or "works of art" in the broadest sense.

In philosophy and the cognitive sciences, we speak here of *qualia* or *properties of experience*. In the following explanations of *qualia* and the *mind-body problem*, I draw from sources such as *Hastedt (1978)*.

The separation between the *thinking and the extended (corporeal)* substance (*res cogitans and res extensa*). It claims a strict *dualism* of mind and body and has shaped thinking in modern times originated with the French philosopher *René Descartes (1596 – 1650)* who we met in our first lecture. *Descartes* here tackles the *mind-body problem* that has been discussed since ancient philosophy and shaped by religious ideas and which is described in
its secularized form as *thepsychophysical problem*. *Descartes* assumed that the mind is a privilege of humans, and regarded animals as clockwork-like machines without consciousness.

Qualia are foreign objects within the natural sciences' view of the world. As early as 1882, Berlin-born physiologist and founder of experimental electrophysiology *Emil du Bois-Reymond* (1818-1896) declared the qualities of consciousness to be an unresolved world riddle in his lecture *On the limits of our knowledge of nature*:



Fig. 3.01: Rosen von Vargemont -Detail (Auguste Renoir 1885)¹

"I feel pain, or pleasure; I experience a sweet taste, or smell a rose, or hear an organ, or see something red... It is absolutely and forever inconceivable that a number of carbon, hydrogen, nitrogen, oxygen, etc., atoms should not be indifferent as to their own position and motion, past, present, or future. It is utterly inconceivable how consciousness should result from their joint action." (du Bois-Reymond, 1974, pp. 17-32).

In the twentieth century, the riddle of the qualia became a central subject of the philosophy of mind and cognitive sciences. Here are the most important schools of thought:

- Cartesian *dualism* assumes that alongside the physical world of the body there exists a mental substance that is outside the laws of physics, while *monism* assumes a common principle for mind and body. Dualism raises the question of how an interaction between the intangible mind and the physical body is possible.
- In neuroscience and the philosophy of mind, attempts are made in part to trace the phenomena of experience back to physical-chemical processes in the vein of *reductionism*: phenomena of experience are "nothing other" than representations of specific states in neural networks. Here, qualia are declared to be meaningless epiphenomena or their existence is simply denied as is the existence of action intentions and the free will of acting individuals.
- The dual-perspective hypothesis, on the other hand, works from the assumption that
 physical phenomena and their neurophysiological counterparts are different ways of looking
 at and describing the same process, or figuratively speaking as two sides of a single coin.
 In the first-person perspective I am dealing with impressions, feelings, things, thoughts,
 intentions and units of sense which I can reflect and communicate through language. In the
 observer perspective of the neuroscientist, equipped with my physical-chemical methods,
 I can absolutely only ever come across action potentials and biochemical processes. I can
 record and describe these only through series of measured values and imaging methods though for their part these only gain their "meaning" through mental processes. Neither
 perspective can be reduced to the other, and their mixing (how "the brain thinks") leads

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to pseudo-problems or category mistakes. Thus, the subjective perspective of the qualia essentially cannot be examined through the objective perspective of the natural sciences; natural sciences and humanities are fundamentally different views on humans, each with their own ontologies and methods.

The *emergent hypothesis* of consciousness promises to point the way to a potential solution to this riddle. Emergence is a characteristic property of complex systems, in which entirely new properties, which are not present on the *micro level*, can "emerge" at the *macro level*. Just as living matter with the property of asexual reproduction is formed on the basis of complex chains of amino acids, so too should phenomena of experience emerge in highly complex neural networks, or so the hypothesis goes. (According to the emergent hypothesis, artificial neural networks can in principle also develop forms of consciousness with the same high level of complexity).

Of course, the emergent hypothesis cannot explain the riddle of the qualia and of the connection between mind and matter, instead all it provides is a model of thinking. Some researchers assume that to understand the emergence of phenomena of experience in neural networks requires a scientific revolution. Others argue that the qualia problem is essentially unsolvable for the human mind because to understand the most complex system requires an even more complex system.

You might be wondering, what do qualia have to do with qualitative research? That experience which is only directly accessible to me in the first-person perspective raises the question of how *understanding others* in the social world is at all possible and what preconditions this is associated with. This lecture and the following one deal with the theoretical foundations of understanding the other and of human communication.

DEGRESSION ON ARTIFICIAL CONSCIOUSNESS

The amazing progress of Artificial Intelligence through Large Language Models, as used by ChatGPT and comparable systems, has raised the hope that at the end of this development a General Artificial Intelligence might be possible. According to the emergence hypothesis explained above, would it be conceivable that a General Artificial Intelligence could eventually show consciousness phenomena?

Large language models can be very useful for a wide range of applications. Text interpretation with ATLAS.ti also gains new time-saving tools through their use, which provide content summaries and suggestions for coding with larger amounts of data (see 1st lecture). On the road to general artificial intelligence, however, they are probably more of a dead end toward General Artificial Intelligence, as world-renowned linguist and cognitive scientist, 94-year-old *Noam Chomsky*, linguist *Ian Roberts*, and philosopher and AI researcher *Jeffry Watumull* point out in a brilliant essay in the New York Times.

The authors emphasize that the strength of human intelligence is its ability to derive explanations from relatively small amounts of data. This is the only way to distinguish between right and wrong. In contrast, Big Language Models derive their answers from huge amounts of data based purely on *statistical pattern recognition*. They are gigantic plagiarism machines, or, as linguists call them, stochastic parrots. The chatbots' responses therefore have nothing to do with intelligence:

"Their deepest flaw is the absence of the most critical capacity of any intelligence: to say not only what is the case, what was the case and what will be the case – that's description and prediction – but also what is not the case and what could and could not be the case. Those are the ingredients of explanation, the mark of true intelligence...



Fig. 3.02: The future of Al²

Of course, any human-style explanation is not necessarily correct; we are fallible. But this is part of what it means to think: To be right, it must be possible to be wrong. Intelligence consists not only of creative conjectures but also of creative criticism...

True intelligence is also capable of moral thinking. This means constraining the otherwise limitless creativity of our minds with a set of ethical principles that determines what ought and ought not to be (and of course subjecting those principles themselves to creative criticism)." (Chomsky et al. 2023) www.nytimes.com/2023/03/08/opinion/noamchomsky-chatgpt-ai.html

The fundamental deficiencies of the Great Language Models do not exclude, however, that on the basis of completely new approaches a General Artificial Intelligence including the emergence of consciousness phenomena could be developed in the future.

However, just as my consciousness phenomena are always only accessible to me and I can only infer them in my counterpart through his behavior, we will also never know in the case of an artificial intelligence whether it only simulates consciousness or actually possesses it.

2. PHENOMENOLOGY: INTENTIONALITY AND LIFE-WORLD

A central pillar for a theory of understanding others, and therefore also a theory of human communication, comes to us from phenomenology and phenomenological sociology which is primarily about conducting an inventory of phenomena of experience from the first-person perspective.

² Gesundheit und Gesellschaft", Health Policy Magazine of the AOK...





Fig. 3.03: Edmund Husserl (1859-1938)³

Edmund Husserl (1859-1938), an Austrian-German philosopher and mathematician, and founder of *phenomenology*, wanted to get beyond all theoretical concepts, meaning also beyond our physically shaped world view, *"to the things themselves"* and therefore focuses his philosophy on the immediately given *phenomena of human experience*. The world *phenomenon* comes from the Greek (Phainomenon = that which appears, shows itself, the way in which things appear - not to be confused with simple appearance).

Husserl's phenomenological method places the *"eidetic intuition"* of the phenomena in the center by observing it free from presuppositions and prior knowledge using *systematic introspection*. This is achieved, on the one hand, through a *"bracketing"* of all presuppositions - e.g. even the assumption of existence, i.e. the assumption that the content of experience relates to a world that really exists.

Another method of eidetic intuition is *eidetic reduction* (from the Greek eidos = form, idea). In thought experiments, the individual components of a phenomenon are varied with the aim of deciding which components are indispensable for its essence. For example, I imagine what the essence of a table is by reviewing in my mind what, in my perception, is absolutely indispensable for a table: the tabletop and some sort of fixture, be it table legs, a wall attachment or suspending it from the ceiling. In Lecture 6 on *Texts*, we will see how even in qualitative data analysis, for example, the essence of theoretical concepts can be investigated using thought experiments.

According to Husserl's phenomenological analysis, experience is always the *"experience of something*". It is comprised of a *series of acts*; it is *"*an unlimited flow of phenomena with a consistent *intentional line*". *Intentionality* (directedness toward something - not to be confused with intention) is the essential feature of our experience: pure thinking is *"unthinkable"*. We are always referred or directed to the content of our experience. When I perceive something, I not only have sensory impressions, I also see *something*: colors, people, trees, houses, tables and chairs or events. When I think, I think *about something*. Feeling, perceiving, believing, wishing, speaking, acting are *intentional acts* which create a reference between an acting person and the *"things"* or the world.

For the subject of the social sciences, this means that we are not dealing with isolated mental processes but rather experience things and people in situations, people acting in reference to their environment. Intentionality contains the difference between purely *reflective behavior* and human *action*, and also between human thought and artificial intelligence.

In the world created by humans, in our "second nature", in tools, language, images, technical achievements, works of art, institutions (all contained in "qualitative data"!), we are as it were dealing with "solidified intentionality".

³ Wikimedia Commons. Author unknown (Mondadori Publishers)

In his later work, Husserl introduced the concept of the *life-world* to philosophical discussion. The life-world encompasses the everyday *prescientific experience of the world* of the first person as a natural, unquestioned basis for our thoughts and actions. Even the most abstract scientific theories have their foundations in the basic natural experiences of our life-world.

3

STRUCTURES OF THE LIFE-WORLD

The sociologist *Alfred Schütz (1899-1959)* utilized *Husserl's* phenomenological concept of the life-world to lay a theoretical foundation for the social sciences. His academic career was unusual. He studied law, economics and philosophy in Vienna and worked as a banker his entire life. He wrote his comprehensive philosophical and sociological works, the importance of which was only recognized after his death, alongside his profession. As a Jewish man, he emigrated to the US in 1938 where he achieved academic honors at the end of his life at the famous *New School* in New York.



Fig. 3.04: Alfred Schütz (1899-1959)⁴

The great achievement of *Schütz'* was fleshing out the theoretical knowledge provided by philosophical phenomenology for the social sciences. He was discovered as a great theorist of the social sciences and one of the founders of the new sociology of knowledge posthumously in the 60s.

In an early work "Phenomenology of the Social World", Schütz provides a theoretical foundation for the interpretive sociology (Verstehende Soziologie) of the great sociologist *Max Weber (1864 - 1920)*. His main work *The Structures of the Life-World* (published posthumously in 1979 and 1984 by *Schütz and Luckmann*) begins with the following description of his program:

"The science that would interpret and explain human action and thought must begin with a description of the foundational structures of what is prescientific, the reality which seems self-evident and what is prescientific, the reality which seems self-evident to men remaining

⁴ Wikimedia Commons (Public Domain of the USA)



within the natural attitude. This reality is the everyday life-world. It is the province of reality in which man contentiously participates in ways which are at once inevitable and patterned. The everyday life-world is the region of reality in which man can engage himself and which he can change while he operates in it by means of his animate organism. At the same time, the objectives and events which are already found in this realm (including the acts and the results of actions of other men) limit his free possibilities of action. They play him up against obstacles that can be surmounted, as well as barriers that are insurmountable. Furthermore, only within this realm can one be understood by his fellow-men, and only in it can he work together with them. Only in the world of everyday life can common, communicative, surrounding world be constituted. The world of everyday life is consequently man's fundamental and paramount reality.

By the everyday life-world is to be understood that province of reality which the wide-awake and normal adult simply takes for granted in the attitude of common sense. By the taken-for-grantedness, we designate everything which we experience as unquestionable; every state of affairs is for us unproblematic until further notice." (Schutz and Luckmann 1973, p. 3-4),

Schütz is not concerned with the individual particularities of individual people, but with the general *knowledge structures* which actually allow us to think and act. Like Husserl, he describes the life-world from the first-person perspective, assuming that the life-world always exists as a *social world*. His phenomenological self-reflection leads to a mapping of our practical knowledge of the everyday life-world.

Here are the main findings of his phenomenological analysis:

- *Meaning instead of stimuli:* The world for me is never a collection of simple sensory impressions, rather it appears to me in the form of connected objects, people and events which always have a "meaning" for me. This follows from the intentionality of our acts of experience and was empirically proven by *Gestalt psychology*.
- *Pragmatic motives:* When I act in the life-world, I am successively shaped by *pragmatic motives*, i.e. my interest is directed toward the existing problems of practical living.
- Realm of action and structure of knowledge: The life-world is, on the one hand, the realm of action in my everyday life-practice, and on the other constitutes a structure of my experience, namely the stock of practical knowledge which allows me to actively participate in everyday life. I acquire this stock of knowledge in the course of my socialization. It is comprised predominantly of "taken-for-granted facts" which we do not usually reflect on. We learn, in painful fashion, what significance this stock of knowledge has for us when it becomes dried up, due to dementia, for example.
- *Knowledge of the self and the outside world:* I experience my knowledge of myself as a person and of the existence of an outside world that exists independently of me as unquestionable. I was born into it and I know that it existed before me and will exist after me. I know, in particular, of the spatial, temporal and social structure of the life-world.
- *Spatial centering:* The life-world space is broken down into zones of actual, potential and unattainable reach, with my own person as the center. Within the zone of current reach is my zone of influence which I can affect through direct action with my body.

- *Temporal centering:* In the *subjective time* of the flow of consciousness, the "now" of the experienced present (the "moment") turns into a "just before" in an inevitable succession and becomes a "past now" reaching back to the earliest memories. The "now", as the horizon of experience, also contains a foreshadowing of the immediate, near and far future.
- The *subjective time* is embedded in my day-plan and life-plan, with past, present and future differentiated. My subjective experience of time is connected to the *"social time"* through the clock and the calendar and thus can be coordinated with the subjective experience of time of my fellow-men.
- The *future* includes two *"idealizations"* (which are never fulfilled), namely the taken-forgranted expectations of the constancy of the life-world, the convictions of "And so on" and *"*I can again and again". Our everyday experience is shaped by such *"contrafactual* idealizations" of different types as we will see.
- The *social world* is justified by the taken-for-granted existence of other people who are endowed with consciousness like me, who see the world in its essential aspects as I do, and who intervene in the world with actions as I do in order to pursue their goals which are essentially similar to my goals. This idealization, i.e. the assumption of the fundamental similarity of our fellow-men, creates the *condition of the possibility of common understanding* with the other; it is also a basis for *empathy*, i.e. sharing emotional feelings. Present differences and conflicts can only be experienced and addressed on the basis of this essentially imputed similarity.
- The social world is broken down for me into my own surrounding world (people who I personally know), the fellow-world (contemporaries whose existence I am aware of), the before-world (people from past eras) and the after-world (people of future generations). There is a fundamental differentiation between the "experience of being face-to-face" with the fellow-man (Us relationship) and different levels of anonymity in the "mediated experience" of the social world. (Schütz was not aware of the intermediate province of the virtual experience of face-to-face on a screen or even in virtual reality, which is gaining ever more importance today).

4 SENSE-GIVING

A particularly significant contribution to the social sciences comes from the analysis of the life-world as *context*. In the spontaneous living of the flow of consciousness, my experience has no meaning. *Subjective sense-giving* is a fundamental human capacity to experience. Only when I address my experience with a reflexive attitude can (1) past - or also, in looking forward, future - experiences be singled out from my flow of consciousness through a creative act as "meaning something" and (2) be classified according to the *schemata of my experience* or *interpretative patterns*. I can relate this classification to individual experiences as much as I can to broader life-contexts and even my entire life, e.g. in biographical self-reflection.





Fig. 3.05: Flow of Consciousness and Reflection ⁵

We met this act, which occurs in two steps, in Lecture 2 on *Semiotics* in connection with the discussion on signs and meaning. The process of *coding* in qualitative data analysis for text or multimedia units also follows the same pattern.

The schemata of experience are determined socially, and at the same time biographically, through language acquisition and the socialization of the individual. Correspondingly, it gives all humans common schemata (like the breakdown of subjective time into past, present, future), group-specific schemata (like the "rules of the game" of a family or the norms of a social strata), and individual interpretative patterns that are mine and mine alone. These can be drawn on in different combinations in order to interpret experiences and therefore for sense-giving.

Subjective sense-giving is the foundation for my world view. The actions of my fellow-men also only become meaningful and understandable for me when I classify their appearance, their movements and their linguistic expressions according to the schemata of my experience. What guides me here is the *idealization of the exchangeability of perspectives*, meaning that I essentially see the world as my fellow-men would if I were in their shoes.

What contexts of meaning actually enter my consciousness in any given situation depends on my systems of relevance. Schütz differentiates between topical relevance (What is the focus of a situation?), interpretive relevance (What aspects are thematized?) and motivational relevance (On account of what causes and for what purpose does a topic become meaningful?). In motivational relevance, the past and present reference of my motives are expressed: I do something because I have had certain experiences (because-motive), at the same time I act in order to achieve something (in-order-to-motive). The often neglected distinction between because and in-order-to-motives is especially important in qualitative research in case of (life) histories.

For *Schütz*, all relevance systems ultimately derive from the knowledge of the finiteness of our existence. This *"fundamental sorrow"* (*"*I know that I will die and I fear it") ultimately shapes humans in all their hopes and fears, and pushes them to *"master the world"* in their everyday actions (*Schütz 1971, p. 262*).

⁵ Modified after Legewie & Ehlers (1994, p. Lit. Lecture 1)

5. THE MULTIPLE REALITIES

Schütz' primary interest was in the paramount reality of the everyday. In phenomenological analyses like *The Stranger and the Homecomer or Don Quixote and the Problem of Reality*, he went beyond this and dealt with *altered states of consciousness*, or *multiple realities* as he called them, which deviate from the everyday reality (*Schütz 1973*). His question was: What distinguishes the everyday reality from the world of dreams and mania, or altered states of consciousness? What laws govern these multiple realities? How are the bridges between different realities experienced?

The following table shows a few examples of multiple realities:

MULTIPLE REALITIES

- Unexpected attentional shifts
- Holiday experiences, especially in a foreign culture
- Fantasy worlds: games, jokes, art, daydreams
- Sleep and dreams
- Worlds of mania
- Drug experiences
- Experiences with brain damages, dementia
- Sensory deprivation, meditation, trance, mystical experiences, hypnosis, ecstasy
- Religious beliefs, spiritual experiences
- Therapeutic experiences
- Scientific theoretical worlds
- Dying and death

Schütz worked from the observation that in many of these provinces of reality we can forget the everyday entirely, so as to dive into our own world with its own rules, so to speak. In each of these multiple realities, which he characterizes as *closed provinces of meaning*, there prevails a unique type of attention, a specific experience of space and time and a unique style of experience with its own logic and its own criteria of truth. Just think about the differences between waking, dreaming, spiritual experience, religious belief and the world of science.

We are mostly hardly aware when we are submersed in one of these realities. Diving back into the world of the everyday often comes with a "shock" and a feeling of strangeness. Think, for example, of the moment when the curtain opens in the theater and we become entirely captivated by a strange world or when we wake up from a dream. *Schütz* speaks here of *small, medium* or *large transcendences* of our everyday experience - from the minimal "shock" of being engrossed in a book and someone entering the room, to invasive changes caused by life crises and illnesses or the final transcendence that cannot be experienced, that of death.



6. SIGNIFICANCE FOR QUALITATIVE SOCIAL RESEARCH

The structures of the life-world described by *Alfred Schütz* might at first seem to be anemic self-evident facts, and you might be wondering how they are supposed to have any significance for qualitative research. As a sociologist of knowledge, Schütz' concern is certainly not to explore the psychology of this topic; he is concerned not with specific people but with our shared, taken-for-granted everyday knowledge, which is why he states in this context that he is talking of a *"social-scientific homunculus"*.

This homunculus (an artificial person) quite consciously suppresses key aspects of being human: his feelings and his "external" and "internal distress", i.e. social conditions and inner conflicts. All that is out of the ordinary is the "fundamental sorrow", the fear of death, which *Schütz*, as a secret existentialist, assumes is behind all our motives...

The significance for the social sciences lies in the acknowledgment that, according to *Schütz*, when researching the social world, we are dealing not with simple objects, as in the natural sciences, but only ever with "theoretical" objects, that is interpreted objects. Social science theories are therefore *second-order theories*, or theories about the (everyday) theories of thinking people. Three aspects here are particularly important for our topic:

1. The first section of this lecture was about the world of qualia and intentionality, directly accessible exclusively in the first-person perspective, and the world of intentionality which questions the fundamental accessibility of other minds. Here, *Schütz* points to a way out from the "lonely inner world" of the individual by working out some fundamental prerequisites for inter-human communication: Communication is only possible thanks to the idealizing assumptions that my fellow-men would in essence perceive and experience our shared world similar to me if they were to take my place in it. In the following lecture on the *Theory of Communicative Action*, we will see how the conditions of the possibility of understanding the other, and even criteria for the success or failure thereof, can be developed from this.

2. Schütz emphasizes the cultural dependence of our world view with all its interpretative patterns, with culture also encompassing these schemata of everyday knowledge. However, the introspectively developed *Structures of the Life-World* (the title of Schütz' main work published posthumously by *Schütz & Luckmann 1973*) describes only the world view of a European social scientist from the middle of the last century. Every culture seeks its world view anew with its different interpretative patterns - even if certain basic assumptions may be anthropological universals common to all cultures. Even within our own cultural sphere, we find a large variety of different perspectives and interpretative patterns depending on social strata, milieu, sub-culture and minorities, all the way to closed communities, ideological groups, sects, and proponents of so-called conspiracy theories. Even institutions, associations, professional groups, families, couples and indeed every single individual forms their own interpretative patterns for each sub-province of their social life. Analyzing these specific interpretative patterns is an important objective in social research. *Schütz'* approach provides important concepts here, according to which dialogical qualitative research is about analyzing the relevant interpretative patterns using

communicative methods such as *ethnography*, *conversation* and *interview*, instead of introspection and phenomenological eidetic intuition. This is achieved directly in research which aims to *reconstruct everyday theories*, such as in health science research into *subjective illness theories*.

3. The process of *sense-giving* represents a model for the process of coding in qualitative research: In everyday life, I give an experience I have had its meaning by isolating it as such from my flow of consciousness using a reflexive attitude, and by classifying it according to preexisting personal or collective interpretative patterns. An analogous approach is used in the scientific interpretation of human artifacts which give us information on mental contents and processes, be they language texts, gestures, images, or works of art. In interpretation in the social sciences, we first identify units of meaning - just as we do with our subjective experiences using our reflexive attitude - and then assign interpretative patterns or theoretical concepts to them.

4. The concepts developed by *Schütz*, such as the different zones of the *subjective space*, the entanglement of *subjective time* and *calendar time*, the differentiation between different *systems of relevance* and the because and in-order-to motives can be used directly as categories for qualitative data collection and analysis.

5. The phenomenological analysis of the *multiple realities* and their internal logic ultimately provides background knowledge indispensable for interpreting the varied forms of representation for these more or less closed provinces of sense as we encounter them in dreams, in poetry, in the visual arts, and also in advertising or impromptu stories. We will come back to the different schemata of representation and their significance for qualitative research and data analysis in lecture 6 on Texts as qualitative data.

It should come as no surprise that qualitative research uses methods which at their core are found in the cognitive performances of everyday experience and everyday communication. After all, according to *Schütz* we are all everyday theoreticians. Field research, interviews, and group discussions are all based on systematized *everyday practices*, just as qualitative data analysis is. Social science theories differ from everyday theories specifically in this systematization and the associated quality control.



7.

PROMPTS FOR DISCUSSION

- What is the world riddle of the qualia?
- What do we understand by intentionality? Significance for the social sciences?
- Discuss the concept of the life-world according to Alfred Schütz.
- Explain the interrelationship between subject time and calendar time using examples from your own life.
- What do we understand by the subjective sense of an experience or action and how can we describe the act of sense-giving?
- What do we understand by spatial, temporal and social centering of the first-person in the life-world?
- What are pragmatic motives? How do in-order-to and because-motives differ?
- What forms of relevance does *Schütz* differentiate? What is your opinion of the significance of the "fundamental sorrow" in relation to the systems of human relevance?
- Discuss examples of "finite provinces of meaning" (multiple realities) and how they differ from the paramount reality of the everyday.
- What is the significance of the structures of the life-world for qualitative social research?
- Explain the structural similarity of subjective sense-giving and coding in qualitative social research.



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4. LECTURE

THE THEORY OF COMMUNICATIVE ACTION

Today, I would like to talk about what is, in my view, the most fully developed theory of human communication: that of social theorist Jürgen Habermas. From this theory, we can derive criteria for successful or unsuccessful communication and for the quality of qualitative data. It is baffling that textbooks on qualitative data analysis make barely any mention of this fundamental theory.

1 SPEECH ACT THEORY

In the second lecture, I introduced you to the *use theory of meaning*. *Wittgenstein's* idea that "the speaking of language is part of an activity" paved the way for *speech act theory*, which was founded by the British philosopher *J. L. Austin* in his book *How to Do Things with Words* (*Austin 1962*).



Fig. 4.01: John Langshaw Austin (1911 - 1960)¹

Speech act theory is concerned with the action context of linguistic utterances. According to this theory, we perform actions by uttering words. For instance, when we:

- Make an assertion about how something is
- Ask or order other people to do something
- Promise to do something ourselves
- Express our thoughts, feelings, or experiences
- Alter reality using our words

Linguistic utterances are embedded in a social context: assertions, expressions of wishes or desires, orders, and questions do not just possess a *meaning*, but also, above and beyond their semantic content, create *obligations* between speaker and addressee. For instance, by uttering "I'll come round this evening," I commit to keeping my promise. If I do not do so, I must justify why I broke my promise or risk losing my social trustworthiness.

Speech acts are not confined to simple utterances. Examples of complex speech acts include telling a joke or story, apologizing to someone, conducting a debate, flirting, proposing marriage, pronouncing a legal judgment, interviewing someone, or analyzing a text. These complex speech acts are made up of simple speech acts and accompanying nonlinguistic actions. Some speech acts can or must be performed in writing; one example is entering into a legal agreement.

¹ Source : <u>https://aeon.co/essays/how-the-thought-acts-of-the-oxford-don-j-l-austin-live-on</u>

2. COMMUNICATIVE ACTION

Building on these ideas from linguistics and philosophy of language, the sociologist and social theorist *Jürgen Habermas (born 1929)* set out a comprehensive action-based theory of communication, to which we shall now turn our attention. *Habermas* is regarded as the most important living German social theorist. He works in the *critical theory* tradition of the Frankfurt School (whose leading figures include *Theodor W. Adorno, Max Horkheimer*, and *Erich Fromm*). As a public intellectual, he has participated in almost all major social debates since the 1960s through to the present day. Most recently, he has published on the Ukraine war and the danger of a nuclear strike. His work advocates a democratic Germany and Europe, and has helped to shape Germany's intellectual climate.



Fig. 4.02: Jürgen Habermas (born 1929)²

His most important work is the two-volume *Theory* of *Communicative Action* (Habermas 1985), in which he sets out a theory of society that integrates *Alfred Schutz's* concept of lifeworld (lecture 3) with speech act theory and psychoanalytic ideas about subjectively distorted communication. What typifies his approach is the way he is able to synthesize fundamental ideas from philosophy, linguistics, sociology, and psychoanalysis into a single coherent theory. His work combines lifeworld-based and systems theory approaches to everyday life, allowing the effects of objective living conditions on everyday life to be analyzed and explored. To paraphrase a well-known saying, you could describe *Habermas* as a giant standing on the shoulders of giants.

Before we delve into his rather abstract, challenging theory, I would like to give you a flavor of *Habermas's* vision of "friendly living together"—that is to say, his vision of a kind of communication that is not dictated by power relations, but in which participants seek to achieve mutual understanding (*Verständigung*) on a voluntary, nonhierarchical basis.

Allow me to quote from an interview in which *Habermas* talks about his *"fundamental intuition"*:

² <u>https://diesseits.theopodcast.at/habermas-und-die-theologie</u> By photographer: Wolfram Huke, <u>http://wolframhuke.de</u>, CC BY-SA 3.0, via Wikimedia Commons The intuition springs from the sphere of relations with others; it aims at experiences of undisturbed intersubjectivity. These are more fragile than anything that history has up till now brought forth in the way of structures of communication—an ever denser and finely woven web of intersubjective relations that nevertheless make possible a relation between freedom and dependency that can only be imagined with interactive models. [...] They are always ideas of felicitous interaction, of reciprocity and distance, of separation and of successful, unspoiled nearness, of vulnerability and complementary caution. All of these images of protection, openness and compassion, of submission and resistance, rise out of a horizon of experience, of what Brecht would have termed "friendly living together". *This* kind of friendliness does not exclude conflict, rather it implies those human forms through which one can survive conflicts. (*Habermas 1992, p. 125*)

I believe that in times of fake news and hate speech, *Habermas's* vision of "friendly living together" and a "domination-free discourse" (*herrschaftsfreier Diskurs*) is more relevant than ever.

For anyone who wishes to embark on the intellectual adventure of reading *Habermas*, I recommend starting not with the *Theory of Communicative Action* itself, but rather *On the Pragmatics of Social Interaction: Preliminary Studies in the Theory of Communicative Action (Habermas 2001).* Once you have become accustomed to his complex but lucid style, *Habermas* can be a joy to read.

3.

TYPES OF ACTION

In *The Theory of Communicative Action (Habermas 1985), Habermas* takes as his starting point a fundamental question: how can people live together in a society? His action theory shares with Marxism the view that an agent is *both the product and creator of* their social environment. He draws a fundamental distinction between *instrumental or object-related action* (e.g. building a house) and *social action* (e.g. the process of coordinating and reaching agreement among the builders working on the house).

He draws a further, ideal-typical distinction between *understanding-oriented* and *strategic* forms of *social action*. Understanding-oriented action means engaging with your interlocutor without ulterior motives and without attempting to pressure or manipulate them, so that they are able to freely make their own decision. This allows agents to reach consensual agreement in decision situations and conflicts through persuasion rather than coercion.

By contrast, strategically acting agents will attempt to achieve their goals with or without the consent of other agents, either by using methods such as bullying or offering rewards *(open strategic action)*, or by pretending to be acting in an understanding-oriented manner *(concealed strategic action)*. The agent may be aware of the deception *(deliberate manipulation)* or unaware *(distorted communication,* as for instance when someone, unbeknownst to themselves and seemingly with "the best of intentions," manipulates their partner). For clarity, it should be noted that these are ideal types that usually do not occur in a pure form in everyday communication but as a blend with varying degrees of understanding-oriented communication.





Fig. 4.03: Types of action (modified from Habermas 1985, p. 333)

The distinction between these types of action is also highly relevant when assessing the truthfulness or credibility of qualitative data (linguistic utterances, texts, multimedia documents). When conducting a qualitative data analysis, we must assess for each document the extent to which its creation was understanding-oriented and the extent to which it involved strategic communication/manipulation. It is instructive to keep asking this question when we encounter texts such as adverts.

4 LIFEWORLD AND COMMUNICATION

From the perspective of agents, the site of social action is their everyday lifeworld. *Habermas* took the concept of a lifeworld from *Alfred Schutz (lecture 3)*. However, he reinterpreted the originally phenomenological concept through a communication theory lens. On *Habermas's* view, we cannot understand and gain access to the lifeworld of concrete individuals through the phenomenological method of "eidetic intuition" (that only leads to the lifeworld of the phenomenologist!) but, in line with *Clifford Geertz's* theory of culture *(lecture 2)*, through lived involvement in social interactions. *Habermas* formulates a *general rule of intersubjective understanding*:

Intersubjective understanding, because it is a communicative experience, cannot be carried out in a solipsistic manner. Understanding [Verstehen] a symbolic expression fundamentally requires participation in a process of reaching understanding [Verständigung]. Meanings—whether embodied in actions, institutions, products of labor, words, networks of cooperation, or documents—can be made accessible only from the inside. Symbolically prestructured reality forms a universe that is hermetically sealed to the view of observers incapable of communicating; that is, it would have to remain incomprehensible to them. The lifeworld is open only to subjects who make use of their competence to speak and act. They gain access to it by participating, at least virtually, in the communications of members and thus becoming at least potential members themselves. (Habermas 1985, p. 112)

This general rule applies equally to a growing child entering into a lifeworld for the first time, to someone learning about an unfamiliar group, to a social scientist who wishes to study the lifeworld of a person or group of people, or to a qualitative data analyst analyzing the meaning of texts, multimedia documents, or artifacts. (It should be noted that this rule is also implicitly applied in quantitative social research and neuroscience at the point where linguistic communication comes into play, and so at the very least when interpreting the collected data).

In *Habermas's* theory, a lifeworld comprises both a material substratum, in the form of animate and inanimate nature (including the environment molded by human activity), and a symbolic component, which is what we are concerned with here. According to *Habermas*, this symbolic component consists of (1) *culture*, a stock of knowledge and the basis for any attempt to achieve mutual understanding, (2) *society*, the "social bond" of a communication community in which the cultural stock of knowledge is transmitted between people, and (3) *personality*, the communicative competences of each individual participant in communication.

5. BASIC CONDITIONS OF MUTUAL UNDERSTANDING

Communicative action can only be analyzed in context. It occurs in *social situations*, when certain demands, problems, or conflicts give rise to a need for communication, information, or mutual understanding. Each social situation is a segment of the participants' lifeworld. This segment becomes a *theme* for at least one participant as a result of their goals and interests. Other defining elements of a social situation are *place*, *time*, the *social relations* among the participants, and the objective and subjective *boundary conditions* relevant to the theme.

In a qualitative data analysis, this contextual information is essential in order to understand linguistic utterances, and so it is important that it is documented along with the qualitative data.

The background to communicative utterances ("speech acts") is constituted by how the participants define the situation; a certain degree of overlap between their definitions is necessary if they are to reach understanding. Otherwise, they will first need to negotiate a common definition of the situation. It is at this point that the limits to any process of mutual understanding will become apparent if, as a result of ideologies, "alternative facts," and conspiracy theories, it is no longer possible to achieve any common ground between participants' definitions of the situation.

By reaching a mutual understanding about their situation, the communication participants solve their everyday problems. They also use and renew their cultural stocks of knowledge, reinforce their social relations and group memberships, and, especially if they are still maturing into adulthood, develop their communicative agency and identity. Maintaining and renewing the lifeworld of a social group and its members is thus dependent on participation in a "fabric of communicative practice."





Fig. 4.04: Example of a social situation involving a need for mutual understanding (based on Schulz von Thun 1981)³

To illustrate this point, let us take an example from *Friedemann Schulz von Thun's 1981* book "Miteinander Reden" ("Talking with Each Other"). In this social situation (fig. 4.04), a couple are traveling in a car together. The theme is the way the woman is driving. Their hypothetical goals are to get to their destination more quickly, but also to "win" their argument. The temporal, spatial, and social boundary conditions include their being pressed for time, an intersection/traffic light up ahead, and their relationship as a couple. How the man defines the situation: "You're not paying attention!" How the woman defines the situation: "Stop telling me what to do!" There is a conflict that may create a need for mutual understanding. (But it may also be that this exchange has become a kind of "ritual," so that mutual understanding is no longer possible or desired!)

Against this backdrop, let us consider the process of reaching understanding. By analogy to the philosopher *Immanuel Kant (1724–1804)*, *Habermas* inquires into the *condition of possibility of mutual understanding* (Kant's *Critique of Pure Judgment*, by contrast, is concerned with the *condition of possibility of knowledge*). According to *Habermas*, this condition is satisfied if speaker and addressee comply with four basic rules or *validity claims*:

- **1.** They must speak *intelligibly*.
- 2. With respect to the world of facts, they must be *truthful*.
- **3.** With respect to the world of social relations, they must communicate *appropriately*.
- **4.** With respect to their inner world of intentions and feelings, they must be *sincere*.

These four validity claims correspond to four relations to the world, which are present in every linguistic utterance:

- **1.** The cultural world of language (criterion of *intelligibility*)
- 2. The objective world of facts (criterion of *truth*, e.g. the sentence "I was born in Berlin")
- **3.** The social world of interpersonal relationships and norms (criterion of *appropriateness*, e.g. "I won't tolerate personal insults!")
- **4.** The subjective world of feelings, desires, intentions, and thoughts
- **5.** (criterion of *sincerity*, e.g. "I feel hurt")

³ Source : <u>https://www.ztg.tu-berlin.de/download/legewie/5_vl.htm</u>

The term *validity claim* indicates their significance for successful communication: the participants in communication have a reciprocal *claim* on their interlocutors and can expect them to follow these rules.

The following table summarizes the validity claims, their relations to the world, and the systems of (scientific) discourse developed to resolve unclarities, problems, conflicts, and misunderstandings at each level.



Although the table presents the various relations to the world separately, they usually occur *together* in one and the same linguistic utterance: every communicative act makes reference to the linguistic, objective, social, *and* subjective worlds. When I speak, I am simultaneously saying something about the world, about my relationship to my interlocutor, and about myself (aspects of content, relationality, and self-presentation).

However, the validity claims of understanding-oriented action are only rarely fully satisfied in practice. *Habermas* writes:

What is typical instead are situations that lie in the gray area somewhere between a lack of understanding [Unverständnis] and misunderstanding [Missverständnis], intended and involuntary insincerity, veiled and open disagreement on the one hand, and an always already existing pre-understanding [Vorverständigtsein] and mutual understanding on the other. In this gray area, agreement must be actively brought about. Mutual understanding is a process that seeks to overcome a lack of understanding and misunderstanding, insincerity toward oneself and others, and disagreement. And it does so on the common basis of validity claims that aim at reciprocal recognition. (Habermas 2001, p. 137)

While deliberate untruthfulness is attributable to competing interests and power conflicts– and hence to inequality, oppression, and a pressing for advantage–involuntary untruthfulness is rooted in self-deception, delusions, and neurotic conflicts among the participants in communication.



We might ask what import validity claims have if they are not usually satisfied. The answer:

- Validity claims serve in our everyday communication as a reciprocal "leap of faith" in our interlocutor's trustworthiness and accountability. Minor breaches that have little impact on the goal of mutual understanding are typically tolerated, in line with the "et cetera clause" formulated by American sociologist Harold Garfinkel (1917–2011). This clause, which is essential in everyday communication, stipulates that "small" unclarities and disagreements in communication can either be cleared up later or considered immaterial to the agents' current goals.
- According to Habermas, we normally tacitly presuppose these validity claims as ideals. If the addressee believes these claims have been grossly infringed, they can make a metacommunicative demand and insist that the speaker complies with them. Depending on which of the four validity claims they take to have been infringed, the addressee can criticize the speaker's utterance using:
 - **1.** Linguistic arguments ("You're being unclear")
 - 2. Empirical arguments ("That's not supported by the facts")
 - **3.** Normative arguments ("That's below the belt")
 - 4. Psychological arguments ("That's not how you really feel")

The last column in the table p.59 lists the systems of (scientific) discourse that have been developed over millennia of human intellectual history to resolve increasingly fine-grained unclarities and conflicts with respect to these fundamental validity claims (in terms of terminology, objective truth, social appropriateness, and sincerity/authenticity respectively). Philosophical discourse serves to clarify linguistic terms, the theoretical discourse of the natural sciences concerns itself with the world of facts, and ethical discourse and the legal system adjudicate what is appropriate in our social interactions. Each individual's inner world, meanwhile, is accessible only to themselves. Unclarities or problems in their utterances about this world cannot, by contrast with ones concerning objective facts or social norms, be resolved through discourse; they can only be addressed by therapeutic critique (e.g. psychological or psychiatric evaluation) or, in the case of expressive action (self-presentation, fashion, art), by aesthetic critique. By choosing the word *critique* (or *criticism; Kritik* in German) rather than discourse, *Habermas* emphasizes the special status of the inner world that is accessible only to the individual.

Qualitative data analysis must likewise meet quality standards that go beyond the validity claims of everyday communication. The standards are expressed in hermeneutic discourse, in the critical methods of historical and literary studies, and in the various quality controls applied to qualitative methods. As we will see, the validity claims described in *Habermas's* theory of communicative action play a special role in these standards.

6. THE LIMITS OF UNDERSTANDING

Habermas's theory also emphasizes the limits of understanding. The biological, psychological, and social conditions of action are only ever partly transparent to agents. People are "'entangled' in their histories": they are never just active agents, but also to at least some extent passive "sufferers" at the mercy of their circumstances. The problems they must contend with can be divided into ones of "outer" and "inner" need. On Habermas's definition, "outer need" relates to the suffering caused by oppression, exploitation, violence, illness, age, and death. "Inner need," meanwhile, relates to our interpersonal conflicts, spiritual, mental, and emotional harms, and the depths of the human psyche. People only ever have imperfect control over and understanding of their objective circumstances, inner conflicts, and ways of achieving mutual understanding, which is why self-reported data can only ever paint an incomplete picture of their lived reality.



Fig. 4.05: Threefold approach for qualitative social research according to Habermas

No social science can gain an adequate understanding of a society if it examines that society solely through the prism of its members' lifeworlds, since these subjects' perspectives and opinions leave their own cultural identities and norms unquestioned. *Habermas* therefore believes the social sciences must take a threefold approach to their objects of investigation:

- Analyzing human beings' "outer need" requires an objectivating observer perspective in which human action and suffering are viewed as part of a larger systemic context. A lifeworld analysis must therefore be augmented by an analysis of biological, ecological, economic, sociological, and political systems. This is the place for quantitative analyses, statistical data collection, and systems modeling, which are essential in modern societies for the provision of public services and planning for the future.
- By contrast, understanding subjective perspectives requires interpretive (*verstehende*) methods, which in turn require participation in communication processes. Some of the most important methods: collection and analysis of qualitative data; participatory observation; conversations/interviews; and analysis of historical documents, human artifacts, media,



and works of art. (The results of representative surveys are also qualitative data, but this data is collected in a highly standardized communication situation and then converted into quantitative data.)

• Analyzing "inner need" requires a special interpretive method that goes beyond the subject's perspective and allows us to disentangle their self-deceptions and distorted communication. For such cases, the theory of communicative action draws on the methods and ideas of depth hermeneutics, which enable investigators to explore repressed thoughts, feelings, and conflicts (see "Reflections on Communicative Pathology" in *Habermas 2001*). These methods also involve an interpretation of qualitative data. At the same time, expressing our inner world through acts of self-presentation and works of art is a fundamental human need; such expressions are not always rooted in an "inner need" but can come out of experiences of beauty, happiness, and joy in life.

7. ASSESSMENT

Habermas's theory of society focuses primarily on communicatively rational subjects' capacity to reach mutual understanding. His theoretical framework can also provide a basis for social research and qualitative data analysis. We will later see how *quality control criteria* for qualitative data obtained from interviews and other communicative methods can be derived from Habermas's concept of validity claims (lecture 6: *Texts as qualitative data*).

Habermas's theory of communicative action provides a comprehensive theoretical account of human communication and hence also a methodological foundation for qualitative research and data analysis. If we compare this highly abstract theory with the actual day-to-day reality of our communicative relations, it will seem (to borrow a phrase from the German sociologist *Ralf Dahrendorf (1929–2009)*) like a sociological "homunculus" (Dahrendorf 2006) that paints an "artificial" picture of human beings. This is true to some extent for all theories of human action when they are measured against the rich complexity and abundance of everyday life; for one of the key functions of sociological theories is to abstract and simplify so that we can more easily get a grasp on our object of investigation.

But when assessing the *theory of communicative action*, I think it is important to note a certain one-sidedness: *Habermas* is a rationalist through and through. He only acknowledges the power of emotions and spirituality in human communication and interaction through the role he accords to psychoanalysis and depth hermeneutics.

8.

PROMPTS FOR DISCUSSION

- What types of social action does Habermas distinguish?
- Discuss *Habermas's* critique of the phenomenological concept of a lifeworld, and how he expands on that concept in his theory of communication. What are the components of a lifeworld?
- Discuss the significance of a *social situation* and its defining elements as a unit of analysis for social action and for qualitative data analysis.
- Can you think of examples where strategic and understanding-oriented action are intermingled?
- What can be the motivations for concealed strategic action?
- What is meant by the "relations to the world" and "validity claims" of communicative utterances?
- Why are validity claims also preconditions for successful mutual understanding?
- What role do incompletely satisfied validity claims play in achieving mutual understanding and why is the et cetera clause important for communication?
- Explain the limits of understanding and the three different approaches that are necessary for social research.

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5. LECTURE

QUALITATIVE PROJECTS

Having covered the theoretical principles for the interpretation of qualitative data in the first four lectures, we will now turn to *working with qualitative data*. In this lecture, I discuss general aspects of qualitative projects: *project planning* and the traditional *workspace for hermeneutic textual analysis* as a blueprint for software systems such as ATLAS.ti. The second part discusses *grounded theory* as a comprehensive strategy for the discovery of new theories.

Where appropriate, I will include passages in italics explaining how individual steps are implemented in ATLAS.ti. I will provide links to ATLAS.ti tutorials, which give clear demonstrations of the process.

PROJECTS

Projects based on qualitative data analysis can be found in the humanities, cultural studies, the social sciences, journalistic and artistic research, but also in management tasks in business and politics – so essentially in all areas of work where 'soft', non-numerical data are important.

The proximity between the methods of qualitative research and those of journalistic research has historical roots: qualitative social research evolved from journalistic reporting on social problems in the Chicago School of urban sociology. The founder of the *Chicago School*, *Robert Ezra Park (1864-1944)* had a background in journalism, not academia (*Lindner 2007*).

Park had the following message for his students:

'[...] one more thing is needed: direct observation. Go and sit in the lobbies of luxury hotels and at the entrance to the lodging houses; sit on the golden-bank sofas and in improvised beds in the slums [...] go and get your pants dirty in a real study' (Burgess 1982, S.6).

Two generations later, building on the urban sociology field studies encouraged by Park, Anselm Strauss (1916-1996) and Barney Glaser (1930-2022) developed the grounded theory method, which I will discuss in detail at the end of this lecture.

The source data for qualitative data analysis projects consist of text and multimedia documents which relate to social reality in some way.¹ The hermeneutic task involves *analyzing* the structures of meaning in the documents and then *synthesizing* the results; this eventually leads to research reports or journalistic features or essays.

¹ We use a broad concept of text: when we speak of the interpretation of texts, this also refers to multimedia and other non-verbal documents (for the definition of "text" see sixth lecture: Texts as qualitative data)



Fig. 5.01: Process of qualitative data analysis

Fig. 5.01, which you already know from the first lecture, shows the data flow in the interpretation of documents: real-world phenomenon -> record -> data analysis -> report on findings.

The formulation of a qualitative project requires clarification of the following basic questions:

- Prior knowledge: what is already known about the problem?
- Research question: what problem is being addressed?
- Objectives: what is the project intended to achieve?

Prior knowledge

If you are planning a quantitative or qualitative study, you will begin by using *everyday knowledge* and the existing literature to familiarize yourself with the *state of research* on the subject. This *prior knowledge* is more significant in qualitative studies than in quantitative research, however.

Quantitative social science studies use statistical tests to *verify hypotheses or theories*. This requires operationalization, allowing phenomena to be counted or measured. Qualitative studies, in contrast, are more open as to their results; their strength lies in the *discovery of new* and unexpected *connections*, and the development of new hypotheses and theories. This is why qualitative studies do not usually have any pre-formulated hypotheses to be tested.

When planning qualitative studies, and especially when analyzing the data, we rely on two kinds of prior knowledge about the object of research:

1. *Personal prior knowledge:* What everyday personal knowledge, prior experience and attitudes do I have in relation to the object of research? What results do I expect in my study?

2. *Professional prior knowledge (state of research):* What theories and findings about the topic already exist? What relevance do they have for my study?



Personal and professional prior knowledge is essential to precisely define the research question. The more prior knowledge I have about a subject, the more "intelligent" the questions I can put to the data. It's a little like the advantage an experienced hunter has over a novice from the city when it comes to detecting the presence of animals in the wild.

Prior knowledge, however, also includes stereotypes, prejudices, and unconscious attitudes of the researcher. This is why it is important, in qualitative studies, to make one's own prior knowledge explicit and to regard it as hypothetical rather than factual knowledge.

In his book *From Anxiety to Method in the Behavioral Sciences*, the ethno-psychoanalyst *Georges Devereux (1908 – 1985)* gives many examples of how unconscious presuppositions influence data collection and interpretation in the social sciences (*Devereux 1998*). But even the qualitative data to be analyzed are often unconsciously distorted documents of social reality – so our data analysis could potentially constitute a double distortion. In the sixth lecture, *Texts as qualitative data*, I will discuss psychoanalytically inspired attempts to reflect on these double distortions in data analysis.

Sensitizing concepts

This is a key concept for qualitative textual interpretation. Sensitizing concepts draw our attention to what we should be looking for in the data.

The term was coined by *Herbert Blumer (1900-1987)*, the founder of symbolic interactionism or interactionist sociology. As the teacher of *Anselm Strauss*, Blumer also influenced the theoretical foundations of grounded theory. *Blumer* sees a fundamental difference between the *definitive concepts* of the natural sciences and the *sensitizing concepts* of the social sciences. A definitive concept, based on a clear definition, refers to a common class of objects. A sensitizing concept lacks this clarity:

Instead, it gives the user a general sense of reference and guidance in approaching empirical instances. Whereas definitive concepts provide prescriptions of what to see, sensitizing concepts merely suggest directions along which to look (*Blumer 1980, p. 148*).

Sensitizing concepts have a heuristic function in qualitative data analysis. Their openness and potential to stimulate new thinking makes them particularly suitable for the formation of hypotheses; they can draw the researcher's attention to phenomena and aspects that could be important in interpretation.

Research question

What phenomena should the qualitative analysis investigate, and what unresolved questions should it answer?

I would like to explain the importance of these questions using a fictitious social science study. The same questions, in a slightly modified form, are also important for journalistic investigations.

Let us take as an example a study or investigation on the *stresses facing refugee children from the Middle East*. Suitable qualitative data might include e.g. interviews with children and parents, records from youth welfare offices, school essays, observation records from kindergartens, and children's drawings.

The topic initially contains only a very vague research question: reviewing and describing the stresses faced by refugee children. During the data analysis, new or more specific questions may arise, e.g. about traumatization, the children's (and parents') potential for self-help, or the strategies of public authorities when dealing with behavioral disorders in children.

The data interpreters could also pursue a completely different line of questioning, e.g. a discourse analysis, identifying the language patterns and power structures prevalent in this area of refugee policy, and the dialectic between help and control (see sixth lecture, *Texts as qualitative data*).

The research question for a journalistic investigation into the same topic would probably go no further than reviewing the issue, but would focus on vivid examples and (perhaps) spectacular cases.

It is also possible to imagine a socially or politically motivated artist conducting research for an art project on and with refugee children. Such a project might raise questions that would otherwise be overlooked, and it would use artistic methods to present the results.

Objectives

What is the project intended to achieve? Who and what is it useful for? What secondary goals is it meant to achieve?

Systematic reflection on the *objectives* of a project is often neglected. The objectives should be distinguished from the research question. Important aspects of the objectives relate to the *purpose of the research*, the desired *generalizability* and the type of *practical implementation* envisaged.

In studies with a *focus on theory*, the aim is to expand scientific knowledge and to develop and test theories, beyond any specific application of knowledge. Of course basic research is neither useless nor purposeless ("Nothing is more practical than a good theory"), but application is not central here.

In *applied research*, in contrast, the focus is not on the expansion of knowledge, but on the resolution of specific problems. Here qualitative research is intended to deliver insights which can subsequently be used by practitioners or decision-makers to solve problems.

In our fictitious project about the stresses facing refugee children from the Middle East, the objective could be to educate the public about the problem, or to develop effective support structures. But the study could also contribute to theoretical insights into the way children and parents react to extreme stresses.

This may be about the requirements of the target audience of an analysis, and about the relevance of the study, whether it be for the construction of theories or the resolution of social problems. In recent times, theoretical and practical impact has come to be seen as the quality criterion for research projects.

Secondary objectives refer to the use of the research report for purposes unrelated to the content: e.g. to obtain an academic qualification, to apply for a journalism or art prize, or to train staff in a particular field.



The reason why it is so important to reflect on the primary and secondary objectives is that they influence the whole design, execution and data analysis: the type of case or sample chosen, the scope of the research, the methods used for data collection and analysis, and the way the results are presented or published.

What do the answers to these basic questions mean when it comes to starting a data analysis project supported by ATLAS.ti? The first step is to create a new ATLAS.ti project and add the available documents. In the above-mentioned example, an obvious name for the project would be "Stresses Facing Refugee Children from the Middle East":

The following tutorial shows how to create a new project in ATLAS.ti: <u>https://atlasti.com/de/video-tutorials/atlas-ti-mac-video-tutorials#ein-projekt-anlegen-und-dokumente-hinzufuegen.</u>

When an ATLAS.ti project is created, the comment window should be used to add a short description of the project to the title. Memos should also be written, recording prior knowledge, ideas on the research question and objectives, and the first stages of planning.

Memo writing should continue throughout the analytical work. This record-keeping leads to a kind of research log, which can be easily managed in ATLAS.ti and linked to individual findings. This kind of research log made up of memos is extremely helpful, especially in collaborative projects (<u>https://atlasti.com/research-hub/writing-memos-when-analysing-qualitative-data</u>).

Using memos to keep written records of all analysis-related reflections is especially important in larger projects, as it facilitates collaboration between multiple members of a research group (<u>https://atlasti.com/research-hub/live-collaboration-in-atlas-ti-web</u>).

Planning strategies

In quantitative studies, the whole research design including the data collection tools is fixed in advance. In qualitative research, there are two distinct strategies:

• Fixed research design

A fixed research design offers the advantages of manageability and plannability, which can also be beneficial for qualitative studies. But this means that the researchers need – before the study begins – enough knowledge and hypotheses to determine what documents should be analyzed, what questions should be asked, and what methods of analysis should be applied.

A fixed research design, however, often fails to do justice to the particular strength of qualitative studies, i.e. their openness to new and surprising phenomena and connections.

"Rolling wave planning"

The strategy of "rolling wave planning" offers an alternative to a fixed research design for qualitative studies. Here a rough plan is made to begin with, and the individual steps are then planned in response to the interim findings.

Since this approach is somewhat frowned upon in research, it is important that you understand the principle. Imagine you're an organizational consultant and you've been tasked with proposing ways to improve the collaboration between different departments in a company. Mostly likely you wouldn't follow a fixed plan, but would enter into a "dialogic process" with the people involved and their environment. You would analyze existing documents of various kinds and from different sources, and have conversations or interviews with key individuals or teams in the most important departments. Then you might conduct a questionnaire survey on the strengths and weaknesses of the collaboration. Gradually, you'd be able to develop a more and more detailed picture or model of the collaborative relationships within the company, with their strengths and weaknesses. At the end of the rolling wave planning, the model or "theory" arising from this process, a kind of cognitive map of these relationships, would most probably give you more practicable proposals for improving internal collaboration than if you had followed a fixed research plan.

Rolling wave planning is the norm in practice and action research and in non-academic approaches to qualitative data, e.g. in project management or business management.

2. THE WORKSPACE AND TOOLS OF THE HERMENEUT

What does a workspace for textual interpretation of the *hermeneut*² look like, and what are the tools of the trade? Hermeneutics has a long tradition (see first lecture). In the 18th century, it developed into an independent humanities methodology, known as the *historical method*. Its aim is to discover, as accurately as possible, "what it was like," that is, to reconstruct *historical truth*, by critically reviewing and interpreting "sources," i.e. texts, images, multimedia documents and other artefacts. This method is used by philologists, historians, art historians, detectives and investigative journalists when they verify the truthfulness of their sources. We will return to this "mother of all methods of qualitative data analysis" – and the digital support ATLAS.ti provides for it – in the sixth lecture.

The traditional workspace

If we consider what the traditional workspace and tools of these interpreters of texts and images looked like before the arrival of the computer, this will help us to understand their technical transposition into a digital interpretation support system like ATLAS.ti.

Let us suppose that we are talking about research into a historical event such as the outbreak of the First World War. The first step for such a project is to set up a work environment or *workspace*. At the center is the *desk* with *writing utensils* and a *card file*. Within reach is a shelf or filing system, where all the necessary *documents* for the project are accessible in books and folders. Larger libraries and archives also offer such workspaces, where scholars can access the whole repository of documents. The filing system holds the documents to be analyzed, and new documents as data sources can be added continuously as work progresses. Since these constitute the starting point of the interpretation, we refer to them as *primary documents*. All interim findings during the interpretive work (*secondary documents*) and also

² After the development of the ATLAS.ti prototype, the pen and paper method was compared to textual interpretation on a computer in a study with the appealing title "The Hermeneut at Her Computer" (*Lind 1992*).

the final report are stored in their own compartments in the filing system.

The card file (also index card file or index file) has the important function of recording the excerpts and links between the primary and secondary data on index cards. It constitutes a kind of control unit, where all the findings from the research and interpretation are gathered.

An extensively documented example is the famous card file of sociologist *Niklas Luhmann* (1927-1998). Luhmann, a prominent exponent of sociological systems theory, wrote over 400 scholarly articles and 70 books. He claimed that he owed his productivity to his best assistant, the card file (<u>https://en.wikipedia.org/wiki/Zettelkasten</u>). Luhmann's card file is an analog precursor to software systems like ATLAS.ti.

Fig. 5.02 makes it clear why a computer-based card file has replaced its traditional precursor.



Fig. 5.02: A typical card file for traditional hermeneutic work³

The data analysis begins when the interpreter reaches for a folder on the shelf, takes out a single primary document and lays it on the desk to read. While reading, he marks the passages that are important for his research question, and highlights them as *quotations*. For some quotations he adds one or more keywords in the margin (*codes*). A code is not just an aidememoire to help search for the related quotations in the text. Ideally a code should also use a succinct formulation to sum up the meaning of the related quotations. The coding of the text is an important step in textual interpretation.

After the interpreter has worked through several primary documents, he may compile a *code list* of the codes assigned so far and create a card for each code, on which he will write a *comment* or memo. The primary documents are thus deconstructed into many small text components, allowing the interpreter to sort the codes and their quotations by various criteria, independent of the linear text, and to construct relationships between them. The interpreter uses further memos to record the results of this search for connections in the primary documents, as the interim outcome of his thought process.

³ Von Kai Schreiber from Münster, Germany - zettelkasten, CC BY-SA 2.0, https://upload.wikimedia.org/wikipedia/commons/3/33/Zettelkasten_%28514941699%29.jpg An important step repeated in different phases of work is *searching*. During coding, key words in the text can help to find the passages associated with a code. But the interpreter also wants to be able to access the relevant quotations in their textual context as he works on each code. This enables him to make repeated comparisons and better understand the meaning of the quotations.

As a further aid to structuring, the interpreter arranges the codes that are central for his research question on a page, and represents the relationships between them with arrows. This creates a *semantic network* or *cognitive map* between the codes, which are in turn connected with the quotations from the primary texts.

In a larger analysis project, of course, there are usually several interpreters *working together*. Ideally, each interpreter has his own workspace with access to the documents. After each phase of analysis, he must make the results of his work available to his collaborators.

So this is the traditional workspace, and these are the important steps that the interpreter has to follow.

Transposition to a computer-supported workspace

In the *interpretation support system* ATLAS.ti, *document storage* is implemented similar to a *database*. The work table becomes a digital *user interface* consisting of movable "*windows*". *Icons* (Greek: pictures) visible in the headers symbolize tools for text work (Fig. 5.03).



Fig. 5.03: ATLAS.ti user interface (The interface may consist of other windows)

Top: Headers with function icons

Left: Main window with primary document and highlighted quotation

Right: Coding

The interpreter reads the *primary text* that is to be analyzed in the main window of the user interface, and highlights the passages that are important for his research question. By clicking on the icon with the quotation symbol, he saves the highlighted passages as *quotations*.



A coding icon can then be used to define one or more codes for the quotation. The user can also add *comments* and write *memos*.

Further analytical tools can be used to carry out *searches* in primary documents or in *lists* of quotations, codes or memos. These lists can also be *sorted* in various ways. Finally, the *network editor* makes it possible to link documents, quotations and codes by creating *relationships*. This allows their connections and contexts to be viewed and edited in graphic form in *semantic* or *conceptual networks*. Relationships between two objects (quotations, codes etc.) can also be created simply by dragging one object onto another.

When several interpreters are *working together* on a project, each interpreter is given his own account, and all interpretive steps he takes are "stamped" with his name. This allows a nuanced and effective cooperative analysis of the documents.

An interpretation support system like ATLAS.ti should therefore be conceived of as a digital implementation of the traditional hermeneutic workspace and the traditional process of textual interpretation. The combination of information technology concepts and functions such as database storage, searches, visualization, and editing tools creates a new type of software – an *electronic workbench* for the interpretation of texts and images, which not only simulates the traditional workspace for textual interpretation, but also optimizes and reinvents it. In contrast to traditional textual interpretation, this makes the most of the advantages of digital data processing, and each step is clearly documented. In the seventh lecture, *The tool*, Thomas Muhr will describe in more detail – from the point of view of the computer scientist – how this is developed and implemented.

The transformation into an IT-supported work environment offers new possibilities for qualitative data analysis, in terms of both analysis and quality control. Since the introduction of computer-supported textual interpretation, the possible applications have multiplied and the potential data volume and scope of the analysis have grown substantially. Of course, the new tools also change the way we look at the texts (see e.g. *Konopásek 2011*).

Besides the gain in efficiency, however, this transformation also means a certain loss: as an interpreter, you no longer leaf through beautiful (or not so beautiful) books and turn the rustling pages of manuscripts, which have their own history; you no longer scribble your usual signs in the margins of texts or images; you no longer write on slips of paper or make hand-drawn sketches. Work, reduced to looking at the screen, moving the mouse, and typing on the keyboard, loses some of its physical and sensory appeal. In the book *Understanding Computers and Cognition: A New Foundation for Design (Winograd & Flores 1987)*, which guided us in our design of ATLAS.ti, the authors write: "Computers, like every technology, are a vehicle for the transformation of tradition."

The transformation of tradition will always come with gains and losses. In the IT-supported workspace for textual interpretation, the gain in efficiency is obvious. I am not quite so sure about the depth of interpretation that can be achieved, not because of the absence of rustling paper and dusty tomes, but because, in our efficiency-obsessed times, virtually no one is prepared to follow the example of the old-style scholars and work on the same topic for decades. If this type of scholar still exists, his mentality or lifestyle may mean that he chooses not to use a computer. Yet a new, more efficient technology does not necessarily mean that earlier traditions are completely supplanted, as the continued existence of sailing ships and handlooms shows.

3. QUALITATIVE DATA ANALYSIS IN THE STYLE OF GROUNDED THEORY

To end this lecture, because of its broad applicability, I would like to discuss grounded theory as a comprehensive strategy for the analysis of qualitative projects.

Context of development

Grounded theory is not a theory, as the name might suggest, but a strategy and an *inventory of methods to discover a theory based on the data* – as indicated by the title of the first publication on the subject, "The Discovery of Grounded Theory" (*Glaser & Strauss 1967*). Grounded theory is not a single method, but a style of research with foundations in hermeneutics. To avoid the misunderstanding that this is a theory, it is now common practice to speak of the "grounded theory method."

The grounded theory was developed in the early 1960s by the American sociologists *Barney Glaser (1930-2022)* and *Anselm Strauss (1916-1996)*, in the context of studies on the sociology of medicine. *Anselm Strauss* came from the Chicago School of sociological field research, and was part of the tradition of interactionist sociology. His assistant *Barney Glaser*, a student of *Paul Lazarsfeld (1901-1976)*, came from an empirical/quantitative research tradition.

The theoretical foundation of grounded theory is *symbolic interactionism*, with its basic assumptions that *human action and human interactions* are at the center of social research, and that action and interaction are not determined by physical environmental stimuli, but by *interpretations* of the environment, which are mediated by symbols.

Grounded theory emerged in the context of a classic field study. When Anselm Strauss came to the Medical School of the University of California San Francisco in 1960, he chose, as his first project, a previously unexplored subject: dying in medical institutions (Awareness of Dying, Glaser & Strauss 1965). The authors went into neonatal intensive care units, cancer wards, nursing homes and other institutions, and used participant observation and interviews to investigate what factors influence dying in institutions. They used the data to develop a highly influential theory, which changed attitudes to death in modern medicine.

The theory states that the *context of awareness* of the communication between dying patients and medical personnel and relatives is of critical importance for dealing with these patients. On the basis of their data analysis, the authors distinguish four contexts of awareness: (1) a closed context of awareness (the patient is not aware of his condition), (2) a context of suspicion (the patient begins to doubt whether he will recover), (3) a context of mutual deception (perhaps you know this from your own experience: the patient knows that I know he's going to die, and I know he knows it, but we put on a pretense: "It'll be fine!"), and lastly (4) a context of openness (everyone involved knows that death is imminent and talks openly about it). The context of suspicion was dominant. The patient notices his condition is getting worse and worse. For fear of giving themselves away, the nursing staff and doctors begin to avoid the patient, and become reluctant to go into his room, which can lead to neglect. The context of mutual deception makes the dying patient feel as though he has been left alone. The theory of contexts of awareness had an enlightening effect at the time, and contributed to the more open way that dying people are treated today.



Strauss perfected this methodology in many other projects in the sociology of medicine and the sociology of work (see *Legewie & Schervier-Legewie 1995*). Today the grounded theory method is one of the most common approaches in qualitative social research, and has proven its worth in both basic and practice-based research.

Glaser later proposed his own version of grounded theory. For the differences between them and for criticism of Glaser's approach, see Strübing (2011).

The grounded theory method, in numerous variations and developments, is now the most common approach in qualitative social research and data analysis (Mey & Mruck 2011).

The phenomenon-indicator-concept model (Fig. 5.04)

A fundamental element of the grounded theory approach is the *phenomenon-indicatorconcept model*. We are examining social reality, or a section of the social world. But we can only acquire knowledge about this by gathering data or documents in which the phenomena of interest are reflected. These may be documents of a linguistic nature, field notes, records of participant observations, interviews, the results of questionnaire surveys, diary entries, historical documents, court records, images and multimedia documents, works of art, buildings, or other man-made artefacts – and of course figures and measurements. The first step in qualitative data analysis is to *identify* and *code units of meaning* in these documents that relate to particular phenomena and are therefore *indicators* of these phenomena.



FIG. 5.04: PHENOMENON-INDICATOR-CONCEPT MODEL PD: Primary document I: Indicator

In ATLAS.ti we distinguish between the *textual* and *conceptual* level (*Muhr 1994*). On the textual level, the phenomena of interest are identified as *quotations* and named or *coded* in the primary documents. On the conceptual level, *theoretical concepts* are then developed from the codes – by means of comparisons and with the help of the ideas and hypotheses recorded in the *memos*. The concepts are the building blocks from which an emerging *theory* is eventually constructed.

The discovery of new theories

To understand the development of new theoretical concepts from observation data $\neg\neg$ be it physical measurement data or qualitative data as in grounded theory – we need to make a foray into the modes of logical reasoning that are used to construct theories.

According to the traditional understanding of science, the "discovery" of new theories is a matter for the creative imagination of the researcher. The philosophy of science concentrates on the conditions for *testing* existing theories and hypotheses. The modes of logical reasoning used here are limited to *deduction* (reasoning from the general [i.e. from a general rule or theory] to the particular) and *induction* (reasoning from a sufficient number of particular cases to a general rule).



Fig. 5.05: Charles S. Peirce (1839-1914) 4

This understanding was expanded by the American philosopher, logician, mathematician and semioticist *Charles S. Peirce (1839–1914)*. Peirce is regarded as the founder of *pragmatism*, a philosophical approach which holds that all knowledge about humans and nature ultimately arises from the practical actions of humans. According to the pragmatic concept of truth, the rightness of a theory is tested and proven in practical actions. This is not to be confused with pure utility, which the pragmatists have been wrongly accused of espousing. Pragmatism and its criterion for truth were important for the research of the *Chicago School* and are also, according to *Anselm Strauss*, the foundation for grounded theory.

Peirce made a lifelong study of the modes of logical reasoning that lead to certain knowledge. In addition to the two usual modes of reasoning, deduction and induction, he describes a third mode, *abduction*:

Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value, and deduction merely evolves the necessary consequences of a pure hypothesis.

Deduction proves that something *must* be; Induction shows that something *actually is* operative; Abduction merely suggests that something *may be*.

⁴ Wikimedia Commons

https://upload.wikimedia.org/wikipedia/commons/a/a4/Charles_Sanders_Peirce_theb3558.jpg



Its only justification is that from its suggestion deduction can draw a prediction which can be tested by induction, and that, if we are ever to learn anything or to understand phenomena at all, it must be by abduction that this is to be brought about. (*Peirce 1998, p. 216*).

If the general rule is that all ravens are black, then I can use *deduction* to conclude that an individual raven must be black. If I have observed on multiple occasions that ravens are black, I can use *induction* to establish the rule – which is highly likely to apply, until proven otherwise – that all ravens are black. If a white raven is suddenly observed, then I need to form a new hypothesis by *abduction* to explain this divergence from the rule. Such a hypothesis might be, for example, that a genetic mutation has led to this change in the raven's color.

According to *Peirce*, scientific reasoning requires constant shifts between deduction, induction and abduction. Theoretical propositions are usually derived from generalizing induction and tested by deductive inferences. Only when surprising new data appear can a new rule be discovered by abduction. If this rule is plausible, then it is worth testing it, by induction and deduction, as a potential new theory.

In line with the traditional understanding of science, *Peirce* also emphasizes the creativity of the researcher as a key factor in the discovery of new theories:

The abductive suggestion comes to us like a flash. It is an act of insight, although of extremely fallible insight. It is true that the different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation. (*Peirce* 1934, p. 181).

An important element here is the suggestion that, to discover new theoretical rules, "different elements of the hypothesis [must have been] in our minds before," i.e. that not just imagination but also prior knowledge and experience play a significant part.

A detailed discussion on abduction in the grounded theory method can be found in *Reichertz* (2011). In the sixth lecture, *Texts as qualitative* data, in the section on *theoretical coding*, we will learn about some grounded theory techniques which can be strategically used to help discover new hypotheses.

Characteristics of the grounded theory method

The grounded theory method does not provide us with any strict procedural rules that researchers can follow, as would be the case for a statistical analysis. Rather, this is a systematic and well-considered collection of heuristic steps, which are derived partly from the pragmatistic concept of science, and partly from decades of dealing with qualitative data in complex field research projects.

In the following section I want to give you an overview of the most important characteristics.

• Dialogic and processual character:

The researcher does not begin with theoretically derived hypotheses about his object of research, but uses his assumptions and prior knowledge as *sensitizing concepts*,

which structure his perception when gathering and analyzing the data.

An important means of knowledge is the *comparison of contrasting phenomena*. In a psychotherapy research project, for example, the following comparisons could be useful: successful vs. unsuccessful therapies, spontaneous recovery vs. dramatic deterioration, patients with a supportive social background vs. socially isolated patients, average vs. extreme course of illness. Data collection and analysis gradually becomes more targeted in the course of the process, allowing provisional concepts to be developed and progressively refined. This requires, at all stages, an oscillation between deduction, induction and abduction, between data collection and data interpretation, until a "data-based theory" finally takes shape.

• Diversity of data sources and data collection methods:

In the research process, decisions are made about which data sources and methods of data collection and analysis are appropriate for the given research question: the everyday and professional/technical knowledge of the researchers, existing documents, statistics, observational records, interviews, group discussions, surveys, image material and field experiments. But this also means that there is no rule against expanding the selection of data during a study and including new sources, if phenomena that had not previously been considered make this seem necessary.

• Theoretical sampling:

Based on the theory that is taking shape, aspects are chosen for the targeted collection or selection of further data. Random samples are replaced by the deliberate selection of the widest possible variety of cases and phenomena. This ensures that the phenomena under study are represented in the data in all their diversity – including atypical cases. Theoretical sampling is applicable particularly when large amounts of qualitative data (often thousands of pages of documents) are available to answer a question, but it would be too laborious – or would lead to excessive redundancy – to analyze them in their entirety. Theoretical sampling is not an alternative to random selection, but relates to a different type of research question. If the question is about the frequency of a clearly described and operationalized phenomenon, then of course random selection is mandatory.

• The principle of saturation:

Data collection and analysis are continued until no new aspects appear in the data. This is a pragmatic stop criterion: the degree of precision targeted must be tailored to the research question and the level of effort that can be justified. Theoretical sampling and the principle of saturation ensure the *ecological validity* of the results and help to avoid unnecessary work.

• Theoretical coding:

The core of the grounded theory method is theoretical coding, a simultaneously systematic and creative method of textual interpretation. The *phenomena* to be examined are "captured" in the data as *indicators*. These may be text segments, image material, or statistical data, which relate in some way to the research question, and are "conceptualized" by means of theoretical coding (phenomenon-indicator-concept model). The coding assigns one or more codes (terms, concepts) to the data (e.g. a text segment as an indicator).



Each code points to phenomena in the subject area under examination, by means of the assigned text segments or quotations. During the coding, the interpreter continuously records his ideas and reflections on the codes and the evolving theory in *theory memos*. Here it is important to get beyond the descriptive level, and to "break up" the apparent content with theory-generating questions on the phenomenon under study (what, who, how, why, what for?). The work begins with *open coding*, with "evenly suspended" or "hovering" attention. Later the coding becomes increasingly targeted (*selective coding*). We will look at these techniques in detail in the sixth lecture, *Texts as qualitative data*.

• The theory or model as a network of concepts:

As the theory evolves, concepts are not just derived from the data, but are also linked to each other and grouped into higher-level categories. In this way, the central categories for the description of a subject area gradually take shape, and a *theory or model as a network of concepts* emerges. The concepts of the theory are derived from the text segments on which they are based in a sequence of interpretive steps, and are thus firmly rooted in the data (this is the basic principle of grounded theory).

An important application of grounded theory in qualitative projects is the *secondary analysis* of existing data or the analysis of data gathered for other purposes, e.g. historical archive data. In this case, the strategy of theoretical sampling can be used to decide which data should be analyzed, and in what order.

The analytical techniques of the grounded theory method can be creatively combined with specific methods of data analysis such as qualitative content analysis, narrative ¬analysis, discourse analysis, metaphor analysis, or quantitative methods (see 6th lecture *Texts as qualitative data*).

Strauss does not regard grounded theory as a strict and unchangeable set of rules, to be applied step by step. In an interview from 1990, he has this to say about the essentials of grounded theory:

First I'd say grounded theory is less a method or a set of methods than a methodology and a style of thinking analytically about social phenomena.

If I were to say what's central, I'd emphasize three points: firstly, coding. The coding is theoretical, it's not just for classifying or describing the phenomena. Theoretical concepts are formed which have an explanatory value for the phenomena under study. The second is theoretical sampling. Again and again I've met people who've gathered mountains of interviews and field data and have only thought about what to do with the data afterwards. I understood very early on that it's crucial to begin the analysis right after the first interview, to write memos and formulate hypotheses, which then help to decide who to interview next. And the third thing is the comparisons that are made between the phenomena and contexts, which give rise to the theoretical concepts. When these elements come together, you have the methodology.

But what people do with it depends on their needs, of course. Think of historians: they have to connect it with their techniques for studying sources. Or computer scientists, who've recently started to use grounded theory to analyze systems. There are also people who want to combine the method with quantitative research – and why not? ...

I see the style of grounded theory as very variable. The proposal to use abridged procedures when investigating certain questions goes in this direction ...

I don't want to be a purist, I want to be useful with this method. It's nice if sociologists and psychologists use it, but it's even nicer if people who work in practice find it useful. (Translated from *Legewie & Schervier-Legewie 2004a*).



STIMULI FOR DISCUSSION

- What significance does prior knowledge have for the planning process of qualitative studies?
- Discuss the difference between the research question and the objectives of a qualitative study.
- What function do sensitizing concepts have in qualitative data analysis?
- Describe the advantages and disadvantages of a fixed design vs. rolling wave planning.
- Outline the most important material conditions and work steps in traditional textual interpretation.
- What advantages does a software system like ATLAS.ti have over traditional interpretive work? How does it facilitate the work or present new possibilities for qualitative data analysis? What disadvantages do you see, personally?
- For what objectives is the use of the grounded theory method suitable in qualitative studies? For what kinds of research question is a qualitative data analysis following the grounded theory method not appropriate?
- Explain the mode of logical reasoning known as abduction, with regard to the discovery of new hypotheses, in contrast to deduction and induction.
- What are the most important characteristics of the grounded theory method?

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