

Temporality in Discourse: Methodological Challenges and a Suggestion for a Quantified Qualitative Approach

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Abstract: Though most sociological discourse analyses are concerned with inherently temporal research objects, temporality is rarely acknowledged from a methodological perspective. In this article we address this gap by making the methodological consequences of temporality systematically explicit. In doing so, we attempt to initiate an important methodological debate in the field of sociological discourse analysis. As a first contribution, we specify four main methodological challenges posed by temporality to discourse analytical research processes: a sequential model of reality, entities that fluctuate and move, connections that relate entities over time, and the inherently comparative nature of diachronic analyses. We argue that qualitative approaches to discourse analysis are well equipped to deal with the first three challenges. However, they can easily be overwhelmed by the wide scope of diachronic comparative analyses. Building on these insights, we propose a quantified qualitative approach to diachronic discourse analyses. We show that quantifying tools that visualize discourse are beneficial in the final stages of qualitative interpretation. To this end, we explore the potential of word clouds, co-occurrence networks and discursive fields of correspondence for visualizing change and stability and thus accounting for temporality. Both the methodological challenges and the visualization tools are illustrated by drawing on an exemplary study on the changing nature of critiques of capitalism in the context of the recent economic crisis.

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1. Introduction

"Life holds one great but quite commonplace mystery. Though shared by each of us and known to all, it seldom rates a second thought. That mystery, which most of us take for granted and never think twice about, is time" (Michael ENDE, 1974, p.55).

In today's capitalist societies, *present* income inequalities are increasingly shaped by *past* accumulation (PICKETTY, 2017). While the *transition* to modern capitalism requires an excessive orientation towards the *future* (BECKERT, 2016), its contemporary predominance *accelerates* social life until the *future* fades out of sight (ROSA, 2013). Nonetheless, the guise, tools and justifications of capitalism have varied across the subsequent *époques* of its *evolution* (BOLTANSKI & CHIAPELLO, 2007). [1]

These popular examples drawn from the study of capitalism clearly indicate that the social is profoundly temporal. Proceeding from a distinction between *social time* as an empirical object of research and *temporality* as a processual ontology (ABBOTT, 2016), there is consent that most social phenomena are embedded in temporal structures. [2]

Social science data can convey this temporality. Even when *time* is not the subject of a research project, empirical objects of sociological investigation are more often than not *temporal* in nature. Data represent and perform shifts and transformations, breaks and ruptures, acceleration, inertia and stagnation. Some strands of empirical social research have at their command well-developed instruments in order to account for temporality. For example, longitudinal or panel analyses involve repeated observations of the same variables over long periods of time, while survival or event history analyses study the expected duration of time and sequence analyses detect similar temporal orders. Nonetheless, not all sociological strands are equally well equipped to account for temporality from a methodological perspective. [3]

In the current article, we make this case for sociological discourse analysis. Part of an international and interdisciplinary field (ANGERMULLER, MAINGUENEAU & WODAK, 2014a), sociological discourse analysis itself is a very diverse field of research that is typically interested in how social meaning is produced in language and communication. Temporality is crucial for sociological discourse analysis since discourse analysts usually concentrate on change in terms of breaks or transformations and stability in terms of the inertia or persistence of discursive formations. The significance of change and stability is evident, for example, in the archaeological and genealogical strands in FOUCAULT's work, which are central to many discourse analytical approaches. Although of primary concern in discourse theoretical efforts, temporality as a processual ontology has

not yet been comprehensively explored from a *methodological* perspective within discourse analytical research. [4]

In this article, we address this gap by making explicit the methodological implications of temporality for sociological discourse analysis. Our first main contribution is to acknowledge temporality as a central category of analysis and to outline a set of methodological challenges that researchers have to cope with if they are to take change and stability of discourses seriously. With this first contribution, temporality becomes accessible as a methodological issue. Moreover, our contribution illustrates how scholars can integrate these challenges into their discourse analytical frameworks. [5]

Proceeding from this point, our second main contribution is to propose a quantified qualitative approach to sociological discourse analysis that can cope with these challenges. While qualitative-interpretative strands of discourse analysis are particularly well suited to coping with most of the challenges posed by temporality, they can easily get overwhelmed by the inherently comparative nature of analyses that are interested in change and stability. Scholars can only fully acknowledge the temporal dimension of their discursive material if they compare different points in time, but such comparisons inevitably widen the scope of qualitative research designs. Thus, we present a number of visualization tools originating from quantitative modes of (text) analysis that can support qualitative discourse analysts in their final comparative interpretations. These visualizations help to comprehensively track change and stability and therefore do justice to temporality. [6]

With these contributions, the objective of our article is to encourage discourse analysts to reflect on the temporal nature of their research objects and the methodological significance of temporality for their research process. Taking up the debate on temporality, we argue for the development of discourse analytical tools that systematically account for temporality. Throughout the article, our methodological argument and the suggested tools are illustrated by findings from a discourse analytical study that investigates critiques of capitalism. The study addresses a research question that is genuinely temporal: It scrutinizes how critique has *changed* during the recent economic crisis. Details on this illustrative discourse analysis are provided in the box below. Both our methodological contributions go well beyond historical discourse analysis and are relevant to sociological discourse analysis in general. [7]

We proceed as follows. In the next section, we summarize how time and temporality have been addressed within sociological discourse analysis. Drawing on these perspectives and their desiderata, we outline in Section 3 four methodological challenges that sociological discourse analysts are faced with in attempting to account for temporality. In Section 4, we suggest meeting these challenges by complementing qualitative-interpretative perspectives with visualization techniques originating from quantitative (text) analysis. The ideal typical research design described in Section 5 illustrates how temporality can be addressed at different stages of discourse analytical projects. Finally, we

introduce three visualization tools in Section 6 that can be implemented in the final stage of comparative interpretation and enable researchers to track change and stability graphically.

Introduction to the Illustrative Study "Capitalism and Its Critique in Crisis"

In their seminal book "The New Spirit of Capitalism," Luc BOLTANSKI and Ève CHIAPELLO (2007) show how capitalism changes over time. What drives capitalism to constantly adapt, restructure itself, and become ever more powerful is, ironically, anti-capitalist critique, which challenges the very legitimacy of capitalism.

We use a discourse analytical study, conducted by Lisa SUCKERT to illustrate our methodological argument in this article. This study draws on BOLTANSKI and CHIAPELLO's work and its theoretical foundations, the *economie des conventions* [economics of conventions, EC] (DIAZ-BONE, 2015; SUCKERT, 2017a). According to EC, persuasive criticism must refer to conventions, i.e., generalizable modes of justification. BOLTANSKI and CHIAPELLO (2007) distinguish different historical modes of anti-capitalist critique (e.g., "social" or "artistic" critique), which can be mutually opposed and may be addressed by different institutions.

Emanating from this framework, we investigate in this illustrative analysis how anti-capitalist critiques have changed after the outbreak of the global economic crisis in 2007–2008. What modes of critique are observable? Is the quantitative increase in critiques accompanied by changes in the nature of those critiques? In the analysis, we explore public critiques of capitalism according to how they construe both capitalism and its problems at different points in time. The discourse analytical approach of this exemplary study is fundamentally based on the sociology of knowledge approach to discourse (KELLER, 2011; KELLER & TRUSCHKAT, 2011) and a discourse analytical interpretation of EC (DIAZ-BONE, 2009, 2013).

As manifestations of the discourse, press releases issued in 2004 and 2008 by two major critics of capitalism were identified: the Association for the Taxation of Financial Transactions and Citizen's Action (ATTAC), an NGO originating in the context of the "new" critical movement, and the *Deutscher Gewerkschaftsbund* (DGB), the German Trade Union Confederation. The analysis of their critiques in 2004 and 2008 allows for a comparison of the discourse before and during the crisis. In a first step, all press releases of both organizations were collected (n2004 = 362; n2008 = 413) and subjected to a preparatory analysis on the textual surface, which elucidated what was to be understood as "capitalism" and "critique of capitalism" and helped to identify texts that clearly contain an anti-capitalist critique. A total of 68 documents for 2004 and 107 for 2008 were selected, analyzed, and coded. The codes and categories for further analysis were developed inductively from the material, but were stimulated by the basic heuristic developed by BOLTANSKI and CHIAPELLO (2007). Coding and evaluation were implemented with the aid of ATLAS.ti, a computer-assisted qualitative data analysis software (CAQDAS).

2. Time and Temporality in Current Strands of Sociological Discourse Analysis

Time is a central motif in social theory. For example, according to differentiation theory, the differentiation of the social order brings with it a differentiation of the temporal order (LUHMANN, 1978). Thus, different segments of society can each have their own time. Structuration theory concentrates on the interdependence of action and structure. Time and space are seen as relations in which social interactions are embedded, and these relational structures are in turn (re)produced by social interaction (GIDDENS, 1979). According to praxeological perspectives, time is a product of social practice: It is constructed by actors and their practices (BOURDIEU, 1995; see also ELIAS, 1991). Despite their differences, these and other theoretical accounts on the sociological relevance of time agree on some very general principles (MEAD, 1932; ROSA, 2010): Time should not be thought of as a coherent, steadily flowing continuum that evenly influences actions, discourses, and systems or fields. Instead, there is a variety of co-existing temporalities that are discontinuous and proceed irregularly (FRIESE, 1993). [8]

Against this background of socio-theoretical accounts of *time*, we investigate in our contribution whether and how the sociological problem of *temporality* has been addressed in empirical research (BERGMANN, 1992). In particular, we focus on sociological discourse analysis and the temporality of discursive objects of investigation. It is only by focusing on temporality that both discursive change and stability can become visible in qualitative analyses. [9]

Time—and the way it is organized and perceived by social actors—has proven to be an important discourse analytical object of investigation (see the FQS thematic issue on time and discourse, HANNKEN-ILLJES, KOZIN & SCHEFFER, 2007; see also MAINES & HARDESTY, 1987; STARKEY, 1988). The relevance of these strands notwithstanding, few studies go beyond *time* as a discursive object and acknowledge the fundamental *temporality* of discursive phenomena as a methodological challenge. [10]

In our contribution, we are not attempting to reveal the social or discursive construction of *time*, but instead consider *temporality* as a processual ontology underlying discourse analysis. If researchers are to understand the social role of discourses comprehensively, they need to account for the inherently temporal character of their empirical objects of research. Indeed, temporality is a key question for language use, or semiotic events in general. Therefore, different strands of discourse analysis have repeatedly shown interest not only in *time*, but also in *temporality*. They investigate temporality as a matter of change, transformations, and ruptures, and as a matter of stability, continuity, and inertia. In the following, we point to three important discourse analytical strands that illustrate how the temporality of language is acknowledged in different ways. However, these discourse analytical strands tend to neglect the specific methodological challenges that emerge from temporality. [11]

First, enunciate pragmatics are a linguistic strand of discourse analysis which studies, among other linguistic elements, deictic words that refer to temporal locations from the perspective of a speaker or a reader/hearer (see ANGERMULLER, MAINGUENEAU & WODAK, 2014b). Here, temporality is seen as produced in and by enunciation. The present as a notion is made possible only by enunciations that realize it as they insert it via discourse into the world (BENVENISTE, 2014). According to the pragmatic foundation of this approach, communication is understood as embedded in certain settings.¹ These settings include the purpose of communication, the circumstances, the medium, and, crucially for our argument, how communication is inscribed in temporality. The temporal setting of communication is comprised of periodicity, duration, continuity, and the period of expiration of communication (MAINGUENEAU, 2014). [12]

Second, other discourse analytical strands are concerned with the discursive formation of historical knowledge (see ANGERMULLER, MAINGUENEAU & WODAK, 2014c). Discourse-historical approaches reveal how perceptions of specific events change over time. They reconstruct conflicting narratives and accounts of, for example, the discursive construction of national identities (PIWONI, 2013) or notions of *Bildung* [education] (HAMANN, 2011). Slightly different from that is historical discourse analysis, in which discourse analysts study historical changes in meaning creation (LANDWEHR, 2008). While some traditions build on FOUCAULT's (2007) genealogy in order to disclose the contingency of the present, other traditions draw on intellectual history and reconstruct the particular contexts and meanings of words and ideas in the past (SKINNER, 1998) or study how the same concepts are interpreted by different agents in different arenas. Variations in the meaning of concepts then become an indicator of structural sociohistorical changes (KOSELLECK, 1988). [13]

Third, a number of approaches in sociological discourse analysis are concerned with the interpretation and reconstruction of meaning. Inspired particularly by FOUCAULT's (1972) concept of archeology, this strand aims to reconstruct the rules of formation of a group of statements made at a specific place and time. It examines discontinuities, ruptures, and gaps between discursive formations, shifting the focus from homogeneous "change" to a more differentiated notion of heterogeneous "transformations." Temporality is thus key to the research interest of this strand. Within German-speaking sociology, Foucauldian discourse analysis (DIAZ-BONE et al., 2007) and the sociology of knowledge approach to discourse (KELLER, 2005, 2011) are the most prominent representatives of this perspective. These approaches are concerned with both the *content* of discourse and the *speaker positions* from which discursive statements are expressed. Simultaneously, they assess what content and which speakers *appear* and disappear at different points in time in the discourse, and they are also interested in the evolution of the *relations between the speakers* and the underlying patterns

1 Similarly, approaches informed by conversation analysis are interested in how language and gestures are used to define situations and understand discourse as a situated turn-taking—and thus temporal—activity (ANGERMULLER, MAINGUENEAU & WODAK, 2014d; see also SACKS, SCHLEGLOFF & JEFFERSON, 1974; SCHEFFER, 2007).

of how content appears. Concerned with content and speaker positions, and with occurrences of and relations between discursive elements, reconstructive discourse analyses are interested in different types of change and stability. The quantified qualitative approach to discourse analysis that we suggest in the subsequent parts of this article builds on this reconstructive perspective. [14]

Concluding our overview of discourse analytical engagements with temporality, it is clear that a variety of perspectives is not only interested in social constructions of *time* as an empirical object of investigation, but also concerned with the *temporality* of social phenomena. However, temporality is rarely considered systematically as a methodological problem in its own right. FOUCAULT's archaeology is a fitting example, because even here, as is well known, a systematic discussion of the methodological consequences of temporality is neglected. In the following sections, we reconsider temporality as a methodological challenge for qualitative discourse analysis in sociology and suggest a number of approaches to cope with it. [15]

3. Temporality and its Methodological Challenges

The inherent temporality of empirical objects of investigation raises several methodological challenges (ABBOTT, 2001, pp.37-63). Without claiming completeness, we outline four of these challenges and illustrate them by drawing on our discourse analytical study on critiques of capitalism. We argue that sociological discourse analysis is well equipped to meet most of these challenges. This is not least due to the qualitative orientation of sociological approaches in discourse analysis, which allows them to comprehensively take into account the temporality of its objects of investigation. [16]

The analytical potential of qualitative approaches notwithstanding, quantitative approaches to discourse analysis have recently developed powerful tools that can be useful in visualizing temporality. While qualitative approaches to sociological discourse analysis typically assume that making sense of discursive fragments is the interpretative task of the researcher, approaches such as quantitative discourse linguistics rely less on researchers' interpretative reading of a text (SCHOLZ, 2018). Instead, they slice discursive fragments into their basic elements (utterances or tokens) and build their interpretation on the frequency with which these elements appear and their collocation within texts, analyzed via automated algorithms (McENERY & HARDIE, 2012). In our discussion of the methodological challenges raised by temporality, we argue that qualitative approaches can draw on the visualization tools developed within some strands of quantitative discourse analysis. [17]

3.1 A sequential model of reality

The first challenge raised by the inherent temporality of empirical objects is to employ a *sequential model of reality*. Instead of assuming independent "cases," we have to assume that events are linked over time—indeed, that they are embedded in a never-stagnating flow of time (ADAM, 1995). Meaning is not only generated by scales that abstract across cases, but also by stories that connect events. The way that capitalism in 2008 is discursively assessed, for example, is dependent not only on contemporary current events like the economic crisis, but also on previous public debates on the issue. This perspective requires the discourse analyst to decide how to choose the relevant events, how to colligate them, and how to separate hypothetical events from what indicates them in the data. A matrix that makes it possible to arrange and track events can be a helpful tool at this conceptual stage (BAUR, 2005, pp.113-124). A sequential model of reality also requires distinguishing different notions of temporality. For example, time can be imagined to be represented by different motifs, like blocks, pieces, spirals, elastics, verticals, and strata (pp.138-142; see also MICHON, 2002). Temporality can also be thought of in terms of different types of processes, for example organized transformations, shifts, cycles, or ruptures (BAUR, 2005, pp.125-137), which in turn can be distinguished further with respect to their duration and pace (AMINZADE, 1992). Research that employs a sequential model of social reality does not necessarily have to decide for one notion of temporality, but it has to be aware that some notions might be more adequate than others for the research questions at hand, and it needs to critically reflect on its underlying assumptions about temporality. [18]

Qualitative approaches to sociological discourse analysis are well equipped to construct a *sequential model of reality*: Unlike most algorithms, the human researcher conducting qualitative discourse analysis does not have to approach each discursive fragment as a completely new, independent case. Instead, qualitative approaches, which can operate both chronologically and iteratively, are able to differentiate analytically between what has been stated earlier and later on in discursive formations. In the process, sequences of discursive utterances and events, their relationship to a past and a future, become accessible. Moreover, without having to rely on automated approaches to texts, qualitative analyses are also more sensitive to different forms of temporality displayed in discourse. By reading through discursive fragments, researchers can capture the speed and amplitude with which discourses change, detect multiple layers of temporality within one discourse, and zoom in on breaks or radical changes that seem of particular interest. [19]

3.2 Fluctuation and movement of entities

The second methodological challenge that comes with the temporality of social phenomena is the need to abstain from fixed entities that only vary in their attitudes. Within the principal temporal flow of social reality that is covered by the first challenge, the methodology should allow *entities themselves to fluctuate and move*, to merge and divide, to appear and disappear over time (ABBOTT, 2016). This hinders a rigorous conceptualization of, for example, "entities," "actors," and "events" that yield, represent, or prevent changes. One possible methodology that opens up this perspective has been suggested by ABBOTT. Rather than assuming ontological social entities, it investigates how entities are created by the boundaries that actors delineate (ABBOTT, 1995; HAMANN, 2017). As our empirical study illustrates in the next section, the discursive boundaries between who is a "capitalist" and who is deemed a "victim of capitalism" move back and forth over time. [20]

Again, qualitative approaches to sociological discourse analysis are able to meet the challenge of *entities that fluctuate and move*. For qualitative discourse analysis, the researcher's interpretation of discourse fragments must not take place in a hermeneutic vacuum. On the contrary, the researcher is able to actively take into account her comprehensive knowledge about the historical context. The temporal variability of both discursive formations and non-discursive practices and environments can thus be included in the analysis. This is particularly important as far as the history of specific entities, like "capitalism," is concerned. Researchers can register the dissolution or emergence of entities as well as reinterpretations according to the historical context. While quantitative tools have to rely on prescribed definitions of discursive entities,² qualitative research can constantly adapt and revise its concepts. [21]

3.3 Connection of social entities over time

Still following ABBOTT (2001, pp.37-63), the third challenge is to reject independence assumptions and instead ask *how social entities connect* over time. We distinguish four different types of possible connections between temporalized entities. First, ties can be *causal* (MAHONEY, 2004). Path dependency is probably the predominant school of thought that allows us to conceptualize such causal connection linking entities over time. Emphasizing stability rather than change, path dependency is nonetheless a diachronic perspective because it characterizes sequences in which contingent events set into motion deterministic event chains or patterns (MAHONEY, 2000). The onset of the economic crisis and the discursive reaction by anti-capitalist movements can, for example, be conceived as causally connected events. Second, temporal connections can be *relational* and take the form of social networks that move over time (on temporalized networks see SCHÜTZEICHEL, 2012; STARK & VEDRES, 2006; TILLY, 2005). In our empirical example, the anti-capitalist field consists of various types of organizations that criticize capitalism and are related to each

² Exceptions are advanced modes of machine learning, which, however, are not yet widely used in quantitative sociological discourse analysis.

other. These relations remain stable and therefore connect anti-capitalist critiques at different points in time. Synchronic trajectories are thus enabled by diachronically valid relations. Third, ties linking entities across time can also be *institutional*: Although researchers interested in temporal phenomena need to be aware that institutions (as one type of social entities) can fluctuate and move, stable institutions can also connect different points in time. For example, the discourse on capitalism, a social phenomenon that unfolds over time, can be accessed because it is centered on some rather stable institutions, like anti-capitalist NGOs and labor unions. Fourth, ties between temporalized entities can also be *discursive*, which is of particular interest for our purposes. In particular, narratives can construct relations by assigning a sequential order to entities ("first," "then," "finally"), while interpretative frames may bridge different points in time (BEARMAN & STOVEL, 2000; BEARMAN, FARIS & MOODY, 1999; BÜTHE, 2002; STEINMETZ, 2007). The narrative of the "old" capitalism, which is endangered by a "new" kind of capitalism, or the stable interpretative frame of "the good, the evil, and the heroes" that underlies anti-capitalist critiques, exemplifies such a discursive connection. As in the sequential model of temporality, researchers have to be aware of their assumptions about causal, relational, institutional, and discursive connections across time and be prepared to reflect on them critically. [22]

Once more, qualitative approaches to discourse analysis are well equipped to meet the challenge of *connecting social entities over time*. Similar to the challenge of fluctuating entities, qualitative discourse analysis does not necessarily have to predefine how it considers entities to be connected over time. What holds a particular discourse together across time? Qualitative researchers can answer this question gradually, through the process of research. Concerned with "making sense" of discourses, they can remain open to different kinds of temporal connections: discursive call and response (causal connection), networks of speakers referring to each other across time (relational connections), or discourses centered on specific institutions that persist across time (institutional connections), such as, for example, labor unions. Furthermore, qualitative discourse analysis and its respective methodological traditions possess comprehensive tools, concepts, and expertise to account for specific discursive connections: They are, for example, specialized in revealing narratives and interpretative frames that relate discursive statements of different points in time. [23]

3.4 The comparative nature of diachronic analyses

Taken together, these three methodological challenges encourage us to think about the sense in which reality is sequential; how entities fluctuate, change, or remain stable on this timeline; and in what ways these entities are connected to each other over time. In order to meet these three challenges, we need to compare different entities over time. Only a comparison of different points in time reveals that social reality is sequential in the first place, whether entities fluctuate or remain stable within this temporality, and how they are connected on this timeline. Stability and change, the two fundamental categories of any analysis sensitive to temporality, can only ever be visible in a comparative framework.

Hence, we suggest the *inherently comparative nature* of diachronic analyses as a fourth methodological challenge (HEINTZ, 2016). This challenge requires decisions regarding the entities that are compared and the features that are relevant for a comparison. The challenge also entails strategies and techniques to identify the items of comparison, although they might be changing constantly, as is the case with critiques of capitalism (RAGIN, 1982; SKOCPOL, 1984). [24]

Qualitative approaches to discourse analysis offer evident methodological advantages for coping with the temporality of discourse. Yet, the fourth challenge, the *inherently comparative nature of diachronic research*, reveals some limitations of an exclusively qualitative-interpretative approach. Comparing different points in time potentially involves large corpora and thus a large set of data. Both the scope and internal intricacy of the analysis can easily surmount even well-trained researchers' cognitive capacities. CAQDAS, which support the human researcher in keeping track of their interpretational endeavor, is surely a most helpful tool in this regard (DIAZ-BONE & SCHNEIDER, 2004; KUCKARTZ, 2009). Nonetheless, when the corpus becomes too large, a systematic comparison becomes difficult. [25]

Moreover, once the comparative interpretation is accomplished, it is difficult to transmit these findings to a potential audience. In order to do so, scholars often draw on what can be referred to as "thick description" (GEERTZ, 1994): A comprehensive account of what is observable within the discourse is complemented by extensive examples that serve to not only illustrate the interpretation, but also prove its validity. However, depicting discourses over time, for example by displaying what has changed or stayed the same over several years, let alone decades, requires an exhaustive and much too often redundant account of results. [26]

In order to solve these problems, we propose in the following section to complement the qualitative-interpretative approach with quantitative-visualizing elements. Drawing on the results of coding techniques (SALDAÑA, 2013) integrated by many popular approaches (DIAZ-BONE et al., 2007; KELLER, 2011), qualitative discourse analysis can become quantified in the final stage of analysis. The suggested quantitative-visualizing elements can facilitate comparative interpretation across different points in time and thus supplement the qualitative understanding of discursive fragments. [27]

4. Making Temporality Visible: A Quantified Qualitative Approach to Discourse Analysis

Based on the methodological challenges presented above, in the following sections we propose an approach that we consider particularly well suited to making discursive change and stability visible. The basic idea is to complement qualitative-interpretative modes of sociological discourse analysis with some visualizing elements originating from quantitative text analysis. We argue that it is this new and integrative combination that allows for a more comprehensive diachronic comparison. Exploiting the respective strengths of qualitative and quantitative approaches, which due to paradigmatic differences have long remained incommensurate within discourse analysis, the temporality of discourses in terms of change and stability can systematically be accounted for. [28]

Indeed, our suggestion of moving beyond the dogmatic divide between quantitative-explanatory and qualitative-interpretative approaches is not the first of its kind. In social science, scholars have repeatedly argued for the explanatory value of mixed methods research designs (KELLE, 2008, 2017; KUCKARTZ, 2014; MAYRING, 2001). Within the realm of discourse analysis, BUBENHOFER (2013) has suggested a quantitatively informed qualitative discourse analysis. This approach takes quantitative analysis as point of departure to map a large corpus and then analyzes some discursive fragments in more detail. With a similar intention, some researchers use quantitative tools to test their qualitative findings on a larger sample. [29]

In contrast, our quantified qualitative approach to discourse analysis sticks to the premises of qualitative-interpretative traditions. Although it is a mixed methods approach, it can be considered "qualitatively driven" (HESSE-BIBER, RODRIGUEZ & FROST, 2015; SCHREIER, 2017) because it derives its validity first and foremost from an in-depth understanding and intersubjectively intelligible interpretations rather than from quantitative representability. Our suggestion is geared towards the careful scrutiny, understanding, and reflexive coding of discursive fragments. [30]

However, in a second step, we want to encourage qualitative discourse analysts to take advantage of visualizing methods originating in quantitative traditions. Because these elements help reduce complexity, at least temporarily, they can facilitate a systematic comparison of different points in time and a much more condensed communication of results. Moreover, qualitative discourse analysts can use quantitative-visualizing tools to challenge their preconceptions. A basic challenge in any qualitative research endeavor is to go beyond one's daily, common assumptions, and to see what is not observable to the actors involved. This "epistemological breach" is achieved, for example, by oscillating between a theoretical meta perspective and the narrower perspective entailed by the analysis of empirical fragments. At the same time, a quantified approach, which deviates from individual empirical fragments, can open up new perspectives and thus challenge the qualitative researcher's intellectual routines. What we suggest is an iterative research process that oscillates between qualitative interpretation

and quantified visualization and thus alternates between moving away from and towards the empirical material. [31]

We assert that this quantified qualitative approach to conducting sociological discourse analysis enables researchers to cope with large diachronic corpora while at the same time taking seriously the methodological challenges of temporality. Our methodological suggestion is elaborated in more detail in the next two sections. First, we provide suggestions for common stages in sociological discourse analytical research projects. Subsequently, we discuss some important quantitative-visualizing methods that help to depict change and stability in discourses. [32]

5. Towards Temporal Reflexivity: Accounting for Temporality Throughout the Research Process

There is no consistent, uniform research strategy behind sociological discourse analysis. Even within the traditions and discussions that are labeled as coherent approaches, scholars employ quite different strategies and procedures. Nonetheless, we think that it might be useful to identify certain stages in research that are common in many discourse analytical projects—at least in those sociological interpretative or structural strands that examine texts in order to reconstruct more general rules or structures of a discourse (DIAZ-BONE, 2006; KELLER, 2005). Our discussion of these stages does not presuppose that all discourse analytical research designs do, or should, take these steps, let alone in a particular sequence. Rather, our aim in this section is to cover phases that are important to many discourse analyses, and to review how these steps change if the temporality of social phenomena is accounted for. How can discourse analytical practice adjust to the methodological challenges that arise from the temporality of its empirical objects? [33]

5.1 Explorative stages

Toward the beginning of a research project, scholars usually try to delineate an area of interest that they want to study. This can start out with a discourse analytical focus right away, for example on the discourse of critiques of capitalism. However, the stage can also be much more general and start with an interest in broad sociological questions regarding, for example, institutions, identities, or conflicts. Intertwined with this is an explorative stage in which scholars try to develop an idea about how their area of interest is empirically structured and contextualized. This stage includes the identification of important actors, institutions, events, or texts and how they are connected to each other. For our study on critiques of capitalism, secondary text analysis has enabled a comprehensive understanding of the field of critique (e.g., RUCHT, 2013). It informed the choice of two relevant speakers within this discourse: ATTAC and DGB. [34]

In these early stages, acknowledging the temporality of social phenomena can have a number of methodological consequences. Although social phenomena are

rarely clearly delineated, discourse analysts have to decide on a diachronic beginning and end to their object of research. For example, the onset of the 2008 economic crisis served as the focal point in time for the study presented here. This point divides the flow of time into a period "before" and a period "after" (for the temporality of crises, see also JESSOP, 2013). Further, institutions, actors, and notions that are central to the study might change over time. For critiques of capitalism, we can observe a shift from labor unions as the locus of opposition to capitalism to a broader social movement involving several NGOs. This shift has been acknowledged in the selection of speakers in the discourse. Lastly, the discourse of critiques of capitalism constituted its object, capitalism, in very different ways before and after the outbreak of the economic crisis. It did not appear appropriate to define capitalism neatly from the beginning of the study. Instead, we started the research project by inductively screening critical statements, carefully exploring what "capitalism," as understood in the discourse, consists of. It was only after this iterative loop that a sample of documents could be qualified as "critiquing capitalism." Our example shows that scholars need to situate their research objects in temporal sequences when they define them, and reflect on how to colligate or separate their objects from other objects. [35]

5.2 Stages of data collection and first analysis

Following the explorative stage, scholars usually face the task of deciding on the empirical material they are going to draw on. Depending on the research interest, this stage of material collection can include investigating the origin and production of said texts; their situatedness and materiality; or their authors, audiences, and distribution. This process often takes place in close dialogue with first analytical insights. The first analytical steps can be concerned with, for example, notions, speakers, objects, or formations that show up on the surface of the texts. They might also focus on particular thematizations, problematizations, arguments, and other expressions of knowledge. If the discourse analytical approach relies on coding techniques, a first stage of open coding would accompany this stage (SALDAÑA, 2013). In the study at hand, we used first codes, for example, to differentiate between expressions representing "capitalism," its "victims," its "opponents," and the actual "critique." Sub-categories to these codes were elaborated in iterative circles. [36]

With respect to the stage of material collection and first analytical steps on the textual surface, the temporality of social phenomena can have various methodological implications. Texts might be arranged in a temporal order from the outset, as with the press releases in our case that have explicit publication dates. But this is not necessarily the relevant temporal metric for a given research project. In other cases, the scholars themselves have to decide whether and how to divide their texts into periods. For the purpose of analyzing the impact of the economic crisis on discourses regarding capitalism, we adopted a metric of "before" and "after" the onset of the crisis. In addition, discourse analysts have to choose start and end points for their collection of material. The points chosen can have a crucial effect on whether and how objects of research materialize in different texts and genres at different points in time. In our example, we assumed

that the economic crisis fostered some kind of discursive rupture, and thus selected a time before and after the crisis. The theoretical assumption of temporality (rupture) is thus represented by a specific methodological approach to corpus selection (focus on phases before and after). Further, press releases by critics of capitalism, just like many media-related documents, have yearly rhythms, i.e., their topics and frequency are also dependent on some recurring events they cover (e.g., May 1, the Davos meeting in January³). As the analytical intention of the study was not to examine critiques of a special event, but of capitalism in general, we collected press releases of the entire year for both 2004 and 2008. The corpus thus covered a variety of different press releases that critique capitalism. Finally, the stage of material collection or corpus construction has to reflect on a more general methodological challenge. Inherent in the production and archiving of texts is a particular kind of historical selectivity: Contributions to historical discourses may have become invisible because they have not been archived, or because they are more difficult to access. Therefore, the fact that discourses in the present involve more speakers may hint at a more democratic or egalitarian structure, but it may also be a result of historical selectivity. [37]

5.3 Analytical stages

Following the stages of material collection and the first analytical steps on the surface of the material, scholars usually proceed to a more thorough analysis. The categories and distinctions, topics and speakers, arguments and stories that emerged in the previous stages are then examined in more detail. For this purpose, discourse analysts sometimes focus on specific parts of their corpus that are particularly promising. In the study we draw on, we concentrated on a subset of press releases that focused critiques of capitalism. Projects that rely on coding will conduct other stages of coding based on the code system developed in open coding. [38]

Analytical stages that acknowledge the temporality of social phenomena have to deal with a number of methodological implications. Throughout the process, discourse analysts have to reflect on the different historical contexts in which their material has been produced. For example, the economic recovery from the dotcom crisis (2000), the German labor market reforms (2003–2005), the subprime mortgage crisis (2007), and the collapse of Lehman Brothers (2008) provide different, but equally important historical contexts in which the discourse is embedded, and at the same time these events serve as temporal references for the production of a meaningful critique of capitalism. Scholars also face the question of whether they should code their texts in the same temporal order as they have been produced, as was done in the current study. Chronological coding is beneficial for understanding the sequential logic of arguments and relations. But it can be just as productive to brush a discourse the wrong way in order to make counterintuitive discoveries. Another challenge is to identify connections between phenomena over time. For instance, the trajectory of a concept through

3 The annual meeting of the World Economic Forum takes place at the end of January in Davos, Switzerland. It is always accompanied by major anti-capitalist protests.

time may only become visible if researchers are aware of the narrative thread that holds different versions of a concept together. While the topics broached in capitalist critiques vary due to the changing economic context in our example, the underlying discursive frame remains the same: the "good" (e.g., the poor, women, taxpayers) is attacked by the "evil" (e.g., capitalism, corporations, banks), but they can be protected by the "heroes" (e.g., the state, minimum wage, society). It is this basic frame that makes it possible to see how the notion of "capitalism" and its remedies have evolved over time. Different formations of a discourse might also be connected through non-linguistic, contextual aspects, like causal relations, citation networks, or institutional structures of the respective speakers. In the study at hand, it is the institutionalization of critiques in labor unions and NGOs that makes it possible to capture the discourse over time. Again, the challenge for discourse analysts is to reveal these connections. [39]

5.4 Final stages of interpretation

The analytical stage we have just sketched is the most complex stage in our ideal typical research design. It is followed by the final stages in which findings have to be processed and prepared in order to develop a coherent interpretation or story. Most qualitative discourse analysts do this in a running text that contains quotations that support the interpretation. Occasionally, maps and tables are used. In the following section, we want to suggest a number of quantifying visualization tools that can help account for and depict temporality in these final stages of qualitative interpretation. [40]

6. Diachronic Comparison: Visualizing Qualitative Discourse Analysis by Adopting Elements from Quantitative (Text) Analysis

How can change and stability become visible during the interpretative and final stages of qualitative discourse analyses? In the previous section, we explained how an interest in change and stability affects many stages of discourse analytical projects, from first explorations of the material to later analytical stages. We have shown that researchers need to be aware of the four presented methodological challenges of temporality and cope with them appropriately in their qualitative discourse analytical practices. [41]

However, when entering the final stages of the interpretation, it is the fourth methodological challenge, the *inherently comparative nature* of diachronic analyses, that becomes particularly demanding. In order to carve out a diachronic interpretation and reveal temporal trajectories, researchers need to provide answers to two basic questions: In what respects has the discourse changed, and in what respects has it remained the same? It is essential to understand that both change and stability require temporal comparison. One needs to compare the before and the after. [42]

Comparisons, e.g., the juxtaposition of different discursive formations, are a major part of many discourse analytic interpretations, whether they are interested in change or stability or not. However, comparing comprehensive discursive

formations at different points in time may increase the scope of the analysis enormously and exceed researchers' cognitive and interpretative capacities. We therefore suggest taking advantage of visualizing methods that allow for a temporal reduction of complexity and facilitate comparison (see Section 4). [43]

Quantitative analysis in general and quantitative text mining in particular have rich traditions of visualizing results. Recently, there have even been attempts to establish "visual linguistics" as a strand of research in its own right (see <http://www.visual-linguistics.net>). The following sub-sections therefore propose some visualizing techniques originating from quantitative (text) analysis that might be particularly interesting for diachronic discourse analyses concerned with change and stability. [44]

Change or stability can be observed according to various aspects that discourse analysis is interested in. For reconstructive discourse analytical approaches, like the ones we focus on here, both the *content* of discourse and the *speakers* involved are major concerns. Moreover, discourse analysis can either simply assess what content or speakers *occur* at different points in time, or it can set out to investigate the *relations*⁴ between them and how they change or remain stable. Table 1 displays these two dimensions and spells out some exemplary visualizing methods that make it possible to depict the respective perspectives of inquiry graphically. These examples are far from exhaustive. In the following, we will explore the visualizing techniques of "word cloud," "co-occurrence network," and "discursive field of correspondence" (drawing on correspondence analysis, CA) according to their potential to account for temporality and display discursive change and stability. While the first two refer to the content of discourse, we will show how the latter can be used to visualize both content and related speakers, as well as their respective dynamics over time. The visualizations presented here are based on codes obtained in an extensive qualitative analysis of the underlying discourse of anti-capitalist critiques.⁵ To make the argument and interpretation more comprehensive, only two points in time will be compared. However, a similar comparison may include several temporal spotlights and thus depict larger and more complex developments and temporal configurations of discourse.

Table 1: Interests of sociological discourse analysis and examples of visualization tools. Click here to download the [PDF](#) file. [45]

4 "Relations" here refers to both *direct relations* of subjective interrelatedness, like references, and *indirect relations* of objective correspondence. For a more detailed distinction, see Section 6.3.

5 The analyses and visualizations presented here were operationalized with different packages of R, a programming language and software environment which is prominently used for statistical analyses and graphics.

6.1 Word clouds

Word clouds can be described as a particular format of weighted lists: Terms are graphically represented as clusters or "clouds" with the font size typically indicating the frequency of occurrence (GABE & RADA, 2016, p.84). In quantitative text mining, they are often used to obtain a first overview of texts, e.g., the content of a webpage. Today, some CAQDAS already includes tools that, based on counting term occurrences, enable the creation of word clouds for particular documents or corpora (e.g., MAXQDA, another software package). Similarly, online applications like www.wordle.net facilitate the creation of such clouds. Such term-occurrence-based word clouds can help to prepare a qualitative discourse analysis like it is frequently conducted in lexicometric studies (cf. MATTISSEK, 2015). However, word clouds are also useful visualization tools once the first stage of qualitative discourse analysis is complete. They make it possible to explore and interpret the findings graphically. Generating word clouds that are based on the results of coding (instead of mere term occurrence) can help the researcher consolidate their insights. More importantly for our purposes, comparisons of word clouds originating from different analytical points in time help the researcher identify what patterns have changed or remained the same (BUBENHOFER, 2013). In this way, word clouds help account for temporality in discourses.





Figures 1a and 1b: What is capitalism? Word clouds based on sub-codes of "capitalism": 2004 vs. 2008 [46]

Figures 1a and 1b are drawn from the empirical study on critiques on capitalism. They are based on the qualitatively established sub-codes of "capitalism" and their frequency.⁶ Consequently, they depict what were considered "capitalism and its representatives" in the discourse in 2004 and 2008. A comparison of the figures reveals change and stability in the understanding of capitalism and can therefore elucidate our perspective on temporality in three important ways. [47]

First, the elements of both word clouds visualize how the concept of capitalism fluctuated over the course of time. Capitalism was understood very differently in 2008 than it was in 2004. In 2004, the economy in general, companies, corporations, and their function as employers were considered major elements of capitalism. With the onset of the economic crisis, financial markets became the epitome for a "new," i.e., flexible, fast, and hard-to-grasp capitalism (BOLTANSKI & CHIAPELLO, 2007, pp.365f.). Their representatives, like banks and investors, became poster-boy capitalists. Consequently, capitalism was no longer primarily associated with the perils of competition, privatization and low wages, but with

6 The graphs were processed using the R package "wordcloud" (FELLOWS, 2014). They draw on data exported from ATLAS.ti, specifying the established codes and their respective frequency in each selected document (i.e., the "codes-primary document" function of ATLAS.ti).

unregulated speculation. The central entity in the discourse examined thus fluctuated and changed over time. [48]

Second, the changes observable in Figures 1a and 1b allow us to develop our theoretical assumptions about the model of temporality at hand. The basic assumption underlying the analysis of capitalism and its critique in times of economic crisis is temporal rupture. It is assumed that anti-capitalist discourse *before* the crisis differed significantly from anti-capitalist discourse *after* the onset of the crisis. The comparison of the two word clouds and their remarkable differences substantiate this model of temporality at first glance. However, we also see that the depicted change is not as disruptive as one might have expected. Some core concepts, such as profits, neoliberalism, globalization, and markets, are prominent in both 2004 and 2008. This core thus transcends time despite the observable and visualized changes. [49]

Third, the visualization of codes associated with capitalism points to a narrative that is itself profoundly temporal—the notion of a "good old" capitalism of an earlier era that is now endangered by a new and more treacherous type of capitalism. Figures 1a and 1b reveal how in 2008, with the onset of the economic crisis, notions like the economy, companies, corporations, and employers were no longer considered problems associated with capitalism. Looking at the victims of and remedies for capitalism addressed in the anti-capitalist discourse (which can be visualized as distinctive word clouds, but are not presented here), it becomes even clearer that a "good old" classical capitalism, concentrated in industrialized countries and nation states and promoted by various political institutions, was increasingly seen as opposed to and threatened by the "new" capitalism. The former offender became the contemporary victim. [50]

The visualization of word clouds and the varying composition of fluctuating entities displayed here—like "representatives of capitalism," "victims of capitalism," and "remedies to capitalism"—reveal the temporal narrative that guided anti-capitalist discourse in 2008, a narrative that relates the past (classical industrial capitalism) to the present (new financial capitalism). Only by taking the temporal dimension seriously does the crux of this new type of anti-capitalist discourse come to the fore: A situation once considered problematic is nostalgically reframed in the temporal rear view mirror. The critique of capitalism thus shifted from being progressive to being "conservative," i.e., longing for what used to be. As a tool for the visualization of temporality, the limits of word clouds follow from their advantage: While the simplicity of word clouds makes them particularly useful in generating first insights or consolidating analytical insights, they cannot visualize more complex temporal structures. For example, it is not possible to depict relations between terms in a word cloud. [51]

6.2 Networks of co-occurrence

Networks and their graphical representation are probably the most prominent visualization tool in sociology (DEGENNE & FORSE, 1999; PFEFFER, 2008). Networks consisting of edges and nodes are also powerful tools with which to explore semantic patterns as relations between terms. In quantitative text mining, these networks are often based on the co-occurrence of terms. They depict a specific form of interrelatedness: They display whether particular terms appear nearby within a sentence, paragraph, document, or corpus. Modern CAQDAS like ATLAS.ti provide tools to measure co-occurrence and extract the necessary data⁷ to create network graphs. [52]

What makes network graphs an interesting approach to the methodological challenge of temporality is that scholars have started to analyze the evolution of social structures by comparing network graphs of different points in time (STARK & VEDRES, 2006). Similarly, networks representing discursive structures can be used to account for discursive change and stability.



Figures 2a and 2b: What is capitalism reproached for? Co-occurrence networks based on sub-codes of "critique": 2004 vs. 2008. Please click the respective figure for an enlarged version. [53]

Derived from our empirical study, Figures 2a and 2b show the grounds on which capitalism was critiqued and how they were combined in order to create complex anti-capitalist arguments in 2004 and 2008. The network graphs are based on the 22 sub-codes for "critique" and their co-occurrence within what we consider a "coherent argumentative unit."⁸ The size of the depicted edges accounts for the number of co-occurrences, while the size of the nodes represents the frequency of the distinctive codes.⁹ A comparison of the two graphs reveals the different grounds on which critiques of capitalism were based at different points in time. By showing how modes of critique have evolved over time, these networks contribute to our focus on temporality in three respects. [54]

7 Semantic networks are usually based on a cross-tabulated matrix. While an adjacency matrix may only provide information as to whether there is a tie/co-occurrence between two terms (=1) or not (=0), a distance matrix accounts for the strength of the respective co-occurrence, represented by a number.

8 These units were defined qualitatively and usually consist of two to five consecutive sentences.

9 The graphs were generated using the "igraph" package of R (CSÁRDI & NEPUSZ, 2006) and are based on code co-occurrence tables exported from ATLAS.ti. The different scope of the 2004 and 2008 corpora was reflected by weighing frequencies of co-occurrence.

First, the similarities between the network graphs challenge the assumption of an abrupt rupture and point to incremental change. The 2004 graph demonstrates that the critique is focused on "exploitation." Closely tied to this critique are ascriptions of capitalism as "violent," "restrictive," "selfish," "ruthless" and "dishonest." While the 2008 graph appears to be more complex in many respects, this basic discursive figuration, represented by the same nodes and edges, remains valid. The comparison thus reveals a discursive frame (or grid) of critique that transcends time. The persistence of this critique, which may also be referred to as "traditional social critique" (marked in red in Figure 2a) connects the time "before" the onset of the crisis to the time "after." [55]

Second, the visual comparison of the two networks nevertheless reveals important changes within the anti-capitalist discourse. Looking at the nodes, new points of critique have entered the discursive arena: Capitalism is reproached for being "excessive" and "myopic," for being "(self-) destructive," "incompetent," "risky," and, most surprisingly, "weak." These new nodes are highly interrelated, generating a new discursive frame of critique: Capitalism is not critiqued for its dominance, but for its weaknesses and incompetence (green in Figure 2b). In conclusion, both graphs display different modes of critique. Just like word clouds, networks can visualize how discursive entities (e.g., "capitalism" or "critique"), fluctuate over time. [56]

Third, visualizing a qualitative discourse analysis with the help of network graphs allows us to reflect on the interrelatedness of both old and new frames of critique, i.e., the interrelatedness of discursive figurations at two points in time. How have traditional critiques that have persisted over time merged with new, emerging critiques into comprehensive anti-capitalist arguments? The edges observable in Figure 2b provide some answers. Central elements of the "new critique," like "excessive," "destructive," and "myopic," have not only gained in overall importance (size), but are increasingly linked to the overall argument: Multiple strong edges connect these "new" elements with elements of the "traditional social critique," like "exploitative" and "ruthless." Consequently, with the onset of the economic crisis in 2008, the traditional critique was not displaced by the new one, nor are the two types uncoupled from each other, creating two different critiques and temporalities. Rather, these edges show that the old and new discursive frames are highly interrelated. Although the two types of critique appear to contradict each other in many respects (e.g., capitalism is both excessive *and* unprofitable, weak *and* exploitative), opponents use them in a complementary manner. They employ the new critique in addition to the old one. Well-established discursive figurations are thus maintained, but they are also complemented with new components—which gives the overall argument a slightly different twist. The discursive process that unfolds over time can therefore not be described as a rupture. Rather, we may describe this process as discursive layering (STREECK & THELEN, 2005; THELEN, 2004), an incremental reorientation in which persistent and new discursive elements are combined to create a more complex discursive figuration. [57]

6.3 Discursive field of correspondence

Network graphs reveal the interrelatedness of discursive entities. However, researchers may not be interested in direct links between entities, but in their mutual, i.e., relative position within a *discursive field*. Irrespective of direct connections, the question might be whether speakers or arguments are opposed to each other, or whether they are closely associated with one another. These relations of correspondence can be visualized by applying CA. CA is most commonly associated with the work of BOURDIEU (1984; see also LEBARON, 2009). Based on cases and their values for the variables considered, CA makes it possible to calculate a sphere—or, in Bourdieusian terms, a field—in which both variables and cases can be located and interpreted according to their proximity or distance. Due to its openness to nominally scaled data, CA also makes it possible to analyze discourses: terms or concepts can be treated as categorical values; the documents in which these terms occur or the speakers who articulate them can be treated as cases. Due to their suitability for analyzing text and complex semantic structures from a discourse analytical perspective, similar algorithms and graphical visualizations are used in the most prominent strands of quantitative text mining tools (e.g., latent semantic analysis and lexicometry, see DEERWESTER, DUMAIS, LANDAUER, FURNAS & HARSHMAN, 1990; SCHOLZ, 2016).¹⁰ [58]

For our purpose of developing a quantified qualitative approach to discourse analysis, the graphical representations of CA, i.e., correspondence maps, are of particular interest. We argue that correspondence maps based on qualitative coding can support sociological discourse analyses in their final stages of interpretation, particularly if they are concerned with temporal phenomena. Correspondence maps can display the temporality of discourse in two basic ways. First, researchers can compare correspondence maps of different points in time in order to analyze how the overall structure of the discursive field has changed (see Figures 3 and 4). In particular, convergence or divergence of arguments and speakers, i.e., a contraction or expansion of the discursive field, and changing oppositions become discernable by comparison (SUCKERT, 2017b). Second, correspondence maps can also be used to visualize the trajectories of entities, as different points in time are integrated into one map (see Figure 5) (BLASIUS, 2001; SUCKERT, 2015, p.321). Figures 3 to 5 illustrate these two modes of visualization via correspondence maps. Like the co-occurrence networks presented above, they are based on the qualitatively developed sub-codes for "critique." These correspondence maps thus display the discursive field of potential critiques of capitalism.¹¹

¹⁰ Like CA, these tools are based on singular value decomposition (GREENACRE & BLASIUS, 2006). They express complex relations of correspondence between terms with fewer latent dimensions. The first two of these dimensions are then usually considered to visualize the discourse and the position of terms (or speakers) within it.

¹¹ Codes-primary-document-tables provided by ATLAS.ti were used as the indicator matrix. The underlying analysis was conducted with the R package "CA" (GREENACRE & NENADIC, 2007), and graphics were further processed with the package "ggplot2" (WICKHAM, 2016). In order to facilitate the interpretation, extreme outliers were disregarded for CA and its visualization.

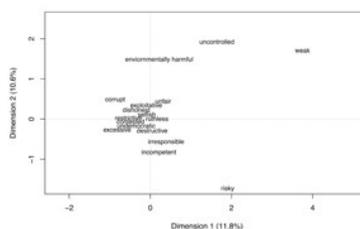


Figure 3: Discursive field of critique 2004. Please click [here](#) for an enlarged version of Figure 3. [59]

Figures 3 and 4 allow for a comparison of two points in time: They visualize the distribution of different modes of critique within the discursive fields of 2004 and 2008, respectively. The 2004 graph displays a very condensed field: Most of the critiques are located near the origin of the axes, signifying that critical statements cannot be differentiated according to these elements. What we see is the old "traditional social critique," which represents the vast majority of critical statements, and some outliers pointing to what we have referred to as the "new critique" (e.g., "incompetent," "risky," and "weak"). In contrast, the discursive field of 2008 is more differentiated according to the two dimensions: The critiques are spread throughout the plane. Comparing the two graphs reveals that, over time, and in line with the analysis of networks of co-occurrence, the "new critique" has moved much more to the center of the discursive field. It appears as an integrated part of the discourse. At the same time, the correspondence maps display how this integration has altered the discursive structure as a whole. The discursive field of 2008 is structured according to four major themes of critique: With the onset of the economic crisis, we can distinguish a critique of weakness at the upper end of the plane (weak, risky, inefficient, uncontrolled, incompetent) and the traditional social critique of dominance at the lower end (exploitative, ruthless, destructive, unfair). Further, the left side of the plane displays a civic form of critique oriented towards macro effects (undemocratic, corrupt, restrictive, environmentally harmful) while the right side represents a critique that draws on disrespect for traditional virtues (excessive, dishonest, irresponsible, contested). Drawing on convention theory, we can conclude that this differentiation refers to four divergent types of general conventions that are clearly discernable in the discursive field of 2008.

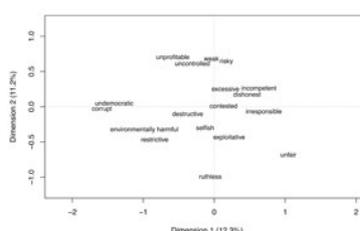


Figure 4: Discursive field of critique 2008. Please click [here](#) for an enlarged version of Figure 4. [60]

Visualizing the discourse at different points in time with the help of correspondence maps provides some insights regarding its diachronic development. While the onset of the economic crisis may not have provoked a discursive rupture, it has profoundly changed the discourse of anti-capitalist critiques. The "discursive layering" observable in the networks of co-occurrence has indeed altered the epistemic structure of the discursive field and thus the focus of anti-capitalist critiques. CA can thus help grasp change and stability of the underlying discursive structure.

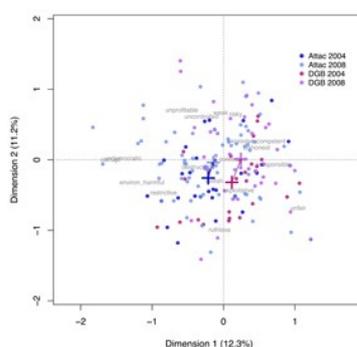


Figure 5: Trajectories of speaker positions in the discursive field. Please click [here](#) for an enlarged version of Figure 5. [61]

Yet, CA makes it possible to not only *compare* visualizations at different points in time, but also *integrate* several points in time into one correspondence map. Figure 5 again represents the discursive field of 2008 as it was interpreted in Figure 4. This time, however, we are not interested in the changing epistemic structure of the discourse (i.e., the critiques). Rather, we want to shed light on changes in speaker positions over time. Therefore, Figure 5 does not focus on the variables of the CA, i.e., the distinct critiques in the press releases (still depicted in light gray), but in the cases, i.e., the individual press releases themselves.¹² This focus reveals how statements disperse over the discursive field. Our visualization projects the 2004 press releases as passive cases into the field of 2008, which makes it possible to visually compare the anti-capitalist statements of 2008 (lighter shades) to those of 2004 (darker shades). Similarly, the two speakers' statements, ATTAC's (blue) and DGB's (purple), can be distinguished. In line with the interpretation above, we can see that the 2004 press releases are more condensed than those of 2008, which are spread more amply over the plane. The discursive space has thus broadened and diverged. Assuming that both speakers remain stable and coherent analytical entities over time (see the second challenge of temporality), this mode of visualization also allows some insights concerning speaker positions. Drawing on the location of geometrical centers, which can be depicted for the statements of particular years and for statements of particular speakers (depicted as crosses in respective colors), we can then characterize more precisely whether and in what direction

¹² CA makes it possible to explore variables and cases simultaneously or separately. The underlying analysis remains the same, and the calculated structure is based on both cases and variables.

speaker positions have evolved. The arrows in Figure 5 display the respective trajectories for both ATTAC and DGB. Both trajectories clearly emphasize a change in the first dimension. However, the relative position of the speakers remains the same in the second dimension: Irrespective of the moment in time, ATTAC is more focused on critiques of the macro effects and civic dysfunctions of capitalism, while DGB emphasizes capitalism's breach of traditional values. But in line with our other findings, the discourse of both speakers is shifting from a critique of dominance to a critique of weakness. Capitalism is reproached not only for being repressive, but also for being vulnerable. This is a major change in anti-capitalist argumentation that, with hindsight, may be seen as a delusion of this particular moment in time. [62]

A major advantage of this type of visualization is that the positions of particular statements, e.g., those press releases most concerned with the weakness of capitalism in the upper plane, become discernable. Researchers can therefore easily zoom in on statements of particular interest in a subsequent qualitative analysis. But more important for our concern with temporality, the positions of different speakers can be analyzed and compared over time. [63]

Insights about discursive trajectories originating from qualitative analysis are thus informed by statistical analyses and can be comprehensively depicted in a graphical correspondence map (see Figure 5). For reasons of comprehensiveness, we have only considered two points in time in our analysis. Change is consequently displayed as a linear movement, i.e., a shift from one point to the other. Nonetheless, the same visualization tools of CA could be applied to multiple points in time, projecting a variety of "older versions" into the recent discursive field. More complex trajectories and temporal figurations, such as spirals or waves, could thus be depicted. Temporality can thus become visible as a feature of discursive fields. [64]

In conclusion, the empirical examples and methods provided in this section have demonstrated how visualizing the findings of qualitative analysis enables researchers to detect patterns of change and stability in their material and present them comprehensively to the audience. Word clouds, networks of co-occurrence, and discursive fields of correspondence have sensitized the analysis of anti-capitalist critiques to temporality in three important respects. First, the quantifying visualizations have stimulated a refinement of the assumed model of temporality from a discursive rupture to more gradual models of change like discursive layering, shift, and diffusion. Second, they have revealed that central entities of the discourse, like the understanding of capitalism, the specific critiques, and critical speaker positions, are variable and fluctuate over time. Third, the quantifying visualizations have pointed to multiple ways in which anti-capitalist discourse is connected over different points in time—through discursive core arguments constituting stable frames, through institutionalized speakers who occupy stable relative positions, and through a specific temporal narrative that relates the "old" capitalism of the past (and the critique of it) to the "new" capitalism of the present. [65]

These insights, derived from visualizations that extend qualitative analyses through the use of quantifying tools, can and should be validated by returning to the qualitative analysis of the material. In order to confirm their thesis and provide quotations that support them, researchers may thus want to compare most contrasting or most similar cases in a qualitative manner. This last step of analysis and interpretation concludes the suggested methodological approach, an approach that is rooted in qualitative-interpretative traditions but takes advantage of quantifying visual tools in order to account for the temporality of discourse. [66]

7. Conclusion

Our article has attempted to initiate a methodological debate long overdue in sociological discourse analysis: It points to the temporal nature of discourse and puts it on the methodological agenda. [67]

Future contributions may have to consider more complex notions of temporality than we have done here. They will have to go beyond our comparison of "before" and "after," and they will have to exceed our distinction of stability and change. For example, temporality can also manifest itself in discourse analyses in terms of sequences or different velocities. These notions of temporality call for more complex methodological tools that could, for example, draw on animated visualizations. [68]

These limitations notwithstanding, our article serves as a reminder of the importance of taking the methodological consequences of temporality more seriously. As we have shown, many recent strands of discourse analysis are implicitly concerned with temporality because their empirical objects of research are inherently temporal. In order to explicitly reconsider temporality from a methodological perspective, we have specified four methodological challenges faced by sociological discourse analysts: researchers have to adopt a thoroughly *sequential model of reality*; they have to be sensitive to *entities that fluctuate and move over time*; they need to account for the multiple relations that *connect social entities over time*; and they need to respond to the *inherently comparative nature* of diachronic discourse analyses. [69]

We have found qualitative approaches to sociological discourse analysis to be well equipped to cope with most of these challenges. Based on a careful, self-reflexive reading and the often inductive and iterative development of analytical categories, these approaches are primarily geared towards "making sense" of discourses. They can thus respond most flexibly to the challenges implied by temporality and take account of the temporal embeddedness and historical context of each discursive statement. [70]

However, we have argued that the fourth methodological challenge, i.e., the inherently comparative nature of diachronic analysis, reveals some limitations of an exclusively qualitative approach. Comparisons can lead to a wider scope of analysis, because of, for example, the larger corpora and more complex diachronic relations involved. To get a hold of these intricacies, and to

comprehensively convey results to potential audiences, we have proposed a quantified qualitative approach to sociological discourse analysis. To this end, the final stages of a qualitative-interpretative research process can draw on quantifying visual tools. We have shown how word clouds, co-occurrence networks and discursive fields of correspondence that are based on the results of qualitative analysis (i.e., codes) can support interpretation. Even more, they render the temporality of discourse accessible. They allow for a comprehensive comparison of discursive formations and speaker positions at different points in time and can even depict discursive trajectories. With our quantified qualitative approach, we suggest that moving the discourse analytical focus back and forth between quantified visualizations and qualitative interpretations can prove beneficial for a perspective which accounts for change and stability. [71]

In conclusion, with this article we want to encourage discourse analysts to be more reflexive about the temporal nature of their research objects and the importance of temporality in their research process. We hope that taking up this important debate can foster the development of more discourse analytical tools that systematically account for temporality. As we have shown, a perspective that builds on established qualitative-interpretative traditions but simultaneously remains open to the merits of quantifying visualization appears to be highly suitable for this task. [72]

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