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5 Methodology: From speaking about writing to tracking text production

Abstract: Doing writing research from an applied linguistics perspective means investigating individual, collaborative, and organizational writing and text production as language-based activities in complex and dynamic real-life contexts. In doing so, micro and macro levels, product and process perspectives, as well as theoretical and practical questions are combined in transdisciplinary approaches. Appropriate methods have to be deliberately chosen and transparently explained across disciplinary boundaries. Methodological questions need to be clarified, such as: which method fits which problem – and how should and can various methods complement each other?

In this chapter, we start from two methodologically complementary ways of doing research into real-life writing processes (Part 1). These approaches illustrate why collecting data represents a key problem in the history of writing research (2). We then outline a typology of state-of-the-art methods in writing research (3) and explain challenges of combining perspectives and methods in research projects (4). This allows us to evaluate what sophisticated methodology in writing research can contribute to applied linguistics (5) and to conclude by sketching a related research roadmap (6). In the reference section, we focus on work combining approaches from writing research and applied linguistics in methodologically innovative ways (7).

1 LEBENSFAHRT, IDÉE SUISSE, and AL-informed writing research

Throughout this chapter, we use two methodologically complementary approaches to research into writing processes to illustrate what we mean by methodology and methods of writing research that is informed by Applied Linguistics (AL):

- In the LEBENSFAHRT case, the genesis of Heinrich Heine’s four-strophe poem “Lebensfahrt” (1843) is analyzed in depth as an individual author’s genuine writing process (Grésillon 1987; Grésillon 2014, in print). Of course, at his time, the German poet worked at an analogue workplace, writing with pen and paper. Moreover, and in contrast to other writers, he avoided all kinds of written meta-discourse, such as comments in side notes. Finally, it seems that no correspondence with peers and publishers has been preserved. Thus, the main data sources are material traces in manuscripts and biographical data. The analysis of this

data is oriented towards a better understanding of a literary text's reconstructed genesis – and of (literary) writing in general.

- In the IDÉE SUISSE project, in contrast, the analysis focuses on the interplay of language policy, norms, and practice in the newsrooms of an entire public service media organization. Using logging and screen recording software, journalists' collaborative writing activities were recorded. In addition, editorial conferences and negotiations with peers such as video editors and cameramen were videotaped. Finally, writers, media managers, and policy makers were interviewed and policy documents were analyzed, following the principles of Progression Analysis (see below, Part 3.2). The research project aimed to understand and develop the broadcaster's competence to fulfill its public mandate.

The poet's and the journalists' writing both represent relevant cases for applied linguistics (AL). As a "user-friendly linguistics" (Wei 2007: 117), AL has always been oriented towards practice with a twofold goal: understanding and improving language use. From a production perspective, it deals with the reflection and optimization of speaking and writing for certain communicative tasks and domains, including language learning or workplace communication (e.g., Cicourel 2003; Alatis, Hamilton, and Tan 2002; Candlin 2003). AL can investigate the repertoires of strategies and practices that individuals or language communities use when they make linguistic decisions (e.g., Cook 2003: 125; Zhong and Newhagen 2009) in discussions or writing processes. Then, these repertoires can be expanded through knowledge transformation processes, e.g., in training, coaching, and organizational development.

In the present chapter, we thus conceive AL-informed writing research as a joint activity of researchers, practitioners, and society at large. They collaborate to investigate (i) individual or collaborative writing (ii) as material, mental, and social activity (iii) in analogue or digital environments, (iv) ex post or in situ, (v) in order to understand and improve it. This understanding of writing research has consequences for the methodological design of research projects.

- i Investigating individual or collaborative writing: Depending on the research object and underlying key concepts such as authorship (Schindler and Wolfe, this volume), AL-informed writing research investigates the activity of subjects of varied complexities. They range from individuals to peer groups and entire organizations in complex contexts. Suitable methods enable researchers to capture and analyze the corresponding activities. Eye tracking, for example, can capture pupil movements in highly computerized settings. They are interpreted as shifts of the focus of attention by individual human text processors. Analyzing a novelist's remarks at the margin of a manuscript can point towards her or his individual decisions and activities. In contrast, comparing versions of an organization's editorial guidelines over time reveals the big picture of their evolving explicit quality discourse.

- ii Investigating writing as mental, material, and social activity: Writing takes place within and between people, as well as at their bodily interface. Analyzing inner, mental activities related to writing in natural contexts requires indirect methods and procedures, such as retrospective verbal protocols (e.g., Camps 2003; Ericsson and Simon 1984; Greene and Higgins 1994; Smagorinsky 1994). Some material activities of handwriting, however, leave directly accessible, manifest traces in manuscripts, which offers insights into the material activity of long past writing processes. In in-situ approaches, these material activities can be captured in real-time, using video recording (e.g., Van Waes and Mangen 2012) or keystroke logging (e.g., Flinn 1987; Van Waes and Van Herreweghe 1995; Spelman Miller 2006a; Strömqvist et al. 2006). Social aspects of writing, however, such as balancing workflows and editorial quality discourse in organizations, call for methods such as network analyses or dynamic modeling that capture the complexity of writing on macro levels too.
- iii Investigating writing in analogue or digital workplaces: In computerized environments, most material text production activities such as archive research or editing is performed at computers. The same computers can be used by researchers to automatically collect data, for example about pausing times between linguistic units. As these data are available in digital formats, they can be analyzed using algorithms. In contrast, handwriting with pen and paper does not leave digital imprints for analyses. Some traces of the writing process, such as crossed-out words, are directly visible in handwritten texts; others, such as pauses, are not. Thus, capturing handwriting, calls for meticulous manuscript collection or rather intrusive methods like videotaping or observing – and the related interpretative analysis.
- iv Investigating writing ex post or in situ: Knowing in advance that one would like to investigate a particular kind of contemporary writing processes puts researchers in a comparably comfortable position: They can develop a methodology and choose methods and recording procedures that capture as many as possible of the relevant aspects of text production in appropriate depth and breadth. Then, the field can be prepared according to the research question, e.g., by trustbuilding within the organization and installing logging software. In contrast, researchers who analyze a 19th century novelist's writing process have to limit themselves to available traces from a field that was not designed to support research.
- v Investigating writing in order to understand and improve it: Whoever analyzes the genesis of a poem written in 1843 will not be motivated by the idea of helping the author ameliorate his or her writing process. Thus, methods applied focus on diagnosis. Of course, the knowledge generated can be applied later to teach young poets in data-based courses of creative writing, but usually such applications are not part of theoretically-driven research. In contrast, in transdisciplinary action research, interventions are considered crucial procedures. Writing at specific workplaces is investigated mainly in order to improve it, for example by elaborating the writers' repertoires of text production practices.

2 The double black box: A brief history of investigating writing in the field

In the next paragraphs, we use the *LEBENSFAHRT* and the *IDÉE SUISSE* case to illustrate why collecting data has represented a key problem in the history of AL-informed writing research (2.1). We then formulate quality criteria for selecting methods that help gather relevant information about real-life writing (2.2). Guided by these criteria, we will develop a typology of the field's state-of-the-art methods (3).

2.1 Collecting data about writing processes

Investigating writing confronts researchers with a problem we term the *double black box*. First, written language is mostly presented as a finalized product, detached from all traces of genesis such as insertions and deletions. The written (the product) aims at overcoming the writing (the process). Whereas conversations overtly evolve over time, naturally observable for both participants and researchers, writing processes are performed as “back stage” (Goffman 1959) activities, hidden away from the addressees. In consequence, they are hardly accessible for researchers. Regarding this first, outer black box, analyses of writing processes inherently differ from conversation analyses.

However, the metaphor of the double black box points at a second, inner box, too. Once researchers manage to shed light on the backstage processes of writing, what they capture is material activity only, just as with turn-taking and repair in conversation analysis. In individual writing, the material activity is limited to physical behavior – the activity of processing signs on screens and papers in co-adaptive contexts. In collaborative writing, material activities include writers' negotiations about the task to be solved and its context. Analyses of the mental and social levels of writing processes have to precisely draw on evidence from these material activities as the main source of natural data.

Regarding this second, inner black box, writing research finds itself confronted with the methodological core problems of all AL-research: Language use allows for a highly differentiated, yet indirect view of mental and social structures and processes. In ex-post approaches of writing research, researchers may indirectly access a long dead poet's mind and context by analyzing a corpus of manuscripts with changes and metacommunicative comments – and by interpreting a piece writers wrote about their own writing. In-situ approaches, in contrast, allow researchers to query writers about their writing. After finalizing a text version, writers can be asked to view recordings of their text production processes and to comment on these activities. However, the access to the mind remains indirect, based on subjects' own explanations about what they have in mind and are able and willing to share with the researchers.

So it is mainly the first black box that stopped researchers for a long time from investigating writing processes in natural contexts. Linguistics first focused on written language from a product perspective, later it described conversations as processes, and only then rediscovered written language from a process perspective. But writing is usually still investigated from a product perspective, without “empirical ethnographic considerations” (Widdowson 2000: 22). In the programmatic introduction to their collection of early approaches to writing processes, Gerd Antos and Hans Peter Krings assumed that the “analysis of text emergence, including drafts, versions, and revisions, is an approach which basically is feasible and worthwhile for non-literary texts too. [...] Empirical analyses of text geneses would be an important contribution for a clearly linguistically motivated text theory” (Antos 1989: 36, translated from German; see also Krings 1992).

What Krings and Antos had in mind¹ when they – albeit indirectly – referred to process analyses of literary texts is Genetic Criticism (e.g., Grésillon 1994; Grésillon 2008a; Grésillon and Lebrave 2008; Hay 2002; de Biasi 2011; Ferrer 2011; J.-L. Lebrave 1987; Jean-Louis Lebrave 1992). In this research framework, the object of analysis is the literary manuscript, which “comports the trace of a dynamic of the text in the making”. The methods applied “reveal the body and the course of writing in order to construct a series of hypotheses on the operation of writing” (Grésillon 1997: 106). Empirical evidence and plausibility of interpretations complement each other when, based on material traces, writing processes are reconstructed ex-post, with archeological accuracy, in order to better understand the final product and, most importantly, the writing process itself in the light of its mental, material, and social emergence.

A key driver of Genetic Criticism (e.g., Grésillon and Mervant-Roux 2010) is the acquisition of Heinrich Heine’s manuscripts by the Paris National Library in 1966. In 1968, a research group was commissioned to analyze these manuscripts. First of all, an appropriate method had to be developed – Genetic Criticism. It allows researchers to reconstruct the genesis of literature based on preserved traces of the writing process. Depending on the author, these traces can include notes and excerpts from sources, such as dictionaries in the case of Francis Ponge (Grésillon 2008c) or historical and geographic sources in the case of Flaubert (Grésillon 2008b; Grésillon, Lebrave, and Fuchs 1991). Other examples of traces are drafts, outlines, plans, first versions, revised versions, final versions, first editions, and revised editions. Beside these autographs, auto-biographic and biographic material can be collected, such as correspondence, interviews, diaries, and third persons’ reports referring to the genesis of a text. The entire collection is termed *genetic dossier* or *avant-texte*. The method of genetic criticism draws, inter alia, on concepts of modern linguistics (Grésillon and Lebrave 2008). By and by, it has been broadened to be applied to non-literary texts and non-verbal works of art (Grésillon 1994).

¹ Personal communication between Gerd Antos and Daniel Perrin, Zurich, 12 September 2008

In the *LEBENSFAHRT* case, where only a few manuscript pages escaped from various kinds of cleansing, a reconstruction of the production process has to focus on analyzing the traces on the preserved manuscripts – and on interpreting them, at a macro level, in their biographical, socio-historical, and political context. Taking into account the slight change in handwriting and a larger line space and indent after the third strophe, it looks as if the fourth strophe on this oldest preserved manuscript, from 1843, was written down later than the first three ones. This hypothesis is strongly supported by the fact that, in 1933, the newspaper “*Neue Zürcher Zeitung*” printed an even older, three-strophe version of this poem. What the newspaper referred to was a manuscript which must then have been destroyed in Nazi book-burning. Genetic Criticism, therefore, combined methods of manuscript analysis with methods of media analysis in order to reconstruct and understand the genesis of the poem.

What Krings and Antos demanded explicitly, however, started to be realized with key logging and notational systems. They facilitate the step-by-step analysis of the dynamics of (digital) writing. In the 1990s, a Swedish research group around Kerstin Severinson Eklundh and Py Kollberg developed a research tool combining both: The text editor J-Edit allowed for the automatic keylogging of writing processes at computers, whereas the analysis software Trace-it transformed the logging data into S-notation. This notational system allows for human in-depth analyses of writers’ revision activity (e.g., Severinson-Eklundh and Sjöholm 1991; Severinson-Eklundh and Kollberg 1996; Kollberg and Severinson-Eklundh 2002). Originally developed for laboratory experiments, the software and notation principles were further developed towards the research framework of Progression Analysis (Perrin 2003).

Analyzing what journalists do in a television newsroom, as in the *IDÉE SUISSE* case, requires methods that capture collaboration in multimodal text production. Biographical interviews and video recordings of news conferences can reveal that, for example, a highly experienced journalist was told to report on demonstrations in Lebanon, a region he frequently travels in. Recordings of keyboard and screen activities show that he watched a lot of footage, then started to write and soon changed the formulation “*voie express*” into “*voie tranquille*”, referring to a ferry normally called “*voie express*” by the locals. It is only the use of cue-based retrospective verbal protocols, however, that allows for an empirically-based reconstruction of the journalist’s intentions: He wanted to use “*voie tranquille*” as a leitmotif to foreground the tranquility of the demonstrations in a region western media tend to show as full of violence.

2.2 Quality criteria for methods in the research of real-life writing

As the two complementary examples of Genetic Criticism and Progression Analysis have foreshadowed and will show in more detail throughout the chapter, investigating writing from a dynamics perspective, be it *ex post* or *in situ*, has required and

still requires methodological finesse and innovation. Methods that shed light on the backstage processes have to be developed, applied – and evaluated. This is where the question of methodological accuracy arises. If we consider research methods to be theoretically-based procedures for clarifying and answering research questions (e.g., Litosseliti 2009), applying them results in a certain reliability and validity of the findings: Methods can be reliable (or not) in providing (or not) valid information about the object of research.

Reliability means that the same answers are obtained when someone else repeats an investigation following the same procedure. It requires precise data collection and analysis based on carefully considered, transparent rules. In AL-informed writing research, such rules have to explain, for example, how the temporality of writing processes is consistently and transparently transformed into spatial representations for analyses. This is why most traditions of writing research classify the dynamics of text production using systems of operations at various levels. Progression Analysis, for example, regards insertions and deletions of text bits as the basic linguistic operations in writing, allowing for variegated sequential combinations such as deleting a word in one place and inserting it somewhere else, whereas Genetic Criticism differentiates between insertion, deletion, substitution, and relocation.

Validity means that similar answers are obtained with the same research question is investigated with various procedures. It can be achieved by procedures that capture the relevant features of a problem, rather than treating it in a methodically convenient but simplistic way. If, for example, the question concerns which form a stretch of language such as “voie express” will take in later texts, it is sufficient to compare the original utterance from the source text with later reproductions. However, if the reasons why an author recontextualizes utterances are to be captured, then cognitive aspects have to be considered too. Finally, if the author is seen as embedded in a social context, then social aspects and interconnections have to be included.

In the *LEBENSFAHRT* case, a comparison of a first conserved version with a later manuscript shows that the German author initially wrote down three strophes describing a boat trip in Germany as a lovely, romantic experience (albeit one that ended badly), followed by an escape to “beautiful France”. Soon afterwards, he expanded the poem adding a fourth strophe, rewriting the first one, and changing key terms throughout the poem (Fig. 1). This resulted in his far more dramatic narration of, and metaphorical reflection on, shipwrecking twice, first at home in Germany, now in foreign and threatening France. Researchers’ contextual knowledge about political tensions surrounding the author allow for an evident and valid interpretation of the writing process as taking the author from an initially romantic to a highly political poem.

In the *IDÉE SUISSE* case, the data analysis allows for the conclusion that the journalist prepared himself for emergence in order to solve a problem he considered difficult. Moreover, the analysis shows how he did so: meta telling an attractive, interesting story about peaceful demonstrations. Remaining open to the unexpected, he first exposed himself to a flood of footage, where he stumbled over the picture of

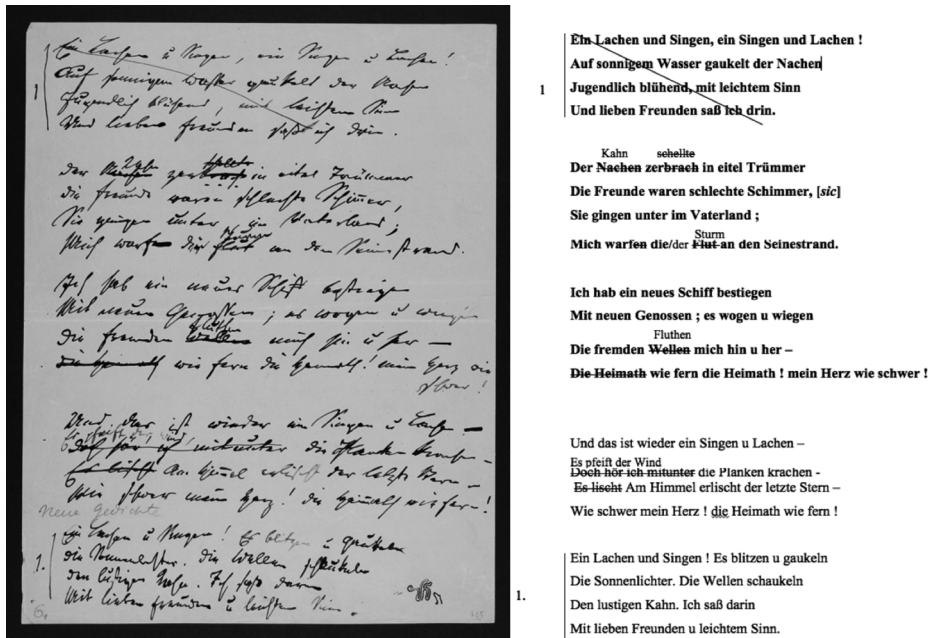


Figure 1: Lebensfahrt Manuscript (left) and transcription (right) showing the insertion of a fourth strophe, the replacement for the first one, and subsequent changes to the second and the third (Grésillon 1987; Grésillon 2014, in print).

the slowly moving ferry. Later, while writing, the idea emerged to change the ferry’s ordinary term/markings, “voie express”, into “voie tranquille” – and to use it as a leit-motif: According to the journalist, this term “reverberates in the minds of the demonstrators” (Perrin 2013: 23). In this and similar cases, Progression Analysis shows itself capable of supporting methodologically valid reconstructions of the interplay of routine and emergence in writing (Perrin 2012).

From reliability and validity as the two basic qualities of research in general, other method-related qualities of research can be derived (e.g., Dörnyei 2007). Especially the concept of validity is further elaborated in qualitative research frameworks such as ethnography, which forms the implicit or explicit basis of many in-depth approaches to writing processes (e.g., Lillis 2008 for the case of academic writing). Additional concepts focus on specific aspects of validity (e.g., Denzin and Lincoln 2000: 21; Cicourel 2007), such as dependability, confirmability, credibility, and transferability:

- Dependability refers to the explicit reflection on how the research settings and contexts interact with findings. As illustrated with the *LEBENSFAHRT* case, the ex-post approach of Genetic Criticism does not affect its research object at all – at least on a methodological level. Of course, on an epistemological level,

every formal object of research, such as the writing process in Genetic Criticism, depends on researchers' prior knowledge. Put simply, the writing process in anyone's mind differs from the writing process per se. In addition to this epistemological problem, in-situ research affects real-life writing also at a methodological level, such as in the *IDÉE SUISSE* case. Progression Analysis requires the installation of logging software on computers, mounting cameras in newsrooms, and carrying out retrospective verbal protocols. This affects the writers' settings and the context of writing, however careful and smooth the intrusion may be.

- Confirmability means the degree to which other researchers can confirm the results. In some Genetic Criticism projects, researchers from literature and language studies collaborate with forensic linguists who apply physical and chemical analyses to detect authorship and the temporal sequence of preserved traces on manuscripts (Charraut, Duvernoy, and Hay 1987). In a Genetic Criticism analysis, it could be shown that such laboratory analyses could help the researchers to date a poem by Alfred de Vigny to 1822 (Hay 1993).
- Credibility means that the research participants have good reasons to trust in the results. If, for example, journalists realize that the video recording and keystroke logging tools are overtly and consistently introduced and applied, that their own concerns are taken seriously by the researchers, that analyses are explained transparently, and that opinion leaders in the newsroom draw on previous experience with similar research collaborations when they consider a new research project to be useful, they will tend to be open to research and trust in its results. The same goes for poets who offer their corpora of manuscripts to researchers, allowing and even encouraging them to investigate their writing processes ex post. Such donations, stimulated by first analyses in the framework of Genetic Criticism, encouraged the French Centre National de la Recherche Scientifique (CNRS) in 1982 to set up the Institute of Modern Texts and Manuscripts (Institut des Textes et Manuscrits Modernes, ITEM).
- Transferability describes the extent to which the results can be transferred to other contexts. In the framework of Genetic Criticism, cases such as *LEBENSFAHRT* generate empirically-based knowledge about the specific process in which a poem was composed – but also about literary writing processes in general and even about writing as such (Grésillon 1994, chapter VI). Using Progression Analysis in projects such as *IDÉE SUISSE*, researchers generalize the knowledge from case studies using theoretical sampling (e.g., Perrin 2013: 183). This helps them develop mid-range theories on collaborative writing in the media and within and throughout organizations and domains in general.

In order to meet the criteria of reliability and of multi-faceted validity, AL-informed writing research aims at combining methods that are rooted in complementary paradigms: linear causality vs. dynamic complexity, verbalization vs. observation, single case studies vs. large samples.

- **Causality vs. complexity:** Experiments in the laboratory allow for strict control over isolated parameters related to an object under investigation (e.g., Levy and Ransdell 1996; Whithaus, Harrison, and Midyette 2008). The cognitive loads of a specific, isolated writing task for example can be investigated in an experiment where pausing times between linguistic units are measured and interpreted as depending on the state of the mental text processor (e.g., Keseling 1992; Spelman Miller 2006b). On the other hand, laboratory experiments may result in inadequate reduction when the interplay with contexts is too complex to be modeled in linear causal relations (e.g., P. Sullivan and Porter 1993). When conceiving writing as an activity that is situated in dynamic and complex real-life contexts (e.g., Bracewell 2003; MacMillan 2012; Schneider 2002; Van der Geest 1996), researchers tend to opt for ex-post reconstructions of traces or in-situ ethnographic field studies (e.g., Chin 1994a; Lillis 2008) and dynamic modeling (e.g., Van den Bergh and Rijlaarsdam 1996; Perrin and Wildi 2010) rather than linear experiments. Monocausal relations in real-life writing are limited to non-complex problems such as having access or not to a specific printed source text or data file when writing.
- **Questions vs. observation:** Questionnaires can easily be evaluated, and in-depth interviews and verbal protocols allow researchers to access mental reflections. On the other hand, such verbal data are closely related to the self-awareness of the people under investigation. In contrast, observation directly captures people's actual activities, but leaves it to the researchers to interpret why those observed do what they do (e.g., Chin 1994a; Cottle 1998). Researchers who are interested in both, the writers' views and their activities, tend to combine verbal and observational methods and data for multi-perspective insights (e.g., Tashakkori and Teddlie 2003; Woolley 2009; Wolfe 2005). As could be shown with Progression Analysis in projects similar to *IDÉE SUISSE*, journalistic practices of inventing quotes could only be identified by confronting the journalists under investigation with recordings of their material writing activities on screen.
- **Single case study vs. statistical representation.** Mathematically composed, broad samples allow for statistically evident generalizations. On the other hand, the breadth of a data collection limits its depth since research resources tend to be limited; a plethora of cases cannot be analyzed as profoundly as a few well-selected ones (e.g., Abbott, Amtmann, and Munson 2006; Schultz 2006). When aiming at in-depth insights into contextualized and therefore complex real-life writing activities, researchers usually decide against purely statistical representation in favor of in-depth analyses of exemplary cases (e.g., Bisailon 2007; Schultz 2006) such as *LEBENSFAHRT*. In the *IDÉE SUISSE* research project, in-depth case studies are combined using qualitative generalization strategies such as grounded theory and theoretical sampling. They allow researchers to develop theoretically reflected mid-range theories by systematically

generalizing from a small number of well-selected and thoroughly analyzed cases.

Such general methodological decisions lay the groundwork for selecting and, if necessary, triangulating specific methods of and for writing research (Part 3).

3 State-of-the-art toolkit: Four complementary types of methods

In this part, we outline a typology of four methodological perspectives in AL-informed writing research. Throughout contemporary projects, the methods applied provide empirical evidence of material, cognitive, social, or socio-cognitive aspects of writing. Respective state-of-the-art methods focus, for example, on material differences between text versions (3.1), individuals' writing strategies (3.2), variation of practices within and across organizations' writing (3.3), and communities' metadiscourse reflecting their written communication (3.4).

3.1 The material focus: Tracking intertextual chains with version analysis

First and foremost, linguistics investigates stretches of language in context (e.g., McCarthy 2001: 115). From this material perspective, AL-informed writing research emphasizes the intertextual nature of writing: new texts and text versions are created and differ from earlier ones. Material changes to the linguistic products are captured with version analyses. By version analysis, we understand the method of collecting and analyzing data in order to reconstruct the changes that linguistic features undergo in intertextual chains. The methods and procedures applied originate in comparative text analysis.

Prototype version analyses trace linguistic products (e.g., Sanders and Van Wijk 1996) and elaborate on the changes in text features from version to version, be it at one single production site or across a series of sites. In the framework of Genetic Criticism for example, close-to-final versions of literary writing were compared (Mahrer 2006) and play writing was tracked from the initial draft to the authors' notes on first performances (Grésillon and Mervant-Roux 2010). In projects similar to *IDÉE SUISSE*, a quote from a politician's original utterance was traced throughout the intertextual chain of correspondents, local and global news agencies, broadcasters, and the follow-up discourse in social media (Perrin 2011). Other mediallyinguistic studies draw on version analyses to reveal how texts change throughout the intertextual chains (e.g., Van Dijk 1988; Bell 1991: 56 ff.; Luginbühl et al. 2002; Robinson 2009; Lams 2011).

The very minimal variant of version analysis limits the empirical access to one single version, with implicit or explicit reference to other versions that were not explicitly analyzed (e.g., Ekström 2001). This variant of version analysis is widespread in the framework of Critical Discourse Analysis (Van Dijk 2001; see also critiques by Stubbs 1997 or Widdowson 2000).

Another frequent, yet empirically denser, variant of the version analysis focuses on changes performed at one single production site. In the *LEBENSFAHRT* case, for example, most empirically accessible changes are documented on the so-called “Arbeitshandschrift H1” manuscript (Fig. 1), whereas earlier versions are only indirectly preserved through the 1933 newspaper article (2.1), and later versions add minor changes only. Similarly, the “voie tranquille” analysis in the *IDÉE SUISSE* project draws on data from one single site, the *TÉLÉJOURNAL* newsroom. There, the news piece emerges in four states: drafting, main writing session, cutting session, and speaking in the booth.

Of course it could be argued that the journalist’s office, the cutting room, and the speaking booth are different production sites within one media production plant. They differ for example in terms of technical tools (hard- and software facilities for editing text, video, and spoken language), social environments (cutters as collaborators) and dominant activity (spoken vs. written text reproduction). Taken to the limit, the discussion shows that the context of writing keeps on changing: Colleagues may call, send messages, or show up and add information that modifies the task; new source texts appear on the screen; and, most of all, the text produced so far, with its power to trigger thoughts when re-read by the writer, is altered through every single insertion and deletion (e.g., Chin 1994b; Jacobs and Perrin, this volume).

This fine-grained understanding of constantly changing contexts points towards a shift of focus from the stabilized version to the dynamics of writing processes. Comparing various versions of texts is sufficient to gain empirical evidence of material text changes. However, in itself, it provides hardly any data on the context of material activity. In order to develop such knowledge, additional methodological approaches are required. They focus, for example, on whether the writers were conscious of their actions (3.2); whether the practices are typical of certain text production institutions (3.3); or how the practices and related norms are negotiated in organizations (3.4).

3.2 The mental focus: Identifying writing strategies with progression analysis

From a cognitive perspective, AL-informed writing research emphasizes individuals’ language-related decisions in writing processes. What exactly do individual authors do when they produce their texts? What are they trying to do, and why do they do it the way they do? Such mental reflections of material changes are captured with Progression Analyses. By Progression Analysis, we understand the multimethod

approach of collecting and analyzing data in natural contexts in order to reconstruct text production processes as a cognitively reflected activity in context.

Progression Analysis combines ethnographic observation, interviews, computer logging, and cue-based retrospective verbalizations to gather linguistic and contextual data. The approach was developed to investigate newswriting (e.g., Perrin 2003; Sleurs, Jacobs, and Van Waes 2003; Van Hout and Jacobs 2008) and later transferred to other application fields of writing research, such as children's writing processes (e.g., Gnach et al. 2007) and translation (e.g., Ehrensberger-Dow and Perrin 2009). With Progression Analysis, data are obtained and related on three levels.

- Before writing begins, Progression Analysis determines through interviews and observations what the writing situation is (e.g., Quandt 2008). Important factors include the writing task, the writers' professional socialization and experience, and economic, institutional, and technological influences on the workplaces and workflows. In the *IDÉE SUISSE* project, data on the self-perception of the journalists investigated were obtained in semi-standardized interviews about their psychobiography, primarily in terms of their writing and professional experience, and their work situation. In addition, participatory and video observations were made about the various kinds of collaboration at the workplace.
- During writing, Progression Analysis records every keystroke and writing movement in the emerging text with keylogging (e.g., Flinn 1987; Lindgren and Sullivan 2006; Spelman Miller 2006a) and screenshot recording programs (e.g., Degenhardt 2006; Silva 2012) that run in the background behind the text editors that the writers usually use, for instance behind the user interfaces of news editing systems. The recording can follow the writing process over several workstations and does not influence the performance of the editing system. From a technical point of view, it does not influence the writers' performance either, since it operates automatically and without changing the user interfaces of the editing software. Nevertheless, knowing about the recording alters writers' behavior, with decreasing effect over time. This is why, in projects such as *IDÉE SUISSE*, the first four weeks of data are excluded from analyses.
- After the writing is over, Progression Analysis records what the writers say about their activities. Preferably immediately after completing the writing process, writers view on the screen how their texts came into being. While doing so, they continuously comment on what they did when writing and why they did it. An audio recording is made of these cue-based retrospective verbal protocols (RVP). This level of Progression Analysis opens a window onto the mind of the writer. The question is what can be recognized through this window: certainly not the sum of all (and only) the considerations that the author actually made, but rather the considerations that an author could have made in principle (e.g., Camps 2003; Ericsson and Simon 1993; Hansen 2006; Levy, Marek, and Lea 1996; Smagorinsky 2001). The RVP is transcribed and then encoded as the author's verbalization

of aspects of his or her language awareness, writing strategies, and conscious writing practices. As doing an RVP strongly influences writers' awareness, this level of Progression Analysis is normally limited to one RVP per writer, at the end of the investigation.

In sum, Progression Analysis allows researchers to consider all the revisions to the text as well as all of the electronic resources accessed during the production process; to trace the development of the emerging text; and, finally, to reconstruct collaboration at workplaces from different perspectives. The main focus of Progression Analysis, however, is the individual's cognitive and manifest processes of writing. Social structures such as organizational routines and editorial policies are reconstructed through the perspectives of the individual agents involved, the writers under investigation. If entire organizations are to be investigated with respect to how they produce their texts as a social activity, then Progression Analysis has to be extended by another two methods: variation analysis (3.3) and metadiscourse analysis (3.4).

3.3 The social focus: Revealing audience design with variation analysis

From a social perspective, AL-informed writing research focuses on how social groups such as editorial teams customize their linguistic products for their target audiences. Which linguistic means, for example which gradient of normativity and formality, does an organization choose for which addressees? Such social language use is captured with variation analyses. By variation analysis, we understand the method of collecting and analyzing text data to reconstruct the special features of the language of a certain discourse community. The basis for comparing versions is discourse analysis.

Variation analyses investigate the type and frequency of typical features of certain language users' productions in certain communication situations such as writing for a specific audience. What variation analysis discerns is the differences between the language used and the related practices in one situation type from that of the same users in another (e.g., Koller 2004) or from the language and practices of other users in similar situations (e.g., Fang 1991; Werlen 2000). In the *IDÉE SUISSE* project, variation analyses can reveal whether language properties of the newscast *TAGESSCHAU* and the newsmagazine *10 VOR 10*, competing in the same German television program of the Swiss public broadcaster, differ according to their program profiles.

Such broadly-based variation analysis is able to show the special features of the language used by specific groups of writers. However, what the method gains in width, it loses in depth. Why a community prefers to formulate its texts in a certain way and not another cannot be captured by variation analysis, which, similar to version analysis, neglects access to mental aspects of writing. It would be possible to

regain some of that depth using a procedure that examines not only the text products, but also the institutionalized discourses connected with them – the comments of the community about its joint efforts (3.4).

3.4 The socio-cognitive focus: Investigating language policing with metadiscourse analysis

From a socio-cognitive perspective, AL-informed writing research focuses on text producers' collaboration and metadiscourse (e.g., Mey 2005), such as correspondence between authors, quality control discourse at editorial conferences, and negotiations between journalists, photographers, and text designers. What do the various stakeholders think about their communicational offers? How do they evaluate their activity in relation to policies – and how do they reconstruct and alter those policies? Such socio-cognitive aspects of language use are captured by metadiscourse analyses. By metadiscourse analysis, we understand the method of collecting and analyzing data in order to reconstruct the socially- and individually-anchored (language) awareness in a discourse community. The basis for analyzing the metadiscourse of text production is conversation and discourse analysis.

Metadiscourse analyses investigate spoken and written communication about language and language use. This includes metaphors used when talking about writing (e.g., Gravengaard 2012; Levin and Wagner 2006), explicit planning or criticism of communication measures (e.g., Peterson 2001), the clarification of misunderstandings and conversational repair (e.g., Häusermann 2007), and follow-up communication by audiences (e.g., Klemm 2000). In all these cases, the participants' utterances show how their own or others' communicational efforts and offers have been perceived, received, understood, and evaluated. The analysis demonstrates how rules of language use are explicitly negotiated and applied in a community.

Genetic Criticism for example draws on metadiscourse analyses where writers' manuscript side notes about their own writing are taken into account. Some examples: In the case of Proust's "Cahiers", side notes refer to the writing activity itself (e.g., Herschberg Pierrot 1994). Flaubert's correspondence provides variegated information about the emergence of his texts (e.g., Grésillon et al. 1991). The drafts of Zola's novels are full of metalinguistic comments about what has been written so far and what still is to be written: "Tout cela me paraît bon" – "This seems all good to me"; "Quand il s'aperçoit que sa femme le trompe, il faut une scène d'une violence inouïe" – "When he realizes that his wife is unfaithful to him, it takes a scene of outrageous violence"; "Pourtant, cela est à régler, lorsque j'aurai tous les éléments" – "Nevertheless, this is to be put straight, when I have all the elements" (e.g., Grésillon 2002).

Due to a computer crash, the journalist writing about the demonstrations in Lebanon lacks the time to discuss his news piece with the cutter. In other case stories from the IDÉE SUISSE project, cutters challenge the journalists' ethics and esthetics

or appear as representatives of a critical audience. On a macro level of the project, interviews and document analyses reveal policy makers' and media managers' contradictory evaluation of and expectations towards the broadcasters' – and the journalists' – ability to fulfill the public mandate of promoting public understanding. Whereas media policy makers expect the Swiss national broadcasting company to foster public discourse through stimulating contributions, media managers tend to consider this public mandate to be unrealistic (Perrin 2011: 8).

Thus, the focus of metadiscourse analysis scales up from negotiations about emerging texts at writers' workplaces, to organizational quality control discourse and related discussions in audiences and society at large. Integrating metadiscourse analyses extends the reach of writing research from a single author's micro activity to societal macro structures. However, for empirical evidence of writers' actual behavior, metadiscourse analysis must be combined with progression analyses (3.2) or, in more coarse-grained studies, at least with version analyses (3.3).

In sum, by applying and combining methods of the four types, researchers investigate real-life writing from product and process perspectives, as cognitive and social activity, and on micro and macro levels. In contrast, analyzing only text products, as often practiced in empirical approaches to written language, risks falling short of explaining writing in its variegated dynamics and purposes, as a playful, epistemic, and communicative activity in complex contexts. However, applying, let alone combining, innovative methods in multi-perspective real-life writing research causes methodological problems which can be carefully addressed – albeit not completely solved yet.

4 Controversial issues: Combining perspectives and methods

In this part, we explain challenges of combining perspectives and methods in projects of writing research. Researchers investigating real-life writing tend to combine a multitude of approaches and perspectives in order to develop a vivid, life-like representation of their object under investigation (4.1). However, combining these methods has proven to be theoretically – and often also practically – challenging in real-life research (4.2).

4.1 Understanding the challenges of combining methods in writing research

Due to their theoretical foundation, scientific methods differ considerably from everyday methods such as driving a car: they can be expected to be more explicit and consistent. However, the theoretical grounding of scientific methods does not mean that every

method matches every theory. Hence the methodological question as to how methods can be combined when rooted in different theories or even incompatible scientific paradigms (Kuhn 1996; Kuhn 1962). Working with multimethod approaches requires methodologically pragmatic approaches (Feilzer 2010; Johnson and Onwuegbuzie 2004) and a distinctive meta-theoretical position towards ontology and epistemology as developed, for example, in Realist Social Theory (e.g., Archer 2000; Sealey and Carter 2004).

Realist Social Theory overcomes both positivism and constructivism by assuming that there is a world existing independently of human knowledge, but that all knowledge about this world must remain a – more or less adequate – sociocognitive construction. This basic assumption is crucial for multimethod approaches: Without the existence of a real world which serves as a benchmark, all mental constructions would be equivalent, no matter the method applied. On the other hand, without the difference between the real world and the knowledge about it, all research would have to focus on the best of all methods: the one that helps reveal reality itself. In both cases, triangulating methods and respective findings would be obsolete.

In contrast, from a methodologically pragmatic, intermediate position, combining different methods fosters multiperspective approaches to the objects under investigation. Triangulating such approaches results in sometimes contradictory, but always multidimensional, complex, life-like reconstructions. Triangulation and transdisciplinary discussions help shift the reconstructions toward a state in which they are perceived by ideally all relevant knowers as adequate. Objectivity, in this understanding, emerges from triangulating theories, methods, results, and interpretations (Denzin 1978; Flick 2004). It consists of as close as possible an approximation to a real world – a formal object which is, after all, neither the material object itself nor an arbitrary construction.

Such multiperspective views can, for example, shed light on the following facets of situated writing and text production:

- source materials, such as handwritten notes, pictures, soundbytes, footage, and previously published texts in intertextual chains;
- the sequences of material revisions in the writing process, such as insertions and deletions on a micro level and their complex combinations;
- the text products, such as drafts and final versions as well as interim versions from various stages in collaborative text production;
- the macro products, such as entire volumes of poems and book series, news programs, and all the language versions of a user manual;
- the non-textual work context, such as writers' biographies, social environments, and workplace equipments;
- writers' thoughts and thought patterns, such as mental representations of ideas, decisions, strategies, practices, procedures, and routines;
- the normative framework, such as cultural norms, editorial mission statements, stylesheets, and language policies;

Language as →	Product	Activity		
		Cognitive	Social	Socio-cognitive
Method type →	Version analysis	Progression analysis	Variation analysis	Metadiscourse analysis
Object facets ↓	Genetic Criticism			
Source materials	text chain			
Work context	workplace, ...			
Thought patterns	writing strategy			
Revisions	writing activity			
End products	letter, printed poem, broadcast news piece, ...			
Macro products	volumes, news programs, ...			
Normative frame	esthetics, mission, policy, ...			
Evaluation	norm discourse			

Figure 2: Methods of AL-informed writing research as complementary approaches, with the example of Genetic Criticism combining elements from each of them.

- the discursive evaluation of products and processes in follow-up discourses involving individual and collective authors, audiences, and further stakeholders, such as editors’ comments, a readers’ blog, or political discussions about legitimizing censorship.

The four types of methods distinguished above (Part 3) complement each other in providing access to the various facets of one and the same object, the writing process in context. Research frameworks such as Genetic Criticism combine the four methods in order to access all the relevant object facets (Fig. 2).

As shown above, each perspective requires suitable methods. Questions about cognitive practices, for instance, can only be addressed by reaching beyond material activity; the same is true for social practices and their interactions. Investigating stretches of language in a “one-size fits all approach” (Richardson 2007: 76) is not enough to allow writing research to explain what is special about text production in specific contexts (e.g., Philo 2007) and to reveal structures that “cannot be directly observed” (Ó Riain 2009: 294). This explains the predominance of pragmatic multi-method approaches in AL-informed writing research, despite their tendency towards theoretical vagueness. For applied linguists, it is more important to sustainably solve socially relevant real-life problems than to eliminate the theoretical problems related to combining methods from potentially conflicting paradigms.

4.2 Facing the challenges of combining methods in real-life research

The multimethod approach applied in the IDÉE SUISSE project was Progression Analysis (3.2). However, in order to understand the interplay of macro and micro activity, this approach had to be further combined with methods oriented towards social and socio-cognitive contexts of writing. Reflecting on these requirements resulted in a project design that combines four modules, each treating a specific aspect of writing with specific methods. The interplay of modules, data, and methods is visualized and described below (Fig. 3).

First, the three columns of the figure will be outlined. Then, the research in the four project modules will be explained in more detail.

The leftmost column of the figure describes the four research modules. The IDÉE SUISSE research project started with an overall analysis of the societal and organizational context: What do media policy and media management expect the public broadcaster to do, i.e. how do they understand the public mandate of *promoting public understanding*? In the first phase of the project (modules A and B), policy documents were analyzed and experts interviewed. In the second phase, the situated activity of text production of fifteen journalists from three newsrooms was analyzed. Data about observable text production (module C) and individual and shared reflection at the workplace (module D) were captured during one week per journalist. One case of text production per journalist was selected for in-depth analysis, as described below.

The middle column of the figure outlines the data corpus of the project. Progression Analysis draws on data from both natural and research-generated sources: 144 documents, 120 multimodal news reports, 120 writing processes, 28 workplace talks, 103 editorial conferences, guided interviews with 20 experts and 15 journalists, and one cue-based retrospective verbal protocol per journalist. Situated in between are notes from participant observations from the field, where, for example, researchers can take the role of assistants in reporter teams.

As the rightmost column shows, the methods and sampling techniques from all four project modules were combined in a complex design of equally important methods. Modules A and B were performed before C and D, so the propositional document and interview analysis ❶ precedes the other methods. The methods ❷–❹ were repeated cyclically, one cycle per journalist. In doing so, the writing processes ❹ and the workplace talks ❸ were recorded in parallel during one week per journalist, whereas the biographical interviews ❷ took place at the beginning of each week and the retrospective verbal protocol ❺ once during the week, after the writing process we had selected as the in-depth case. Method ❶, which investigates policy makers and managers, is complementary to methods ❷–❹, which are combined to investigate writers. Coding units in general were propositions, except for the analysis of the observable text production ❹, where revisions were coded. Key aspects of these methods are explained in more detail below.

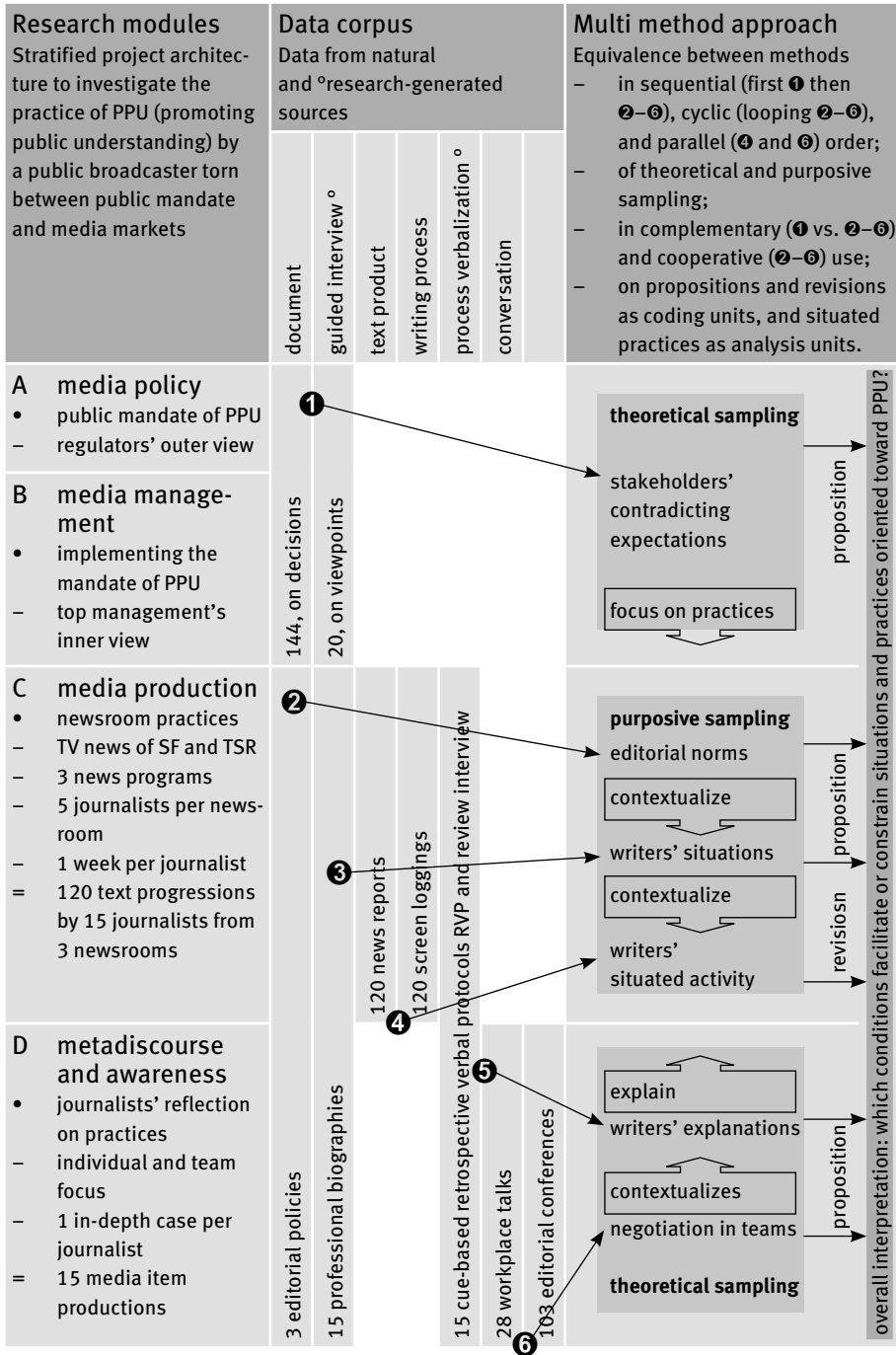


Figure 3: Modules, data, and mixed method approach of the IdÉE suisse research project (Perrin 2013: 57)

In the modules A and B, data from interviews with twenty experts were analyzed through theoretical sampling: case by case, interview by interview. After each case analysis, the new findings were integrated into the growing knowledge base. This knowledge base consists of a propositional network of key concepts and relations explaining and evaluating the implementation of the mandate, such as *THE MANDATE OF PROMOTING PUBLIC UNDERSTANDING COMMITS ALL JOURNALISTIC MEDIA*. Based on the increased level of knowledge, a new case was selected – a case considered promising to develop, change, or reject crucial aspects of the knowledge generated so far. The cycles of case selection, data collection and analysis, and knowledge integration were repeated until eliciting a further case did not hold the prospect of further increases in knowledge.

The result of this procedure was a detailed insight into stakeholders' conflicting expectations. Media policy (module A) expects public media to promote public understanding through their communicational offers, whereas media management (module B) considers implementing the mandate to be infeasible or irrelevant in the face of market pressures. Grounded in these data, the mid-range theory of promoting public understanding was developed. A key inference from this theory is that, for the case of the broadcasting company investigated, if solutions of bringing together public and market demands cannot be revealed in the management suites of the organization, they have to be looked for in the newsrooms.

This meant a focus on journalistic practices in the second phase of the project. In module D, verbal data were analyzed, just as in modules A and B; propositions were again the coding units. Module C, however, focused on observable text production activity. There, the coding unit was the revision, a procedural unit of writing processes, consisting of an insertion into or a deletion from a growing text or media item. All of the revisions of 120 newswriting processes (position ④ in Fig 3 above) were identified and contextualized with propositional knowledge about:

- explicit editorial norms of text production. This knowledge was generated through propositional document analyses of the editorial policies in the three newsrooms investigated ②.
- writers' individual and organizational situations. This knowledge was generated through propositional analyses of guided biographical interviews with fifteen journalists in the three newsrooms ③.
- writers' individual language awareness. This knowledge was generated through propositional analyses of one cue-based retrospective verbal protocol and one review interview per journalist, focusing on their explanations of their writing activities in the one in-depth case per journalist ⑤.
- writers' shared language awareness. This knowledge was generated through propositional analyses of the journalists' workplace negotiations such as conversations with cutters and editorial conferences, recorded during one week per journalist and thus during five weeks per newsroom ⑥.

The fifteen journalists were selected through purposive sampling, the selection criteria being: similar roles as news editor, different professional socializations and experience, and availability in the period of data collection. As mentioned above, these journalists' writing activities and conversations were recorded during one week per journalist, starting with the first journalist in the first week, the second in the second, and so on. The one case of text production we wanted to investigate in more detail within each journalist's production week was again elicited through theoretical sampling: case by case, in cycles of case selection, data collection and analysis, and knowledge integration. In doing so, a sample of 15 out of 120 recorded text production processes was selected and analyzed in thorough detail.

To sum up, the multimethod-approach of extended Progression Analysis as practiced in the *IDÉE SUISSE* project investigates text production both as a situated activity and as a socio-cognitive reconstruction. On the level of performance or activity, directly observable moves such as revisions in a growing text are logged and analyzed. On the level of socio-cognitive conceptualization or reconstruction, Progression Analysis draws on verbal data to infer the context: cognitive and social structures that facilitate and constrain the situated activity of text production and that are reinforced or altered by it. Writing activities are coded in units of revisions, socio-cognitive reconstructions in units of propositions. In the *IDÉE SUISSE* project, all propositions coded from all research modules were used to contextualize and explain the revisions observed in order to find out which conditions facilitate or constrain situations and practices oriented towards implementing, in the newsrooms, the public mandate of promoting public understanding.

5 Outcome: Explaining writing and text production ex post and just in time

What is the outcome of applying multimethod approaches in AI-informed writing research? It provides the empirical evidence for, fosters the theoretical understanding of, and contributes to the practical development of writing as a socially relevant mode of language use. In doing so, innovative methodology and methods reflect the growing importance and ubiquity of writing and co-adapt with its change. The outcome of applying such methods includes:

- Addressing real-life problems related to writing (e.g., Olson 1987 for an early approach; Brizee, Sousa, and Driscoll 2012; K. Sullivan and Lindgren 2006; Thompson 2009). Outside the laboratory, writing tasks mostly have to be co-defined by the writers themselves, throughout the writing process and while writers interact with peers, superiors, sources, or addressees. As context matters in the research of real-life activities, contextual changes such as technological

shifts alter the way writing is both practiced and investigated. Digital literary writing, for example, allows for a research approach to literary writing that blends methods from Genetic Criticism with core elements from Progression Analysis. More and more authors leave their complete hard disks to literary archives or give all work-related digital documents to a writing researcher (e.g., Ries 2010).

- Identifying the problems precisely and producing reliable and valid knowledge, for example in the format of mid-range theories (e.g., Bazerman 2008). Some of the problems related to written communication are hidden in the final products or the self-reports provided by writers. They can only be addressed through precise insights into material, mental, and social aspects of the writing processes themselves. For example, many attempts at writing do not result in a final, communicated text version, but in a decision not to continue with the idea of writing this particular text – or they might even end up in sheer resignation. Authors such as Francis Ponge intentionally preserve the unused handwritten material like a treasure that could be exploited in future writing projects. This links to Ponge’s concept of perpetual unfinishedness (Grésillon 2008c). Instead of seeing such attempts as dead ends, writing research can consider them preparatory moves for mentally and socially relevant alternatives – and capture them with appropriate, process-oriented methods.
- Helping researchers transfer knowledge and implement solutions (e.g., Olson 1987; K. Sullivan and Lindgren 2006; Agar 2010). Evidence-based solutions to real-life writing processes require reliable and valid insights into the processes themselves, rather than mere assumptions based on product analyses only. By providing evidence of material, cognitive, and social patterns of writing activities, process-oriented methods help AL-informed writing research tackle the methodological problems of validity, also in terms of transferability, credibility, dependability, and confirmability (2.2). Carefully designed and applied, the methods enable researchers to successfully transfer knowledge that practitioners have good reasons to trust in, e.g., because it was generated as unobtrusively as possible and proves robust in professional and scientific discourse.
- Contributing to research, practice, and society at large. In literacy-oriented societies with fast-paced developments of technological and organizational environments, empirically based knowledge about writing serves society at large, beyond pure scientific and professional needs. Writing in domains such as literature and journalism is, first of all and not surprisingly, related to these domains and therefore reconstructed in research as domain-specific writing (Jakobs and Spinuzzi, this volume). Nevertheless, apparent domain-specific characteristics such as creativity in literary writing and time pressure in journalistic writing transgress disciplinary boundaries. They shape professional writing in general, be it writing by-the-way, such as text messaging, or focused writing, such as drafting a business strategy (Hicks and Perrin, this volume). Transparent methodologies and methods help researchers both capture the domain-specific characteristics

of writing and abstract from them “what works for whom in what conditions” (Pawson and Tilley 1997: 72).

An example of such a generalization is the interplay of routine and emergence. Across domains, writing is characterized by routines on the one hand and creativity on the other. Routines coin genres (Bazerman and Devitt, this volume) and release writers from the burden of being creative throughout their writing processes. Thus, similar contexts tend to be responded to with similar writing activities. This is also true for creative domains, such as literary writing, which tend to be considered primarily creative. Reconstructing the versions and revisions lining the path from first manuscripts to published versions, Genetic Criticism provides evidence of the hard work writers have to put into overcoming routines and stereotypes. The first drafts of a poem by Supervielle, for example, include numerous stereotype idioms, which get eliminated during the genesis of the text (e.g., Grésillon 2008d).

In his first, three-strophes approach to the *LEBENSFAHRT* poem for example, Heinrich Heine realized another instance of the genre of nice romantic poems about “beautiful France”. It is only then, by adding a fourth strophe, that he must have realized the poem’s political potential (2.2). The idea of using the metaphor of shipwrecking in order to juxtapose individual failure in two different political systems, must have emerged during writing and after applying routines of sweet poetry writing. The numerous changes made to the first three strophes after adding the fourth document this transition from routinized genre re-production to implementing a fundamentally new idea (Grésillon 2014, in print).

On the other hand, even in highly formalized and standardized environments such as news journalism, writing cannot be limited to a sheer repetition of routines. Otherwise, copy-pasting the already existing news would be enough. Taking seriously the uniqueness which, after all, characterizes all writing contexts and tasks, writers both can apply and have to overcome routines with new, emergent solutions. Combining suitable methods appropriately allows researchers to analyze how new ideas in writing emerge, scaling up from individuals to organizations. The next table illustrates the interplay of the four types of methods explained above (3.1–3.4) in the contextualized analysis of “voie tranquille” change in the *IDÉE SUISSE* project (Fig. 4).

- A micro version analysis comparing the first and the last version of the corresponding sentence shows the difference: one word has changed, from “express” to “tranquille”. The researcher interprets this revision as a reframing of the boat’s speed and, in a wider context, of the activities the news piece reports.
- However, only Progression Analysis provides evidence that the journalist consciously changed the word in order to use it as a leitmotif for his entire topic and news item. Moreover, Progression Analysis shows that this idea emerged when the experienced journalist was surprised by details from the source materials he carefully read and watched.

Language as →	Product	Activity Individual	Social	Socio-cognitive
Method → Object ↓	Version analysis	Progression analysis	Variation analysis	Metadiscourse analysis
Phenomenon:	reframes!			
voie [express] >	consciously?	consciously!		
voie {tranquille}		systematically?	systematically!	
			approved?	approved!
Statics	result	activity	standards	approval
Dynamics	revision	emergence	contrast	dissemination

Figure 4: The emergent leitmotif in the IDÉE SUISSE case, as captured with the four complementary methods (Perrin 2013: 67)

- A variation analysis contrasting processes and products by experienced and less experienced journalists then shows that experience is a strong predictor for success in handling critical situations and for results with a high potential to meet the broadcaster’s public mandate of promoting public understanding.
- A metadiscourse analysis, finally, reveals whether the journalist’s emergent solution is approved in the following editorial conference, and how it interacts, on a macro level, with the expectations of both media managers and policy makers.

From the four perspectives combined, research is as good as its methods are. What basically applies for all academic work is, within AL-informed research, particularly true for the field of writing and text production. For decades, most analyses of written communication drew on text products only, neglecting procedural insights due to methodological constraints. With digital writing environments, things started changing. However, the non-digital aspects and the backstage activities of real-life writing are still hard to capture in their dynamics and complexity, requiring archeological approaches such as Genetic Criticism and leaving researchers with assumptions – albeit empirically grounded – about mental and societal structures and processes.

6 Perspectives: Digging deeper in AL-informed writing research

Thus, a roadmap towards integral research of writing in real-life contexts includes progress in methodology and methods in at least five dimensions:

- access to non-screen activities and contexts, ranging from the haptics of hand-writing (e.g., Mangen and Velay 2012) and individual micro decisions on lexical

choice up to organizational and societal negotiations. Required advances include eye tracking as yet another window onto writers' minds (e.g., Andersson et al. 2006; Torrance 2012), but also network analyses (e.g., Quandt 2008) that capture social activities such as editorial discourse in journal production or language policy making for public service media.

- longitudinal studies of individual and collective authors, in order to track change over time and, in particular, the interplay of micro and macro change. Capturing the effects of interventions, for example, is essential for developing empirically-based measures in teaching, training, and coaching. Required advances include long-term ethnography with lean, non-intrusive access to real-life writing (e.g., Lillis 2008; Roozen 2010).
- dynamics and complexity, in order to reconstruct procedural patterns and discontinuities. Patterns appear throughout the levels and timescales of real-life writing, from formulation routines and writing phases up to institutional writing biographies. Of particular interest are the conditions under which new patterns emerge. Required advances include capturing and correlating micro and macro development by theoretically sound triangulations of appropriate methods (e.g., Larsen-Freeman 2006).
- standards for aggregating, formatting, annotating, storing, and updating large data corpora in order to facilitate cross-corpora research and meta analyses. Tracking writing processes with multimethod approaches produces huge amounts of data, such as video files of editorial conferences. Required advances include standards for data formats, annotations, file names, corpus structures, and access to the corpora (e.g., Schlitz 2010).
- real-time analyses for data-based feedback in coaching and training. Large data corpora allow for developing empirically grounded typologies of procedural features such as linearity or fragmentation as well as procedural units such as writing phases. Such typologies facilitate the classification and evaluation of new data. Required advances include fast pattern recognition and reliable evaluation models (for an early approach e.g., Flinn 1987; Kollberg 1997; Deane and Quinlan 2010; Lindgren and Sullivan 2012; Van Waes and Mangen 2012).

In conclusion, AL-informed writing research investigates real-life writing and text production as socially relevant practices, analyzing situated activity in its own right, but also as an interface to cognitive and societal structures and processes (1). Since this activity is mostly performed in the backstage of communication, with final versions of written text at its front end, capturing writing processes has long been challenging and still requires developing innovative methods (2). Drawing on two complementary cases of state-of-the-art writing research, this chapter has laid out a typology of four methodological approaches that complement each other in focusing on text version, writing progression, social variation, and communities' metadiscourse (3).

Contemporary research on writing in real-life contexts applies and often combines methods of these four types. However, and not surprisingly, the methodological grounding of both applying and combining such methods needs refining (4). The growing individual, organizational, and societal importance of writing in a highly mediated world encourages writing researchers to carry on updating their repertoires to access, understand, and explain writing at its best: as a variegated process in complex and dynamic contexts (5). First decades of process-oriented research helped avoid running the ship aground by reducing writing to written products; let us face the tranquil, yet exciting, waters of methodological refinement (6).

7 References

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