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Aspects in Applied Linguistics 1



The Tools Factor

Tracing the future
of digital
newswriting

Daniel Perrin



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The Tools Factor

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Volume 1

The Tools Factor. Tracing the future of digital newswriting
by Daniel Perrin

The Tools Factor

Tracing the future of digital newswriting

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List of acronyms

AI	Artificial intelligence
AILA	International Association of Applied Linguistics
AL	Applied linguistics
CLS	Critical serendipity literacy
CMS	Content management system
DST	Dynamic systems theory
EG	Ethnography
GT	Grounded theory
PA	Progression analysis
SP	(anonymized journalist)
SRG	Schweizerische Radio und Fernsehgesellschaft, <i>Swiss Broadcasting Company</i>
SWI	Swissinfo
MMR	Mixed methods research
OECD	Organization for Economic Co-operation and Development
RST	Realist social theory
RV	(anonymized newsroom staff)
TA	Tages-Anzeiger
TD	Transdisciplinarity
TDA	Transdisciplinary action research

Foreword

In this book, I explain how digital tools, both in their use and development, interact with text production, ethics, and creativity in newsrooms. Based on longitudinal ethnographies in frameworks of transdisciplinary applied linguistics, I discuss what this means for investigating and integrating AI tools for professional newswriting. Methods include analyses of metadiscourse documents, such as ethical codes and practical guidelines, as well as micro analyses of what journalists do and why they do it when collaborating with AI to write their news.

Chapter 1 shapes the research question and outlines the key concepts and research frameworks that I have combined to address this question. Chapter 2 summarizes the state of research as a five-phase shift from focused to prompted writing. Chapter 3 explains progression analysis as our multi-method approach to collecting and analyzing data in real-world settings.¹ Chapter 4 discusses findings from our project series on the interaction of tools and newswriting. Chapter 5 designs guidelines for future research on challenges, including the integration of AI in newsrooms and beyond.

At the end of each chapter, a text box zooms out to related research and angles in the field: Lauri Haapanen links creativity with serendipity; Gilles Merminod features conversational aspects of prompted writing; Mohammad Amini Farsani shifts from a multi-method approach to a mixed-methods design; Laura Delaloye Saillen explains tools as embodied ideologies; Yulia Kukles introduces editorial AI; and Mark Livingston discusses the tools factor from an editor-in-chief's perspective. Together, the boxes document the interplay of domains and disciplines in transdisciplinary writing research.

I have investigated text production in newsrooms around the world for three decades. Together with four transdisciplinary teams and networks of researchers, I have participated in or led nine large research projects, backed by private, national, and international funding bodies. The resulting work has significantly influenced both professional practice and the transdisciplinary research of professional writing in general and newswriting in particular. In this context, the book situates AI as both a linear *and* a disruptive factor in the progress of professional writing.

1. In parts, the first three chapters of the book draw on a report published in the Swiss Academies Communication series (Perrin, 2025).

This book and the transdisciplinary research it draws on would not be possible without the strong interest and deep collaboration of experts in the field under investigation: journalists, media managers, media policymakers, and toolmakers, to name a few. As a professional in academic research, I am grateful to have met and worked with professionals from all of these fields. They have invested both time and trust in meaningful yet demanding journeys of mutual learning. I extend my special thanks to Jessica Davis Pluess, Sara Pasino, Akiko Uehara, and Rolando Villaseñor.

Research question

How has tools development interacted with newswriting?

As humans, we can speak by using body-internal tools. By contrast, writing requires external tools, ranging from stone plates and chisels to databases and algorithms. How do such tools, in particular AI tools, interact with text production in the newsroom? As applied linguists (→1.1),² we have addressed this research question in a series of transdisciplinary projects (→.2) together with practitioners from the language industry (→.3). In doing so, we focus on digital literacy, ethics, and creativity (→.4), which we analyze through the lenses of complementary research frameworks (→.5).

1.1 Applied linguistics

Applied linguistics (AL) is an inter- and transdisciplinary field that addresses practical problems related to language and communication. According to the International Association of Applied Linguistics, AL is all about identifying, analyzing, and solving real-world issues through the application of language-related theories and methodologies (AILA, 2026).³ The field extends beyond traditional academic boundaries, engaging with sectors including education, healthcare, law,

2. The cross-references in this book are kept to a minimum. Expression (→1.4), for example, refers to Chapter 1, Part 4. If several such cross-references to parts of the same chapter appear in succession within the same paragraph, only the first one includes the chapter number (→1.4); the others include only the part number: (→.3). This means: First, a reference is made to Chapter 1, Part 4; afterward, the reference is still to Chapter 1, but to Part 3.

3. AILA (2026). What is AILA, from <http://www.aila.info/about/index.htm>.

and business.⁴ It aims to provide solutions that are both theoretically sound and practically viable.

In doing so, AL plays a pivotal role in bridging the gap between theoretical research and practical applications. By addressing language issues that are intertwined with so-called “wicked” (Brown, Harris et al., 2010) **real-world problems** ranging from global warming to political crises, AL contributes to the development of effective communication strategies in socially relevant contexts. This relevance to everyday issues makes AL an essential field in contemporary academia as well as at the interfaces between academia, non-academic professional fields, and society at large.

This broad understanding, promoted by AILA in its role as the field’s global umbrella organization, reverberates in the mission statements of AILA’s national affiliates. For example, the German association of AL aims to “bundle [...] activities and initiatives that focus on the research and optimization of **communication processes** in everyday life and in professional fields of application”⁵ To give another example, the British association of AL includes “intercultural communication, political and commercial persuasion” and “the impact of new technologies” in its mission statement.⁶

In many academic cultures, however, AL is still solely considered the academic background of language learning and **teaching** – or even as the field of teaching English as a foreign language. For example, to this day, the Chinese organization of AL operates under the acronym *CELEA*, which stands for “China English Language Education Association.” The same applies to JACET, the “Japan Association of College English Teachers.” While both organizations have widened

4. Patterns of interdisciplinary collaboration of applied linguists have been analyzed, e.g., by Amini Farsani, Jamali et al., 2021. They found that the most notable collaboration was related to educational studies ($n=420$, 38.35%). This was followed by four disciplines, including Life Sciences ($n=364$, 33.44%), Physical Sciences ($n=152$, 13.88%), Social Sciences ($n=45$, 4.1%), and Arts & Humanities ($n=18$, 1.64%). The present publication, however, focuses on the transdisciplinary collaboration of applied linguistics with professional fields outside science and academia.

5. GAL, the German “Gesellschaft für Angewandte Linguistik”, is one of the larger members of AILA promoting a broad, inclusive understanding of applied linguistics. The quote is translated from German. <https://gal-ev.de/>.

6. BAAL, the British Association of Applied Linguistics, is one of the founding members of AILA, the International Association of Applied Linguistics. However, the impetus to set up a worldwide organization came mainly from applied linguists in France. This is why the acronym AILA stands for its French name, *Association Internationale de Linguistique Appliquée*. <https://www.baal.org.uk/british-association-for-applied-linguistics/what-applied-linguistics-is-and-does/>

their scope over the past two decades to adopt more inclusive approaches to AL, they have not yet updated their names.

However, widening this scope is academically demanding. Agents in the field not only have to include a **broader** range of research foci and questions, but also need to expand their repertoires of methods and interactional practices. In other words, the interfaces with the outer world are becoming more complex. Addressing real-world issues outside the English language teaching classroom requires awareness and knowledge to negotiate one's own interests and epistemes with neighboring fields and even domains outside academia. This is where transdisciplinarity comes in.

1.2 Transdisciplinarity

Transdisciplinarity (TD) is a **research framework** that extends beyond disciplinary boundaries. Its origins date back to a workshop organized by the Organization for Economic Co-operation and Development (OECD) in Nice, France, in 1970.⁷ The workshop was entitled “Interdisciplinarity – Issues of education and research in universities” and was held with the goal of overcoming the increasing sense of alienation between academia and society. In his keynote and paper, the psychologist Jean Piaget called for a “total system without any firm boundaries between disciplines” (Piaget, 1972).

Since then, transgressing disciplinary boundaries, as outlined in Piaget's programmatic paper, has resulted in two main conceptions of TD. Although both understandings seek to overcome disciplinary boundaries, they do so in two different, yet related ways. The first understanding, **TD₁**, aims to transcend the concept of discipline *within* academia as the sole principle for organizing and controlling academic knowledge. TD₁ argues for deep collaboration across and beyond academic disciplines, including AL, sociology, and media and communication studies.

The second understanding, **TD₂**, aims to transcend academia in general as the exclusive source of legitimate knowledge. As a result, TD₂ argues for deep collaboration across and beyond academic and non-academic disciplines and fields. TD₂ research sees, for example, professionals in the domains of teaching or policymaking not only as the focus of research interests but also as participants and knowledge experts in the research process. Collaboration in TD₂ starts at the very

7. Since the 1970 conference, the OECD has further expanded its commitment to transdisciplinary research (see, e.g., OECD, 2020).

beginning of a research project, when research questions are being jointly formulated.

The essence of TD₂ lies in its ability to foster a **holistic understanding** and comprehensive solutions (Pohl, 2024). By integrating insights from multiple disciplines and involving practitioners as partners on par, TD₂ ensures that research addresses the complexity of real-world issues from multiple socially relevant angles. In doing so, this collaborative approach not only enhances the relevance of academic research, but also ensures its applicability in practice. Combining the principles of AL and TD₂ enhances researchers' ability to address complex societal issues in which language plays a crucial role.

With this in mind, our research builds on an understanding of transdisciplinarity as TD₂. Such a research framework is particularly effective in tackling “wicked” real-world problems (Brown, Harris et al., 2010) — persistent problems that require sustainable solutions, encompassing social, ecological, and economic dimensions (United Nations, 2015). In this sense, TD promotes collaboration with practitioners to co-create knowledge and develop interventions that are grounded in practical realities. It is “research on, for, and with” practitioners (Cameron, Frazer et al., 1992, p.22).

1.3 Language industry

Practitioners in the above sense comprise people in a variety of roles, including both professionals and members of society at large. Whereas society may be interested, for instance, in informed democratic decision-making, professionals often communicate to synchronize their collaborative value creation at work or to reach out to customers and other stakeholders. This applies to all industries; making and selling cheese or cars requires communication. Professionals in the language industry, however, create value mainly by producing language. Their main products are communicational offerings.

Globalization has broadened the scope of the communicational ties in both our personal and professional lives. Social and geographical mobility has increased, giving rise to long-distance relationships and global markets. However, while enjoying holidays around the world or consuming goods from far-flung places may have become easy, thorough negotiation and a deep understanding of one another's mindsets and cultures tend to challenge participants' communicational skills. It is against this backdrop that intercultural communication has become a huge field for the language industry.

However, for every force there is a counterforce. The widening of social scopes is accompanied by their simultaneous narrowing. Globalization calls for

localization, a dialectic referred to as *glocalization* (Khondker, 2004). It means that, for example, material products such as food and beverages sold worldwide need to be adapted for local markets if they are to succeed. Similarly, semiotic products such as instruction manuals or conference keynotes not only have to be presented in a language the local addressees understand, but also in a style that meets their cultural expectations.

It is evident that the language industry has taken up this area of **business**. Be it the localization of an international advertising campaign or communication training for healthcare professionals from abroad — non-language professionals are offered communicational support by language experts to cope with the dialectics of glocalization. It is for this reason that the language industry is continuing to grow and diversify even in the age of AI. Taking language professionals' recent experience into account can benefit research at the intersection between TD and AL.

With the rise of AI, language professionals' roles have seemed to be at stake. DeepL is a fast translator while Claude writes superficially flawless texts. However, whether the results are fit for purpose in their respective cultural contexts needs to be checked by humans. Since the amount of automatically generated texts is skyrocketing,⁸ the need for quality control at all levels is also rising sharply. Research has shown that AI has resulted in a disruptive shift that entails an increase in services from the digitally literate language industry (Angelone, Ehrensberger-Dow et al., 2024).

1.4 Digital literacy, ethics, and creativity

Digital literacy has become key to social participation. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines **literacy** as a life-long continuum of learning and proficiency in reading, writing, and using numbers (UNESCO, 2023). Literacy is a precondition for participation in both social and professional contexts, as it has been for millennia (Figure 1.1). The shift from general literacy toward digital literacy involves understanding and navigating new modes of communication and information dissemination, which are often mediated by digital technologies including AI.

8. It does so even in academic publishing, see, e.g., Haider, Söderström et al., 2024.

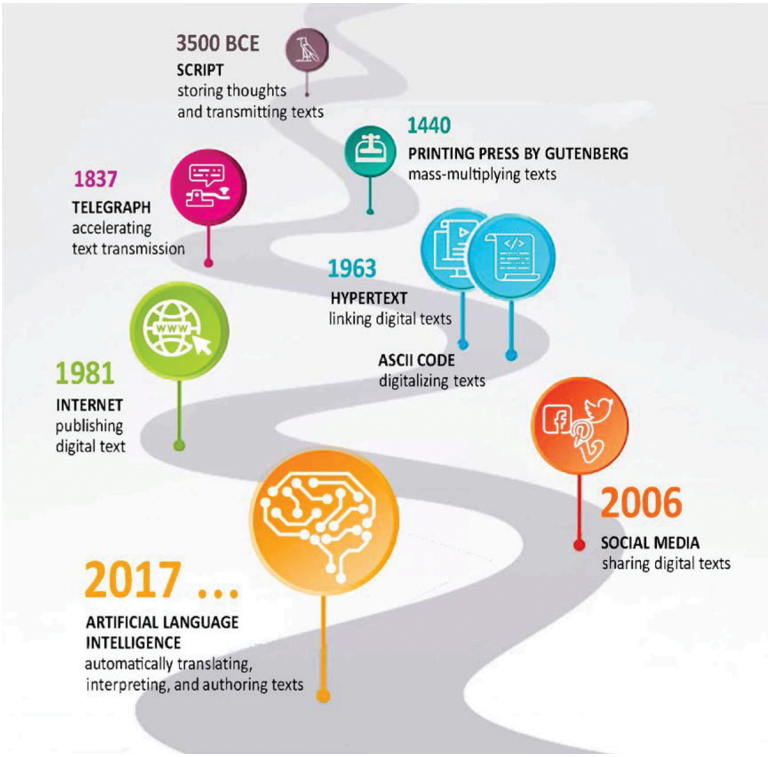


Figure 1.1 Trajectory of innovations in writing that have changed how we live

This shift presents both challenges and opportunities for enhancing literacy skills in the language industry itself, in all other professional domains, and in society at large. As communication moves from analog to **digital** environments, the ability to effectively navigate and critically utilize the related technologies becomes crucial. Of course, the shift not only includes individuals’ literacy skills but also transforms social systems such as education and public discourse. In doing so, it contributes to both solving and causing wicked social problems such as growing digital gaps (e.g., Sanders & Scanlon, 2021).

Its social relevance makes the digital literacy shift a “hot topic”⁹ for research at the intersection between AL and TD. A deep understanding of “what works for whom under what circumstances” (Pawson & Tilley, 1997, p.72) benefits from including all relevant **stakeholders** as research partners. They bring their practical insights into the complex and dynamic practices of using language to con-

9. The term *hot topics* is used, e.g., by AILA to feature their online research debate. <https://aila.info/research/debate/>.

struct the social world we live in. But of course, evaluating what “works” for whom under the changing “circumstances” of text production raises issues of ethics and creativity.

For the purpose of our research, we draw on a working definition of communication **ethics** as “the creation and evaluation of goodness in all aspects and manifestations of communicative interaction” (Lipari, 2017, p.1). This definition foregrounds that representations of ethically appropriate activity are co-created in communities, such as newsrooms (Lave & Wenger, 1991). Once codified as, for example, editorial guidelines, they help evaluate and shape practices. At the same time, the codes themselves keep being re-evaluated against practices in changing contexts.

Similarly, solving “wicked” problems calls for **creativity**. We conceptualize it as the goal, process, and product of generating options that are novel and useful, since they transgress limitations of the existing options (see below, Box A) and make sense in their context (Green, Beaty et al., 2024, p. 544). Similar to the above ethics definition, this understanding of creativity highlights the procedural and contextual character of its object. Creativity manifests in processes that result in new ways of “what works.” They bear the potential to be accepted and foster change in workflows and workplaces.

1.5 Combining research frameworks to understand writing at work

Understanding dynamic research objects in real life, such as writing in changing environments, requires a multi-disciplinary approach. When investigating professionals at work, scholars have combined AL and TD with **frameworks** such as Ethnography, Grounded Theory, Realist Social Theory, and Dynamic Systems Theory. Each framework offers insights into specific aspects of literacy and writing, from understanding participants’ views to explaining the emergence of patterns in big data. Combining these frameworks allows for multi-perspective representations of an object of study.

Ethnography and grounded theory enable researchers to dig deep into the complexity of real-life cases. Ethnographers are open to the unexpected when researching how their communities think, feel, and behave. Ethnographies reflect on a community’s sensemaking practices, for example when participating in society with digital media. **Grounded theory** can expand ethnographies by combining case studies through applying a procedure referred to as theoretical sampling. Case by case, researchers use new data to challenge the findings gleaned so far and to further develop their data-based theory.

TD considers co-researchers from the world of practice as being on an equal footing with their academic counterparts. They are experts in practical knowledge and collaborate with academic researchers throughout a project (.,1.2). This inclusive framework can facilitate ethnographers’ access to workplaces, including media outlets and corporate newsrooms. TD research projects primarily include practical measures: action in the practical field under investigation, such as research-based coaching or organizational development. Hence the term *transdisciplinary action research*.

Integrative social theories such as **realist social theory** focus on the interplay between situated activity and social structures. In doing so, these theories help researchers explain how observable phenomena are connected to enablements and constraints that cannot be accessed directly, such as individuals’ beliefs or societal taboos. **Dynamic systems theory** does so by focusing on non-linear change. Examples include writers’ blocks, the sudden emergence of creative ideas, and the surprising acceptance or rejection of a new technology by professional communities or society at large.

Combining these frameworks (Table 1.1) enables researchers to develop holistic and dynamic views of objects such as digital literacy and writing in the professions. The integrated approach allows for a deeper understanding of how situated activity, i.e., what works for whom in which circumstances, interacts with layered contexts including individual repertoires, organizational resources, as well as social and technological change. In our projects, we have used such an approach to analyze the long-term developments of text production practices in journalism and public discourse.

Table 1.1 Combining research frameworks in applied linguistics (Perrin, 2013a, p.252)

	EG Ethnography	GT Grounded theory	TDA Transdisciplinary action research	RST Realist social theory	DST Dynamic systems theory
Focus	case study	+ generalization	+ real-world problem	+ social relevance	+ dynamics
Outcome	understanding communities’ perspectives	building theories by coding data in cycles	solving the problem with practitioners	contextualizing situated activity in a real world	explaining emergence in big data

Box A. Beyond creativity: serendipity and critical serendipity literacy

Lauri Haapanen

AI tools, embedded in workflows, are taking over a growing share of routinized and formulaic writing. In newsrooms, this manifests as a shift toward “prompted writing” (→2.4): a continuous rhythm of giving commands to AI, revising its outputs, and weaving in human-authored text. However, this does not mean that AI is replacing the human contribution, only that the human role is changing. When “automagic” can translate, draft, and reformat at speed — but remains bound by the limits of its training data — human added value lies in doing things in new, surprising, and unconventional ways.

This value added is often described as creativity, commonly understood as involving novelty and value (Glăveanu & Kaufman, 2019, p.17). It is said to distinguish humans from the probabilistic machinery of AI tools. However, this distinction has been criticized as being too neat (Bellemare-Pepin, Lespinasse et al., 2026). Having absorbed the internet and much more, AI offers solutions that appear new, surprising, and unconventional to us. So what, after all, is human creativity? We recognize Bach as Bach because his music sounds like Bach — it varies the recognizable patterns. This is what AI does.

Against this backdrop, the concept of serendipity (Haapanen & Perrin, 2024) adds a relevant dimension. It is tied to the unpredictable, but not reducible to chance. What matters is bisociation: the combining of seemingly unrelated ideas, in contrast to association, where the connection is close and expected (Koestler, 1964). Such moments particularly matter in an AI-shaped environment. AI excels at mapping and varying patterns, but struggles to judge when a pattern should be interrupted for reasons of, for example, journalistic relevance and ethics.

To capture this capacity, journalism needs something we call critical serendipity literacy (CSL). Adjacent concepts such as professional vision (Goodwin, 1994) and what-a-story news-work (Berkowitz, 1992) describe how journalists perceive professionally relevant features and manage surprising developments within established interpretive frameworks. CSL, by contrast, foregrounds the judgment involved in recognizing when a deviation from routine becomes a rich point — a moment where breaking out of patterns can scale up and open up a professionally consequential way forward.

CSL thus represents a disciplined openness to the unexpected while remaining grounded in professional form. It involves four capacities. First, journalists must legitimize uncertainty: hesitating, pausing, or not knowing may be professionally meaningful. Second, they must recognize potentially consequential deviations instead of dismissing the off-script as noise. Third, they must turn unexpected developments into new angles, sources, or narrative structures. And fourth, they must keep judgment open long enough to see whether the deviation reshapes the story or fails to pay off.

Thus, CSL becomes a catalyst for creative decisions when routines no longer provide an obvious way forward. The following example illustrates how these four capacities unfold during a journalistic writing process. A failed search for an interviewee gradually gives rise to a compelling new story angle, showing how (1) uncertainty, (2) deviation, (3) reframing, and (4) professional judgment can reshape both the reporting process and its outcome.

In a feature initially focused broadly on assisted reproduction, (1) legitimizing uncertainty meant leaving the story's precise focus open while searching for a suitable interviewee. The first lead fell through: a couple suggested by a fertility clinic would participate only anonymously, which the journalist considered unsuitable, as people increasingly discuss such experiences openly under their own names and with their faces visible. (2) Recognizing deviations began when her continued search on social media led, instead, to a single mother by choice whose one-year-old child had been conceived through fertility treatment.

The journalist came to see this mother not simply as a replacement source, but (3) reframed her as the basis for a timely angle reflecting recent changes in access to publicly-funded fertility treatment. By leveraging this unexpected development, she narrowed the story from fertility treatments in general to single motherhood by choice. (4) Sustaining judgment meant testing whether this focus could also carry the statistical and societal dimensions of the story. The interview ultimately produced sufficiently rich material to confirm it as the story's organizing focus (Figure A.1).

I did not originally set out to write about single motherhood.
I started from the statistics and then gradually narrowed the topic.
When a suitable case emerged, I thought,
“Okay, this is topical and this is a relevant interviewee.”
The topic gradually became more precise
as a suitable interviewee emerged for the story about assisted reproduction.

Figure A.1 CSL in action. Source: [susu_230209_ah_fertilitytreatments_rvp](#)

CSL operates along a continuum (Haapanen & Perrin, 2024). At one end, serendipity is a welcome surplus that makes an already viable story better. At the other, when no foreseeable next step remains and routine offers no responsible solution, the ability to see things from a new angle — and the courage to act on it — becomes a lifeline. The case presented above lies between these two extremes: the process was not at a complete impasse, yet the story still lacked a clear and compelling focus. In journalism shaped by AI, such horizon-shifting judgment may become journalism's most human skill.

State of research

The example of the digital literacy shift in public discourse

Repetitive language use in daily life and the professions has resulted in established practices (→2.1) and its analysis in empirically-grounded typologies (→2). From a temporal standpoint, activity types follow each other in patterns, characterized by phases in which certain activities dominate (→3). The concepts of *activity type* and *phase* scale up from a single text production process to decades of professional development. For journalism, our longitudinal analyses have shown a shift from focused writing to fragmented writing (→4) in five phases since the rise of digital technologies (→5).

2.1 Text production practices in the professions

From a **functional** perspective, text production practices in professional settings range from highly routinized to more emergent and socially creative (Foucault, 1966; Bourdieu, 1977; Hanks, 1996; Bhatia, 2008; Pennycook, 2010; and Perrin, 2013a). However, in contrast to sheer routines, on the one hand, and unpredictable behavior, on the other, practices are conscious and stable to a certain extent while being subject to intentional change. They are shared by communities of practice and intended to improve with growing expertise throughout professional life.

From a **structural** perspective, real-life practices never occur alone; they are organized in sequences, networks, and hierarchies. Sequences of practices include, for example, opening a new file on a computer, setting the text parameters, and only then starting to write. Networks combine practices that take place (quasi-)simultaneously and interact at their nodes, for instance adjusting verbal linking devices such as conjunctions while changing the order of phrases and sentences. This also shows that the concept of *practice* is recursive: practices, such as EDITING SENTENCES, can include (sub-)practices.

From a **modal context** perspective, practices are embodied, multi-semiotic, and mediatised. This means that they include bodily subtasks such as punching the keys while writing – or breathing consciously when speaking in public. Such

practices always generate traces in several semiotic systems; for example, speaking also includes body language, while writing activities like punching the keys can be audible. Most text production practices are effectuated by and interact with media such as computers or pen and paper, and they result in products that are spoken, written, or gestured.

From a **social context** perspective, practices interact with external factors such as the roles and expertise of the individuals involved, the organizational environment, and the cultural backdrop. Role and expertise are often closely connected; experienced writers dispose of wider and deeper repertoires of practices, which helps them advance within their field and master more complex and dynamic tasks. Moreover, the context in which texts are produced includes tools, from pens to AI networks. Finally, the cultural backdrop interacts with norms surrounding text production.

Understanding functional, structural, and contextual aspects of practices is key for literacy development. First, it sharpens the lens through which research can identify variation and change in practices. Second, it fosters data-based analyses of problems in fields such as professional writing; questionable practices can be considered the observable surface of incompatible social and organizational structures. And third, it helps develop interventions for adequate text production in professional settings. However, all of this starts with recognizing patterns in the hustle and bustle of life.

2.2 Typologies in text production research

Research on text production in the professions has long aimed at classifying writing processes. The results of such attempts are types and typologies. Prominent examples include “writing signatures” (Levy & Ransdell, 1996). This **open typology** is based on the idea that every writer develops their own, individual, signature-like behavioral pattern of managing most of their writing processes. It means that throughout a specific writer’s processes, some characteristics remain constant, regardless of the task at hand or the circumstances. In this typology, there are as many types as there are writers.

Another widespread, yet **closed typology** distinguishes between a “knowledge telling” and a “knowledge transforming” pattern (Scardamalia & Bereiter, 1987). The core idea here is ontogenetical: When children learn to write, they first tell their stories from top to bottom, all in one go. Only after understanding the difference between ephemeral speaking and revisable writing do they begin to modify their emerging texts. At this point, they have realized that they can trans-

form narrative knowledge into consciously organized texts that do not have to follow the “and-then” order of oral storytelling.

Phylogenetical typologies, in contrast, differentiate between types of writing related to eras of our species’ development. Writing types are seen as the result of enablements and constraints in specific segments of human history. In medieval Europe, for example, writing can be seen as having been calligraphic, in contrast to a “maschinelle Konzeption” – a term that refers to the machine conception of writing in the era of book printing and the fast spread of literacy (Ludwig, 2005). Recent types include the digital writing of fluid texts on screens and writing as a means of prompting AI.

Typologies based on macro-segments of time, such as the one above, are quite rare in research on writing and text production. In contrast, **micro typologies**, based on segments within the timespan of a writing process, are numerous. Starting from laboratory experiments in psychology, researchers have identified phase-related activity types of writing such as planning, formulating, and reviewing (Hayes & Flower, 1987). Later examples of such typologies include activity fields that characterize writing outside the lab, in real-life contexts, such as workplaces (Perrin, 2003; Table 2.1).

Table 2.1 Typology of activity fields and examples of writing practices with AI tools

Activity focus	Activity field	Examples of writing practices with AI tools
CREATING INTERTEXTUAL VALUE Turning others’ utterances and texts into one’s own text in a work-divided process	COMPREHENDING THE TASK Understanding what to do and why	USING AI FOR ONE’S ISSUES MANAGEMENT HAVING BRIEFING NOTES SUMMARIZED BY AI
	READING SOURCE TEXT Internalizing the material to draw on	HAVING SOURCE TEXTS READ OUT ALOUD BY AI COMPARING SOURCE TEXTS WITH AI
	READING OWN TEXT Reloading what one has written so far	HAVING ONE’S OWN TEXT READ OUT ALOUD BY AI HAVING ONE’S VISUALS ALT-TEXTED BY AI
	IMPLEMENTING THE PRODUCT Getting one’s text ready for publishing	HAVING AI GENERATE HASHTAGS AND HYPERLINKS HAVING AI REWRITE TEXTS FOR DIFFERENT PLATFORMS

Table 2.1 *(continued)*

Activity focus	Activity field	Examples of writing practices with AI tools
HANDLING THE WORKPLACE ENVIRONMENT Dealing with all the circumstances in one's own writing environment	HANDLING SOCIAL ENVIRONMENT Coping with sources, colleagues, ...	HIDING PERSONAL INFORMATION FROM AI USING AI TO INTERACT WITH AUDIENCES
	HANDLING TASK ENVIRONMENT Managing other, parallel tasks	ORGANIZING ONE'S TRAINING ON AI TOOLS USING AI FOR SIDE JOBS SUCH AS TRANSLATING
	HANDLING TOOLS ENVIRONMENT Using tools such as pens or studios	USING APPROVED AI TOOLS ONLY ADOPTING AI TOOLS CAREFULLY
STEERING THE WRITING PROCESS Managing one's text production project	GOAL SETTING Defining what to do by when	HAVING AI GENERATE OPTIONS FOR KEY MESSAGES HAVING AI GENERATE HEADLINES
	PLANNING Defining the process and product steps	HAVING AI DRAFT A TEXT STRUCTURE HAVING AI DRAFT A STORYBOARD
	CONTROLLING Finding and keeping the writing flow	USING PREDICTIVE WRITING TO SAVE TIME HAVING AI VARY STYLE
	EVALUATING Checking if goal is reached	CONSTANTLY MONITORING AI-WRITTEN TEXT POST-EDITING A PART WRITTEN BY AI TO IMPROVE IT

Table 2.1 (continued)

Activity focus	Activity field	Examples of writing practices with AI tools
DESIGNING THE TEXT PRODUCT Shaping an emerging piece while managing the project	FINDING THE SOURCES Accessing what the text is to build upon	HAVING AI SUMMARIZE RELIABLE SOURCES HAVING AI IDENTIFY INCONSISTENCIES IN SOURCES
	LIMITING THE TOPIC Deciding what to include and exclude	USING AI TO GENERATE IDEAS BROWSING AI-SUGGESTED SOURCES FOR INSPIRATION
	TAKING OWN POSITIONS Defining one's role and voice in the text	USING AI AS AN AID INSTEAD OF A REPLACEMENT NOT GENERATING ENTIRE ARTICLES WITH AI
	STAGING THE STORY Composing the dramaturgy of the text	HAVING AI GENERATE HEADLINES AND VARY STYLE USING AI TO GENERATE QUIZZES AND POLLS
	ESTABLISHING RELEVANCE FOR THE AUDIENCE Writing through the readers' eyes	AIMING FOR RELIABILITY WHEN USING AI DISCLOSING THE USE OF AI IN YOUR TEXT

As an example from the typology visualized by the table presented in Table 2.1, the activity field of HANDLING TOOLS ENVIRONMENT is part of a group of activity fields of handling the workplace environments, in which writers deal with the circumstances in their immediate surroundings. First, this includes people, such as peers and sources. Second, competing tasks, such as making phone calls or organizing your participation in training on AI tools. And third, tools and their handling, such as limiting the use of AI to ethically approved tools only. Of course, writers cannot do all of this at once, but must decide when to focus on which activity.

2.3 Activity fields and writing phases

Writing processes can be divided into phases in which certain types of activity predominate (Figure 2.1). These phases vary in scale. While some may last sec-

onds, such as when authors revise a formulation, others may span decades, such as the phase of academic writing within a writer’s lifetime, or even centuries, such as handwriting as a cultural key technique in human history. The interplay of these layered timeframes has been investigated within the framework of dynamic systems theory (e.g., Fürer, 2017) and shown to influence, and be influenced by, cultural, biographical, and textual factors.

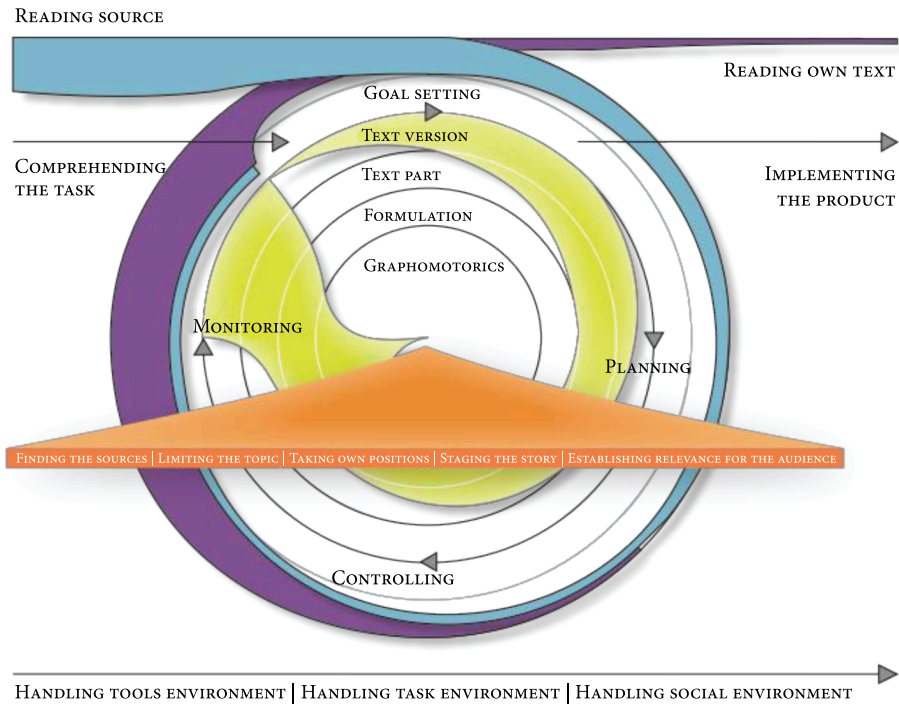


Figure 2.1 The helix of activity fields that characterize writing phases (Perrin, 2013a, p.151)

- **Cultural and biographical** factors interact with patterns of activities and phases in writing. They range from the distribution of literacy in a society to the access of certain communities to specific writing **TOOL ENVIRONMENTS**. In the last century, most people’s first biographical phase of writing was characterized by handwriting before they learned to use typewriters in their professional education or at school in higher grades. In contrast, many children born today not only read and write on digital devices from the very beginning, but also in an environment shaped by social media and AI.
- **Intertextual** factors include, for example, the writing task, any source texts, and the new text written so far. Within a text production process, a writer’s

focus can shift back and forth between COMPREHENDING THE TASK, READING SOURCE TEXTS, and re-READING their OWN emerging TEXT.

- With new predominant activities, new phases begin. Some writers tend to consciously start their text production processes with phases in which they SET their GOAL before PLANNING and writing the text, revising it if necessary, and IMPLEMENTING THE FINAL PRODUCT. Others oscillate between these practices.

Such differences in managing text production phases have been shown to be individual in nature and also related to writers' **expertise** (Perrin, 2013c). For example, highly experienced writers across domains tend to plan both their writing processes and the resulting text products more thoroughly and, at the same time, more flexibly than their less experienced colleagues. By following a flexible masterplan, they avoid investing time in dead ends in an emerging text. Instead, they remain open to the unexpected while writing and can easily adapt their plan at low costs on the go (Perrin, 2016).

The concept of writing phases highlights the complexity and fluidity of writing processes. Recognizing these phases can help writers and educators develop more effective **strategies** for managing and supporting writing activities. Understanding the phased structure of writing enables TD researchers to develop interventions that help writers address, for example, the right issues at the right moment, and by doing so, optimize their writing processes. This also applies to phases that occur on larger scales and over longer timeframes: the phases a profession and its writers go through.

2.4 From focused to fragmented writing

In between the macro level of human history and the micro level of a single text production process, **meso typologies** focus on the development of writing in a domain, such as a profession, over a period of decades. An example of such a meso-level typology differentiates between “focused writing” and “writing by-the-way” (Hicks & Perrin, 2014). As always with dichotomic typologies of real-life phenomena, the two types are poles of a continuum, developed for analytic purposes. This typology is meant to facilitate a better understanding of change in the professional domain of journalism.

Focused writing involves intentional, coherent, and often solitary efforts to produce high-quality texts. This traditional mode of writing is typically carried out in a quiet and controlled environment. It facilitates deep reflection and meticulous editing. Focused writing is characterized by its separation from immediate

context, allowing writers to craft elaborated communicational offerings. “Unlike speech, [the result of focused writing] is decoupled from traces of fighting with thoughts and words — a close-to-perfect communicational offer” (Hicks & Perrin, 2014, p. 231).

However, the demands of modern communication, with its emphasis on speed and adaptability, have challenged this traditional mode of writing. In contrast to focused writing, **writing by-the-way** is fragmented, ubiquitous, and socially dialogic. This mode of writing reflects the dynamic, responsive, immediate nature of contemporary life, where people use digital, mobile, and connected media to synchronize knowledge, share emotions, and maintain identities continuously throughout the day — and often “by the way” (Hicks & Perrin, 2014), while attending lectures, for example.

Writing by-the-way therefore represents a shift in how texts are produced and consumed. With social media, it has increased so much that writing has replaced speaking as the **default mode** of communication in many contexts (Brandt, 2014). Even in academia, writing by-the-way has become a relevant driver of success at the interfaces to society at large (e.g., Hyland, 2024). And journalists now often spend more time marketing their news pieces than writing them (..4.5.b). However, since the early 2020s, another type of fragmented writing has spread rapidly.

Prompted writing is characterized by rhythms of three types of writing activities: Authors prompt AI by entering commands, they revise the result, and they write and weave in parts of texts themselves. Prompted writing can thus be considered a collaborative, discursive version (see below, Box B) of fragmented writing with AI. Yet, it is important to remember that the dichotomy of focused and fragmented writing is an analytical tool marking the ends of a continuum. In real-life text production, the two types often mix or alternate, depending on the phase within a text production process.

2.5 The five-phase shift in mediatized public discourse

The evolution of writing in digital journalism provides an example of the digital literacy shift from focused to fragmented writing. This shift can be modeled as a sequence of five meso-level phases. As is often the case in real-life processes, the activities that dominate a phase overlap, resulting in smooth transitions. Therefore, while there is a prototypical core to each phase, it remains disputable precisely where a phase begins and ends. The following description shows how writing practices and contexts interact and change together within a professional domain.

During the 1990s, journalism initially replicated production patterns from print and broadcasting when producing media items for the internet. Besides including hyperlinks from time to time, both the writing processes and the emerging text products were organized along the patterns of focused writing. This changed to a degree in the 2000s when the accelerated rise of the internet changed the practices of journalistic research. Doing research by-the-way and on the fly had become much easier. Focused writing was thus interspersed with browsing the internet from time to time.

In the 2010s, social media communities began to both trigger and comment on journalistic content. In response, journalists used social media before and while writing to gain stimuli from their audience and sources, which resulted in follow-up contributions on topics in the public media. Moreover, journalists found themselves exposed to publicly accessible acceptance scores (likes) and orchestrated verbal criticism. Therefore, in the 2020s, journalists started to fiercely engage in community management, further merging focused writing and fragmented by-the-way writing.

Since 2023, big data and tools driven by AI have influenced writing practices in public discourse. Journalists and media companies have been using AI tools, increasingly to perform semi-automated research across large amounts of data (data journalism) as well as to write and illustrate articles for digital print, audio, and video media. For many journalists, their core activity has shifted toward **prompted writing**: commanding and post-editing automatically generated text and data analyses. This requires a completely different mindset than focused writing did before digitalization.

This five-phase **shift** illustrates how technological advancements, i.e., writing tools, and changing communication practices have transformed the literacy profile and production practices in a domain that makes a crucial contribution to public discourse. Each phase on this meso level of writing typologies represents a substantial change in how writers produce and interact with content and context. Understanding this shift is essential for developing strategies to master the changes in professional writing practices. It requires research methods that allow for both broad and deep insights.

Box B. Turn by turn: generative AI and the conversationalization of newswriting

Gilles Merminod

One of the most striking changes associated with the integration of generative AI tools into text production practices is the conversationalization of writing (Merminod, 2026). Many of the most popular LLMs operate via conversational technologies and interfaces. These chat-bots replicate some of the main sequential features of human interaction (Stokoe, Albert et al., 2024). This is well illustrated by the extract below, in which a journalist asks an LLM to rephrase a quote¹⁰ (Figure B.1):

1 J	<i>"If the Constitution includes a provision stating that Switzerland will only adopt sanctions enacted by the United Nations Security Council, that means that when people pressure us by saying, 'But you're on the side of democracy; you need to align yourselves with the democracies,' the Federal Council will be able to tell them, 'You're not going to force us, in the name of democracy, to violate our Constitution'. In my opinion, this will strengthen the Federal Council's spine."</i> Rephrase that for me, making it simpler and shorter
2 AI	<i>"If we put into the Constitution that Switzerland will only adopt UN sanctions, the Federal Council will be able to respond to pressure by saying, 'You cannot ask us to violate our Constitution in the name of democracy.' That will give it more courage to stand firm."</i>
3 J	Yeah, forget it, that's lame.
4 AI	Okay, no problem! It's true that the rephrasing was a little flat So it's better to stick with the original version since it has more punch.

Figure B.1 Journalist and AI assistant in a conversational sequence

In turn 1, a request, the journalist (J) asks the AI assistant (AI) to rephrase a stretch of discourse. In turn 2, a compliance, AI rephrases it. In doing so, it shows alignment and affiliation with the journalist's request. In turn 3, an assessment, J aligns with the sequence while disaffiliating from AI's rephrasing by assessing it as "lame". In turn 4, an acknowledgment, AI displays alignment with the journalist's assessment and affiliation with his negative evaluative stance, further elaborating on this stance by describing the rephrasing as "flat" and having less "punch" than the original version.

10. These data are translated from French by the author of the text box. It comes from a corpus collected in a Swiss newsroom in Project 223757 entitled "Les pratiques rédactionnelles à l'ère de la convergence des médias" (Newswriting practices in the age of media convergence) funded by the Swiss National Science Foundation.

The interaction between the journalist and the LLM is organized around an adjacency pair oriented toward problem-solving (request-compliance): the LLM takes on the role of service provider, while the writer finds themselves in the role of the person commissioning the service and benefiting from it. Put simply, the journalist takes the role of the client. In their day-to-day work, journalists are likely to engage with LLMs in interactions that rely on the following type of conversational sequences (Figure B.2):

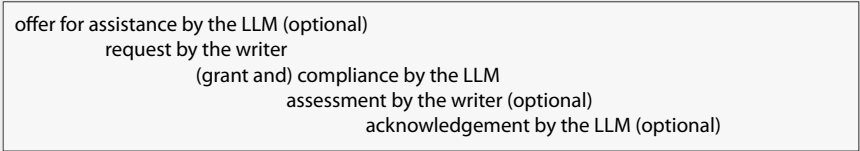


Figure B.2 Conversational sequence in human-AI interaction

In other words, when assisted by generative AI tools, newswriting can be organized according to interactional dynamics that simulate, to some extent, the systematic sequential organization of human conversation (Levinson, 2025; Sidnell & Stivers, 2013): turn-taking, adjacency pairs, conversational preference, and logics of alignment and affiliation. However, even if a conversation with an LLM shows sequential structures that are partly comparable to those of human conversation, the participants’ roles (and their scopes for “action”) remain fundamentally asymmetrical.

Thus, the conversationalization of writing is not a sign of agency in AI systems. Interaction with an LLM is more akin to a simulated collaboration than to the teamwork observed in situations of collective writing (Mondada & Svinhufvud, 2016; Merminod & Burger, 2020). The LLMs function as a “prosthesis” (Kaplan, 2024, p.135) or as an “orthosis” (Mahrer, 2026, pp.27–29). Generative AI may intervene in a wide variety of ways during the writing process, but the responsibility for interpretation and ethical decision-making continues to rest with journalists and news organizations.

Unless specifically asked not to do so, most of the LLMs widely used today emulate a hyper-cooperative behavior. This behavior is characterized by a systematic alignment with human actions and a strong interactional affiliation. Hyper-cooperativity probably partakes in an economic logic designed to foster user engagement and dependence. The effects of this hyper-cooperative behavior, sometimes described as sycophancy, is now widely criticized by users (Jones, 2026).

Given the growing integration of AI into newsrooms, analyzing writing in the AI workplace through a conversational lens helps us to understand contemporary opportunities, risks, and changes in journalism. Beyond journalism, the study of the interactional dynamics shaping the use of generative AI tools is essential to identifying and explaining the current transformations in public discourse, the ethical issues that arise from their use, and the ways in which these tools may foster or hinder transparency, accuracy, and creativity in human communication.

Methodology

Investigating writing at work in multi-layered contexts

Analyzing real-life phenomena such as the digital literacy shift requires multi-method approaches that grant access to all the relevant levels of language use – from social to individual patterns and reflection (→3.1). The methods combined can transgress research cultures and their methodological traditions (→.2). In search of understanding the interdependency of communication and writing tools, we blended the French tradition of genetic criticism (→.3) with a German focus on writing processes (→.4). Progression analysis, our multi-method approach, is open to the AI coding of large data corpora (→.5).

3.1 Interest in everyday language use and reflection

Over recent decades, international interest in understanding both everyday language use and reflection upon it by language users has grown. Scholars carving out a subdiscipline called *folk linguistics* have emphasized the importance of examining the discrepancies between what speakers say about their language use, on the one hand, and their actual linguistic behavior, on the other: “[...] there are big differences between what speakers say about how they use language and how they actually use it.” (Günthner, 2003, p. 192).¹¹

An example from public discourse illustrating this **discrepancy** is the issue of inventing quotes in journalism. Professional ethics prohibit journalists from distorting their sources’ utterances or inventing source statements. In a large survey of Swiss journalists, none of them clicked the *yes* box following the question *Have you ever made up a quote?* However, an ethnography in the same community of practice showed that many journalists do invent or heavily tweak quotes to support their storylines, often without realizing what they are doing (Haapanen & Perrin, 2018).

11. All the translations in this book are by the main author, double-checked by a professional translator and L1-speaker of English.

Another example of the discrepancy between practitioners' self-conception and their actual use is writing in finance. In a transdisciplinary project on financial literacy, none of the interviewed financial analysts complained about any lack of writing skills. Only upon realizing that even their colleagues from the office next door in the same banking department failed to understand their financial reports did they become **aware** of their lack of competence and potential ways to overcome it. The analysts simply did not know that writing can be practiced (Whitehouse, 2022, p. 37).¹²

Practicing an appropriate, purposeful use of language is precisely what the ancient discipline of **rhetoric** has emphasized for thousands of years. While focusing on oral language in real-life contexts, it prepared the ground for grammar studies, which were predominantly oriented toward written language and tended toward normative top-down approaches. In the second half of the last century, conversation analysis turned back to the real-life text production of oral language, followed by empirical writing research that has done the same for written language (Perrin, 2013b).

Investigating language, be it oral, written, or transmodal, as a complex, situated **practice** in everyday contexts has contributed to a more nuanced understanding of language use and change (Preston, 2016). This includes studying language users' awareness of what they do and why they do it. By exploring the differences between perceived and actual language use, researchers can gain deeper insights into language behavior and its implications for literacy and for communication, as well as for research cultures and their foci and blind spots regarding their object of study.

3.2 Two complementary cultures of literacy research

Western literacy research has long been characterized by two complementary cultures. American studies have tended to rely on interview data to explore the social structures influencing everyday and professional literacy (e.g., Brandt, 2014). In contrast, European (e.g., German, Dutch, and Belgian) studies have focused on data on activities of language use, such as logging the keystrokes of writers in the laboratory (e.g., de Smet, Leijten et al., 2018) or in real-life contexts (Perrin, 2019). In both cases, what cannot be found in the data directly has to be reconstructed based on assumptions.

12. Data set in Appendix D, statements from financial analysts, no. 055. Original in German: "Es war mir nicht klar, dass man Schreiben üben kann."

For example, American studies on writing in the workplace and in everyday life tend to interpret information from **interviews** as pointing towards what a person did while writing. Before delivering her keynote at the 50th anniversary of the Writing Center at Dartmouth College in Hanover, New Hampshire, USA, in 2016, Deborah Brand was introduced with the words “[she] collects and comparatively analyzes in-depth, retrospective life interviews with everyday people to explore the social structures and processes that bear on literacy and its changing conditions and meanings over time” (Brandt, 2016).

During the same year, another international event on writing research took place at the MIT in Boston, Massachusetts, not far from Dartmouth College. At this congress, scholars from Western Europe drew their findings on **activity data** from recordings of writing processes. An exemplary workshop held by Mariëlle Leijten and Luuk Van Waes was entitled “Using Keystroke Logging in Writing Research.” *Keystroke logging* means that software beyond writers’ text editors records every keystroke and mouse or trackpad movement with a timestamp, allowing for precise analyses of writing dynamics.

This timestamped activity protocol facilitates a detailed reconstruction of the writing process, keystroke by keystroke, millisecond by millisecond. Researchers know exactly what a writer did – provided it happened on the computer. What keystroke data **cannot tell us** is why the writers processed their emerging text the way they did. In contrast, interview data lack keystroke precision. What they can reveal, however, is writers’ repertoire of conscious reconstructions of their activity in general and of text production strategies: what do I usually do when I write, and why do I do it this way?

Taken together, the complementary approaches provide a comprehensive view of literacy. Interview-based studies offer rich, qualitative insights into individuals’ reconstructions of their experiences and perceptions, while activity-based research provides detailed, quantitative data on actual literacy practices. Systematically combining these approaches promises to enhance the overall understanding of literacy development and its social implications. Interestingly, however, the two research lines have long remained unconnected, with few exceptions.

3.3 The French research line of genetic criticism

One of the first comprehensive approaches to investigating real-life writing processes in real-life contexts is termed *genetic criticism* (GC). However, in contrast to the two research lines presented above, GC analyzes writing processes that happened decades or centuries ago. The approach was developed in response to the acquisition of Heinrich Heine’s manuscripts by the Paris National Library in

1966. “[...] a research group was commissioned to analyze these manuscripts. First of all, an appropriate method had to be developed – GC” (Grésillon & Perrin, 2014, p. 83).

On the **micro level**, GC considers all physical traces on a manuscript as data. On the one hand, this includes the state of the material that carries the writing. Aspects considered include scratches, scraped spots, ink stains, fingerprints, and even traces of radioactive decay in the ink used. On the other hand, the written traces themselves are analyzed as a constellation of insertions and strikethroughs over time, verbal and nonverbal signs, text bodies, metacommunicative comments, and graphic notes. The micro data are used to reconstruct the process in as detailed a way as possible.

On the meso and **macro levels**, the written text and related satellite texts from or to the same author are read for indications of the multi-layered context in which the literary text under investigation emerged. Layers include the situations in which the text was produced, the circumstances of the author’s life, the uptake by readers as anticipated in the text, and the state of the society at the time of writing. Contextual knowledge generated based on the manuscript data is then compared with historical knowledge on further circumstances surrounding the text production.

GC places particular focus on **creativity** in the literary text production process. The analyses provide a unique perspective on the creative process of experienced and successful literary artists. By examining the emergence of literary manuscripts, researchers are able to uncover the iterative and developmental nature of professional writing in a demanding and prestigious domain. Beyond explaining writing in this very specific domain, GC offers fundamental insights into the interplay of material, cognitive, and procedural aspects of text production that may also matter to other domains.

Nevertheless, the main feature of GC, from a writing researcher’s perspective, is its **ex-post** approach. If it was about investigating professional writing in general, GC would be far too complicated and expensive an endeavor. Why should researchers put resources into analyzing the radioactivity of ink on a two-hundred-year-old manuscript to reconstruct the sequence of revisions in a text if this text was not a piece of art written by an outstanding author? Due to its rigorous focus on reconstructing processes, however, GC has played a catalytic role in writing research.

3.4 A German call for progression analysis

In the programmatic introduction to their volume on the then new field of text production research, the two applied linguists Gerd Antos and Hans Peter Krings discussed the relevance of GC for a **procedural** understanding of the dynamics of language use in text production. At that time, they stated that the “analysis of text emergence [...] is an approach which is, in principle, feasible and worthwhile for non-literary texts too. [...] Empirical analyses of text geneses would make an important contribution to a clearly linguistically motivated text theory” (Antos, 1989, p. 36, translated from German).

In 1990, Perrin read this statement as a call for action and decided to move forward. Drawing on both academic and professional experience in information technologies and journalism, he used his PhD work to develop a methodology and a set of computational tools to investigate the text production processes of professionals working at their computers. In line with Antos’s call, he shifted the focus from ex-post to in-situ data generation and analyses. The goal was to investigate writers **as they write**, in their real-life contexts, with as little impact as possible on the processes investigated.

The resulting multi-method approach was termed *progression analysis* (PA), which aims to enable researchers to develop empirically-based reconstructions of what writers in context do when they write – and why they do it in this way. PA includes three levels of analysis: (a) the natural writing environment, (b) writers’ activity at the interface of their computer, and (c) their mental representation of this activity in context. Whereas the analysis on level (a) draws on established methods from **ethnography**, levels (b) and (c) can be seen as cases of “technography” (Jansen & Vellema, 2011).

Writers’ activity on level (b) is recorded using custom-made software for key-stroke logging, which means that everything writers do on their computers is recorded (→3.2). The **logging software** runs outside of a writer’s or an organization’s text editing system, of course without constraining it. Whereas the software must be customized for each new recording environment, the format of the data has been standardized and kept consistent from the very beginning. This allows for long-term analyses and comparisons across research projects, workplaces, and domains (→3.5).

Once a writer has implemented the new text, for example by submitting it to an editorial system in a newsroom, research shifts from level (b) to level (c). Now that the writing itself is over, researchers show the writers a real-time recording of the text production process. This recording was generated automatically based on the data from level (b). The researchers ask the writers to comment on what they

did and why they did it as they watch the recording. The result is a **cue-based retrospective verbal protocol** (RVP) of what the writers remember about the decisions they made while writing.

3.5 Extended progression analysis

It is evident that such data generation technology can be considered the mother of all spyware in settings such as newsrooms or the workplaces of financial analysts. So why would practitioners allow researchers to install keystroke logging software and why would they participate in video-recorded sessions where they watch their writing processes in real time, sometimes for hours, and comment on what they did and why they did it? The most natural way to open these windows into practitioners' activities and minds is to raise their interest in the research **results**.

This loops back to the core idea of transdisciplinarity: academic researchers and practitioners collaborating on par to solve wicked problems (→1.2). If the solution promises to be beneficial to the practitioners, they have a good reason to invest their time and knowledge in a TD project. But how would they know in advance that the outcomes will be worth the effort involved? The answer is as simple as it is demanding: TD collaboration is based on mutual **trust** (→5.5) and the reputation of the researchers in the field under investigation. This reputation can only be built over time, step by step.

Developing a plan to establish a reputation as a researcher worthy of practitioners' trust proved an ideal topic for a PhD thesis (Perrin, 1997). Besides three case studies using PA, the thesis includes a **masterplan** for TD research in public discourse. The core idea of this plan was to increase both the size and complexity of the research from project to project while proving the theoretical and practical relevance of the project outcomes. Over time, this masterplan has been fleshed out in a series of research projects that build on each other (Figure 3.1).

Reflecting journalists' perspectives on newswriting:
+ **Focused Ethnography** | SDA project **1995**–1998

Learning from experienced writers:
+ **Grounded Theory** | OFCOM project **1997**–2000

Sharing knowledge with experts of text production:
+ **Transdisciplinary Action Research** | TA project **1999**–2001

Raising awareness for a preexisting world:
+ **Realist Social Theory** | IdÉE SUISSE project **2005**–2010

Understanding emergence in document cycles:
+ **DST** | MODELING WRITING PHASES project **2010**–2013

Shifting the integrative focus to new fields:
+ **Argumentation Theory** | ARGUPOLIS project **2012**–2015

Widening the semiotic angle:
+ **Data Visualization Theory** | INDVIL project | **2017**–2019

Reconstructing 30 years of digital literacy shift:
+ **Longitudinal Change Analysis** | AMBIZIONE project | **2024**–2029

Facing AI language and communication industries:
+ **UX and Design Theory** | Ethnomedia² project | **2026**–...

Figure 3.1 Series of research projects investigating professional text production

Figure 3.1 shows that, project by project, PA was combined with ever more demanding research foci and more complex combinations of research frameworks. At the same time, the funding has risen to EUR 1 million for the latest projects, reflecting and enabling the growing size and complexity of the projects and the teams involved. Nevertheless, the core of all the projects remained the same: understanding and improving aspects of newswriting together with practitioners. The data gathered in the methodological framework of PA are **comparable** throughout the project series (→3.4).

In a nutshell: Extended PA allows for a comprehensive understanding of writing as discourse production in context. By integrating **complementary** methods, researchers capture a holistic view of writing activities and the factors that influence them. A deep understanding is crucial for developing targeted interventions to improve writing practices in TD collaboration. At the same time, such projects are strong generators of follow-up projects that can, for example, focus on re-analyzing the data for special purposes — such as the activity field of HANDLING TOOLS ENVIRONMENT.

Box C. From PA to PA-MM: Meta-level reflections on progression analysis

Mohammad Amini Farsani

Applied linguists are perpetually confronted with the following questions from (non)academic communities and research societies: “So what?” and “Who is your research for?” As such, particularly since the second decade of the 21st century, we have been witnessing a transition in epistemological, ontological, and methodological paradigms regarding the unity of science to depict a more accurate sense of plurality (wholesomeness), in which the multidimensionality, dynamicity, and complexity of the constructs are advocated.

Method-wise, applied linguists have increasingly adopted a pluralistic stance to accommodate the complexity and multidimensionality of scientific enquiries (here, the notions of writing processes and practices in newsrooms) and, consequently, to provide pragmatic answers to research questions by implementing methodologically sound, high-quality, responsive, dynamic, and justified research approaches.

The commissioned issue at hand, *writing at work in multi-layered contexts*, is a concrete line of research inspired by the above perspective, given its plurality, dimensionality, dynamicity, and complexity. The argument I make here focuses on the issue of quality and world-view perspectives — inspired mainly by the notion of quality and rigor in AL documented by Plonsky, 2024 and Riazi & Amini Farsani, 2024 — in relation to the research orientation, i.e., (extended) progression analysis.

To celebrate 100 years of *The Modern Language Journal*, AL scholars were invited to reflect on the strides made in applied linguistics. King & Mackey, 2016, p.210, call for action to reframe L2 problems within the layering approach, which “demands the explicit consideration of research problems from a range of distinct epistemological perspectives.”

One viable path to address ongoing questions is to concentrate collaboratively and collectively — for example together with non-academic practitioners — on solving real-world problems in light of a layering approach. Such a strategy improves and boosts AL researchers’ and scholars’ attempts to deal with the pressing and (wicked) real-life problems in our field. Investigating writing at work (such as newswriting) through PA provides empirically-based evidence for viewing the issue from different epistemologically oriented perspectives with interconnected layers.

Such a layered notion necessitates the use of a multimethod approach with quantitative and qualitative aspects and phases. However, I have some reservations about the term *multimethod*; instead, I prefer the term *mixed methods research* (MMR) for various reasons. First, looking at the terminologies used with high frequency, including “methods combined,” “blending,” “complementary,” “multimethod,” and “holistic view,” one could plausibly think of the transparent use of mixed methods research.

Other than that, the term *multimethod approach* reminds us of the first definition of MMR (Greene, Caracelli et al., 1989), which was then substituted by a comprehensive definition of MMR in which integration is a pillar of any mixed methods study (see Johnson, Onwuegbuzie et al., 2007). As such, given the mission and vision of progression analysis and its empirical grounding in different studies from 1995 to 2026 (→3.5), I think using the term *MMR* is justified.

Moreover, I suggest reshaping the notion as the *Progression Approach Mixed Methods* (PA-MM) design. This generative design is built on two interconnected approaches: PA itself (→3.5) and mixed methods research on the methodological meta level (as discussed, for example, in Perrin, 2013a). When we consider this approach from the perspectives of mixed methods design, it is important to examine the issue of quality. AL scholars have conceptualized and presented research quality through a quality-as-principle orientation (Riazi & Amini Farsani, 2024).

These principles encapsulate OBJECT, or the quality of what? (MMR); STANDARD, or the metrics used to gauge quality (i.e., integration and purpose); SUBJECT, or who sets the criteria or standards, and for whom? (i.e., AL scholars); and VALUES and IMPACT. The message that emerges is that MMR should not be assessed solely by methodological rigor and/or transparency. Instead, research quality must also reflect societal value and contribute to positive change in the social, economic, educational, and/or environmental contexts in which the problem is situated.

In this book, extended PA attends to the macro benchmark of impact and values, as expressed in the book (i.e., addressing wicked real-life problems). From this perspective, the topic is methodologically sound enough, because one of the features of the quality criteria, namely the notion of impact, is already established through conceptualizing and operationalizing a layered approach. In contrast, in contributions focusing on theory and methodology, between-method issues and integration would have to be — and have been — addressed in more detail.

Findings

The case of implementing AI tools in a multilingual newsroom

With AI, the growing co-generative potential of text tools in the newsroom has become evident. We re-coded data from three decades of progression analyses, focusing on the activity field of HANDLING TOOLS ENVIRONMENT (→5.1). Within this activity field, longitudinal analyses suggest differentiating between three activity scopes (→2) as well as four activity layers, ranging from instrumental and operational to economical and societal (→3). On these layers, specific ethical dilemmas relating to tool use can occur (→4). They may be overcome by positive deviants' emergent creative solutions (→5).

4.1 The activity field of HANDLING TOOLS ENVIRONMENT

Writing activities (→2.3) in the field of HANDLING TOOLS ENVIRONMENT are characterized by **interrelations** between the tool, its use, and the context, such as the task and the emerging text. Tools range from analogue to digital, extending from pens and microphones to algorithms and databases. Key questions posed by practitioners include: How can I use the auto-correction mode as efficiently as possible? When should I use which tool to best exploit its strengths and avoid its flaws? And what can help me cope with the rapid changes in the field of AI technology?

Handling tools always happens in **layered contexts**. These include (i) instrumental, (ii) operational, (iii) economical, and (iv) societal layers. In an ideal world, this means: On the (i) instrumental layer, the tool is handled correctly, i.e., in the way this tool is constructed and meant to be handled. On the (ii) operational layer, the tool is used to do one's work properly. On the (iii) economical layer, such correct and proper tool use contributes to success in professional competition. And on the (iv) societal layer, successful tool use results in ethically sound, socially acceptable outcomes.

For example, using AI as a co-writer to produce meaningful and genuine texts requires (i) the instrumental ability to communicate with the tool; (ii) the operational experience to prompt AI versions of the text to be written and to evaluate them against one's own standards; (iii) the economical competence to understand

the advantage of a certain choice with respect to the given markets and competition; and (iv) the commitment and drive to fulfill the media company’s journalistic and societal mandate by preferring or avoiding certain linguistic means and communicative strategies.

On each of the contextual layers, we distinguish between three **scopes of activities**, scaling up from micro to meso and macro. The micro scope focusses on individual journalists using a tool to make a news piece. The meso scope includes organizational units, such as newsrooms or media companies, that implement and use the tool to improve their workflows. The macro level encompasses the entire profession or social subsystem, in this case journalism and the media. They take a stance by using this tool in a certain way, for example by using AI writing tools transparently and prudently.

4.2 Activity layers

Thus, activities, in our case those of HANDLING TOOLS ENVIRONMENT, are effectuated in layered **contexts**. Our document analyses of 382 pages of policy documents on AI and journalism (Perrin, Delaloye et al., 2028, in prep.) suggest four layers, as mentioned above: instrumental, operational, economical, and societal. The first two are under individual agent’s immediate control. The second two, by contrast, extend beyond instant influence. Instead, iterative activities contribute to reinforcing or altering tendencies over time. On each layer, principles state how to use a tool in particular ways and why this is the case.

Table 4.1 Activity layers of HANDLING TOOLS ENVIRONMENT

Activity layer	↓
Ethical principle	↘
Societal: Reflective positioning	← The use of the tool fosters ethically sound, socially acceptable results
Economical: Being competitive	← The use of the tool contributes to success in professional competition
Operational: Doing things properly	← The tool is used to do the work properly
Instrumental: Handling tools right	← The tool itself is handled correctly, so that it works best in itself

On the **instrumental** layer, the ethical principles for handling tools tend to be formulated for AI toolmakers such as Stibo DX and platform providers such as Meta. These two types of journalism stakeholders have gained relevance with the digital writing shift in journalism (.,2.5). Whereas AI toolmakers provide media organizations with tools for the digital workplace, platform providers have launched formats of public discourse that journalism must compete with. Tables 4.2 and 4.3 present an overview of the coded ethical recommendations for toolmakers and distribution platform providers:

Table 4.2 Ethical recommendations for toolmakers

Activity focus	Activity field	Ethically recommended writing practices
SHAPING TOOLS’ PROPERTIES	PROGRAMMING	... THAT DRAW ON RELIABLE DATA ONLY
	RELIABILITY:	... FOR DEEP AND FAST RELIABLE RESEARCH
	DEVELOPING TOOLS ...	... THAT SUMMARIZE INFORMATION RELIABLY
Making tools that meet requirements of journalistic ethics	PROGRAMMING	... THAT GIVE ACCESS TO THEIR SOURCES
	TRANSPARENCY:	... THAT RESPECT INTELLECTUAL PROPERTY
	DEVELOPING TOOLS ...	... TRANSPARENTLY TO FOSTER JOURNALISTS’ TRUST
	COUNTERACTING BIAS:	... REGIONAL BIAS IN AI MODELS
	FIXING THE PROBLEM OF ...	... GENDER BIAS IN AI MODELS ... SOCIAL BIAS IN AI MODELS
SHAPING TOOLS’ USABILITY	STARTING FROM	... TOGETHER WITH PRACTITIONERS
	STAKEHOLDER NEEDS:	... FOR JOURNALISTIC NEEDS AND WORKFLOWS
	DEVELOPING TOOLS ...	... BASED ON ETHICAL AND HUMAN RIGHTS LITERACY
Making tools that fit into newsrooms and workflows		... BASED ON JOURNALISTIC VALUES
		... BASED ON REAL USE CASES
	ENABLING CLIENTS	INFORMING CLIENTS AMPLY ABOUT TOOLS’ FEATURES
	Instead of keeping them dependent on off-the-shelf products	GUIDING CLIENTS WITH LOW TECH SKILLS HELPING CLIENTS BUY WHAT FITS THEIR TASK HELPING CLIENTS DEVELOP THEIR OWN AI TOOLS WARNING CLIENTS EARLY WHEN CHANGING AI TOOLS
	RESPECTING THE	TO SUPPORT JOURNALISTS, NOT REPLACE THEM
	HUMAN ADDED VALUE:	THAT ALLOW FOR JOURNALISTIC EXPERT OVERSIGHT
	DEVELOPING TOOLS ...	

Table 4.3 Ethical recommendations for distribution platform providers

Activity focus	Activity field	Ethically recommended writing practices
COLLABORATING WITH STAKEHOLDERS instead of competing and exploiting them	BEING FAIR TO USERS Respecting their rights and expectations	FOSTERING SYSTEMS’ INCLUSIVENESS SHOWING SYSTEMS’ PURPOSE AND FUNCTIONALITY MAKING CONTENT EASY TO FIND FOR EVERYBODY OFFERING USERS TO DISABLE PERSONALIZATION
	COLLABORATING WITH NEWS MEDIA Aiming at coexistence with news media in the competition for public attention	TACKLING MIS-INFO TOGETHER WITH NEWS MEDIA INCLUDING EDITORIAL STANDARDS IN AI DISTRIBUTION AVOIDING OVERWRITING EDITORIAL STANDARDS
TAKING RESPONSIBILITY FOR CONTENT instead of shirking it	CURATING CONTENT Taking care of what gets shared on one’s channels in public discourse	PRIORITIZING PUBLIC INTEREST CONTENT COUNTERACTING ALGORITHMIC BIAS MAKING TRUSTED INFORMATION RECOGNIZABLE GRANTING ACCESS TO NEWS ONESELF DISLIKES

On the **operational** layer, the focus of activities shifts away from handling a tool correctly towards using the tool to do the work properly. Therefore, on this layer, the ethical principles formulated in the metadiscourse on AI newsroom tools focus on the immediate outcome of doing journalism („2.2). The prototype genre referring to the operational layer of text production in the newsroom is the editorial guideline. The extract from such a guideline, by the Swiss public service provider SRG SSR, shows a principle that recurs in guidelines for Western newsrooms (Figure 4.1).

We are transparent with the public about the use of AI whenever it materially influences content or how it is perceived. Transparency should always serve to ensure clarity and trust, rather than encouraging unnecessary labels that can create a false impression.

Figure 4.1 Extract from “Use of artificial intelligence (AI) at SRG SSR” on fostering transparency¹³

13. https://www.swissinfo.ch/content/wp-content/uploads/sites/13/2026/06/Nutzung-KI-in-der-SRG_en.pdf

The **economical** layer extends beyond writers’ instant control. For a media organization, journalism is business. On this layer, ethics as “the creation and evaluation of goodness” (.,1.3) is expected to include the idea of collective success and growth. This means strengthening the organization in a context of competition, not only of other journalistic media, but also of other agents such as social media, both in content and advertising markets. With their rules, media managements create the conditions that enable or constrain bottom-up solutions from the newsroom (Table 4.4).

Table 4.4 Ethical recommendations for media management

Activity focus	Activity field	Ethically recommended writing practices
UNDERSTANDING AI INCLUSION Developing a clear organizational view before integrating AI in the newsroom	PREPARING FOR	ASSESSING AI RISKS AND OPPORTUNITIES
	INFORMED DECISIONS	IDENTIFYING WORRIES AND BARRIERS
	Gathering and	PONDERING THE WINS BEFORE ADDING AN AI TOOL
	discussing information	SEEING USAGE ISSUES BEFORE BUYING A TOOL
	on SWOTs of AI tools	INTERVIEWING TOOLMAKERS BEFORE BUYING A TOOL
		DISCUSSING AI ISSUES WITH OTHER STAKEHOLDERS
		COMBINING ETHICS AND INNOVATION
	ENVISAGING THE RIGHT TOOLS	WAITING FOR THE RIGHT TOOLS TO BE AVAILABLE
	Focusing on strong, yet realistic wins when evaluating potential AI tools	CHOOSING AI TOOLS THAT FIT INTO ONE’S SYSTEM
		TELLING AI ASSISTANTS FROM AI AGENTS
	CONSCIOUSLY SHIFTING FROM AI TO AGENTIC AI	
	OPTING FOR TECHNICALLY ROBUST AI SYSTEMS	
	CONSIDERING CREATING ONE’S OWN AI TOOL	
	OMITTING TOOLS THE SURVEILLANCE INDUSTRY USES	
MANAGING EXPECTATIONS	BUILDING AND MANAGING EXPECTATIONS CAREFULLY	
Preventing disappointment in the management and the newsroom	AVOIDING CONSIDERING AI THE MAGIC SOLUTION	
AVOIDING PITFALLS:	... TECHNO-SOLUTIONISM	
REALIZING THE RISKS	... DATA COLLECTION WITHOUT INFORMED CONSENT	
OF ...	... AI RANKINGS IN PUBLIC DISCOURSE	
	... ALGORITHMIC BIAS	
	... DEEPENING DIGITAL GAPS	
	... CREATING NEWS ECHO CHAMBERS	
	... MISINFORMATION	

Table 4.4 (continued)

Activity focus	Activity field	Ethically recommended writing practices
SETTING STANDARDS AND GUIDELINES Defining the scope for AI integration ...	FOCUSING ON KEY ISSUES	FOCUSING ON ACCOUNTABILITY AND RESPONSIBILITY
	Laying down rules for relevant areas of ethics in journalism with AI	FOCUSING ON FUNCTIONAL TRANSPARENCY
		FOCUSING ON IMPARTIALITY
		FOCUSING ON PRIVACY AND CONFIDENTIALITY
		PROTECTING OWN CONTENT FROM AI SCRAPING
		REGULATING CERTAIN PRACTICES
	DEFINING THE DEGREE OF OBLIGATION	ALLOWING OR FORBIDDING CERTAIN PRACTICES
	Being clear about what (not) to do in the newsroom with AI	BANNING THE USE OF AI IN THE NEWSROOM
		IMPOSING PENALTIES FOR AI MISUSE
	ALIGNING AI GUIDELINES: ... WITH ONE'S ...	... MISSION ... ETHICAL CODE ... PROFESSIONAL CODE
MAKING USEFUL GUIDELINES Formulating and curating guidelines that are inclusive, clear, and up-to-date		INCLUDING A DIVERSE GROUP TO DRAFT GUIDELINES
		ESTABLISHING CLEAR AI POLICIES
		UPDATING GUIDELINES REGULARLY
	SHARING AI GUIDELINES	MAKING GUIDELINES AND MANUALS AVAILABLE
	Using guidelines to connect and align with stakeholders	ALLOWING PARTNERS TO ADAPT ONE'S GUIDELINES
		STRIVING FOR INDUSTRY DIALOGUE AND STANDARDS
STRENGTHENING JOURNALISTIC CORE COMPETENCES Preserving journalism's unique selling point	STRENGTHENING DOING JOURNALISM	MAKING JOURNALISM THE CENTER AGAIN
	Using AI to leverage journalistic values in the competition in public discourse	STAYING TRUE TO CORE JOURNALISTIC VALUES
		ASSURING JOURNALISTIC QUALITY FOR ALL CONTENT
		ENSURING MEDIA QUALITY
	REBUILDING JOURNALIST COMPETENCE	... ENGRAVING JOURNALISTIC VALUES IN ALGORITHMS
		... ACCOUNTABILITY OF PROCESSES AND PRODUCTS
		... EXPLAINABILITY OF PROCESSES AND PRODUCTS
	When shaping AI tools, ENSURING ...	... TRANSPARENCY OF PROCESSES AND PRODUCTS
		... TRUST-BUILDING THROUGH TRANSPARENCY
	FOSTERING BEING A HUMAN JOURNALIST: FOSTERING ...	... HUMAN JOURNALISM ... HUMAN DECISION-MAKING WHEN USING AI ... USING THE TIME SAVED FOR HIGH-VALUE TASKS

Table 4.4 (continued)

Activity focus	Activity field	Ethically recommended writing practices
UPSCALING THE USER EXPERIENCE	IMPROVING KEY ASPECTS OF JOURNALISM	IMPROVING WEBSITE QUALITY
	Making journalism more attractive for the audience	EXPLAINING THE HUMAN EDITORIAL PROCESS STRENGTHENING MULTIMEDIA EXPERIENCE CREATING PERSONALIZED NEWS EXPERIENCE
Improving the interface with the audience	IMPROVING UX OF MEDIA MARKETING	IMPROVING AUDIENCE ENGAGEMENT INSTALLING LOOPS FOR SOLID AUDIENCE FEEDBACK
	Strengthening customer relations with the audience	ASKING THE AUDIENCE ABOUT NEWS PERSONALIZATION SATISFYING AUDIENCE NEEDS
	IMPROVING AUDIENCES' AI LITERACY	EDUCATING THE AUDIENCE ABOUT AI USING THE SAME LANGUAGE ON AI IN THE MEDIA
	Helping the audience to understand AI better and use it in more reflective ways	SHARING FEEDBACK ON AI USE WITH THE AUDIENCE SHARING INFO ON AI USE TOGETHER WITH CONTENT
GROWING THE BUSINESS	POSITIONING ONESELF IN COMPETITION	AVOIDING BEING LEFT BEHIND IN COMPETITION PROTECTING THE BUSINESS MODELS OF JOURNALISM
	Finding one's niche as an organization within one's domain	STAYING INDEPENDENT FROM THE AI INDUSTRY WATCHING OUT FOR CLICKBAIT FARMS
Increasing the audience, advertising volume, and financial revenue	REDUCING COSTS	IMPROVING WORKFLOW EFFICIENCY
	Making journalistic text production more efficient and effective	INTEGRATING AI EFFECTIVELY PREFERRING COST AND ENERGY-EFFICIENT AI REDUCING WORKFORCE AND SAVING MONEY
	SCALING SOLUTIONS UP	KEEPING SOURCE BASES TRANSPARENT
	Designing tools and workflows in ways that allow for networked growth	KEEPING TOOLS AND DATA BASES UP-TO-DATE SHARING AI RESOURCES WITH OTHER NEWSROOMS BUILDING RELATIONSHIPS WITH AI PLATFORMS
	OPENING NEW BUSINESS AREAS	ATTRACTING NEXT GENERATIONS OF AUDIENCES BUILDING NEW BUSINESS MODELS FOR JOURNALISM
	Using AI to reach out to new customers and businesses	

On the **societal** layer, media policy-makers lead the metadiscourse on AI tools in the newsroom. Be it in framework guidelines for a country's media or in written mandates for specific public service media, policy-makers must ensure that the

media contribute to achieving societal goals. Of course, these goals differ fundamentally between, for example, democracies and oligarchies. Media in democracies tend to be expected to contribute to fostering social cohesion and to promoting public understanding. External regulators contribute to this goal by providing hard and soft resources (Table 4.5).

Table 4.5 Ethical recommendations for external regulators of media

Activity focus	Activity field	Ethically recommended writing practices
PROVIDING HARD RESOURCES	Allocating funding:	ALLOCATING PUBLIC FUNDING TO JOURNALISTIC MEDIA
	Steering media markets by finance	FINANCING AI RESEARCH WITH NEWS ORGANIZATIONS FINANCING AI RESEARCH FOR MEDIA IN NEED
Creating financial and regulatory frameworks for ethical AI use in the newsroom	Regulating AI use:	REGULATING PROCUREMENT FOR MEDIA IN NEED
	Steering media markets by rules	BINDING STAKEHOLDERS TO ETHICAL STANDARDS PROTECTING CITIZENS' ACCESS TO INFORMATION PROTECTING ARTICLES FROM BEING AI SCRAPED PROTECTING JOURNALISM FOR ITS CIVIC VALUE RESTRAINING PLATFORMS AS MONOPOLISTS SECURING FAIR TOOL DEALS FOR MEDIA IN NEED
PROVIDING SOFT RESOURCES	Connecting stakeholders:	... CROSS-SECTOR COLLABORATION
	FOSTERING ...	... KNOWLEDGE SHARING AND NETWORKING ... THE DEVELOPMENT OF OPEN-SOURCE AI TOOLS
Fostering social and educational conditions for ethical AI use in the newsroom	Fostering evidence-based learning:	... AI TRAINING FOR JOURNALISTS ... SUCH TRAINING FOR UNDERPRIVILEGED MEDIA
	FOSTERING ...	... CIVIC EDUCATION IN AI LITERACY ... ETHICAL GUIDELINES BY PRACTITIONERS ... RESEARCH ON JOURNALISTIC IMPACT ... TRANSPARENT AI USE IN THE NEWSROOM ... TURNING STANDARDS INTO PRACTICE

4.3 Activity scopes

Activity scopes result from agents' **role foci**. Whereas the layers refer to intended outcomes of an activity, the scopes draw a link to its origin. As individuals, journalists use AI tools to make their next news piece in time. As a newsroom team and a learning organization, they evaluate, alter, and use AI tools with the goal of improving workflows. As members of a professional community, they help steer their profession toward or away from certain types of AI tools and practices and their public perception (Table 4.6). Scopes combine and roles collaborate on each of the four layers of activities.

Table 4.6 Activity scopes of HANDLING TOOLS ENVIRONMENT

Activity scope →	Micro:	Meso:	Macro:
Ethical principle ↘	Using AI tools to make a news piece	Implementing AI tools in a newsroom	Shifting toward AI tools as a profession
	↑ Individual journalists use a tool to make a sound news piece	↑ These journalists' organization or newsroom implements or uses the tool to improve their workflows	↑ The profession of journalism positions itself by using AI writing tools in, e.g., creative and ethically correct ways within the language and media industry and society at large

The **micro** scope of an activity shows a journalist’s use of a tool to reach a goal in a newswriting process. In a case study we term **SWISSAI** (→4.5), the journalist SP uses the Bakerstreet tool to generate hashtags for her LinkedIn blogpost. Bakerstreet is an AI tool developed and fostered by the Swiss public service broadcaster SRG. The journalist works for SRG’s international outlet called Swissinfo (SWI). As she puts it in a retrospective verbal protocol (→3.4), she highly appreciates Bakerstreet’s capacity to automatically generate suitable hashtags for blog posts (Figure 4.2).

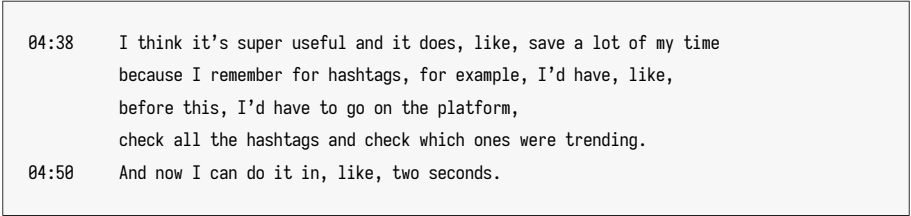


Figure 4.2 SP on a Bakerstreet feature. Source: swi_251113_pasino_swissai_rvp

The **meso** scope reframes the activity of using Bakerstreet’s hashtag functionality on the organizational level. By using Bakerstreet frequently to generate hashtags, the journalist SP provides quantitative feedback to her colleague RV, an in-house AI expert who customizes Bakerstreet according to the needs of the SWI team. Moreover, by evaluating this functionality positively in meetings with RV and other colleagues involved with AI implementation, she reinforces her quantitative feedback with qualitative information in cycles of mutual learning (Figure 4.3).

```
0291     there's a new person who's called P[...]
0292     and he is in charge of like seeing
0293     how we're going to use AI in the future.
0294     and that's why he was like kind of doing interviews as well
0295     and asking questions like,
0296     where would you need it, blah, blah, blah.
```

Figure 4.3 SP on tool feedback loops

Source: swi_251113_pasino_swissai_frame_interview

The **macro** scope shows the feedback loops between the journalist SP, the AI expert RV, and their organizational environment as a purposeful and institution-alized procedure to jointly develop independent AI tools according to practical needs. By developing their own AI tool, SRG minimizes, for example, the risks of data leeches related to globally available AI tools. In doing so, the media company responds to the command of transparency and sovereignty formulated in codes of professional ethics. And by using Bakerstreet and providing feedback, SP sup-ports this development.

So far, we have shown and discussed activities of HANDLING TOOLS ENVI-ronment through the lens of ethics. Seen through the lens of creativity, an activ-ity such as using Bakerstreet to automatically generate a blogpost's hashtags may seem underwhelming. A closer look at the layers and scopes, however, supports the assumption that individual activities in context scale up. They turn out to be not only the consequences of given contexts, but also the drivers of change. This creative potential of seemingly trivial, isolated activities increases in ethical dilem-mas (→4.4) – but there is more (→4.5).

4.4 Ethical dilemmas of AI use

AI use is seen as **controversial** in society at large. Criticism foregrounds issues such as hidden bias, fake information, energy demand, and losses of privacy and jobs (e.g., Marres, Katzenbach et al., 2025). Similar concerns are raised in the metadiscourse on AI tools in the newsroom. Based on our document analyses (→4.2), we summarize them as four dilemmas (Perrin, Delaloye et al., 2028, in prep.). On the four layers of HANDLING TOOLS ENVIRONMENT, they are debated across stakeholders, such as policy-makers, platform providers, toolmakers, media organizations, and journalists (Table 4.7).

Table 4.7 Contexts for ethically recommended practices of including AI tools in newswriting

Activity scope	→	Micro:	Meso:	Macro:
Activity layer	↓	Using AI tools to	Implementing AI	Shifting toward AI tools
Ethical dilemma	↘	make a news piece	tools in a newsroom	as a profession
Societal:		Reflecting, developing, and discussing professional AI ethics...		
Reflective positioning		...while tech-driven plutocracy is rapidly eroding human rights		
Economical:		Following and setting pace in professional competition...		
Being competitive		...and swift de-professionalization of public discourse		
Operational:		Using the tools to be fast, true, and transparent ...		
Doing things properly		...under the threat of being replaced by AI		
Instrumental:		Handling and understanding AI tools...		
Handling tools right		...in accelerating technological change		

On the **instrumental** layer, users are expected to handle an AI tool technically right. Here, the dilemma consists of going deep vs. going fast: Should I, as a journalist, invest my time in thoroughly understanding a new tool with all its potential enablements and constraints? This leaves me with less time for crafting my next pieces of news (micro scope). Would I actively engage in projects of AI appropriation in my newsroom (meso), given the accelerating technological change in my profession (macro), where new tools arrive rapidly and render my instrumental skills obsolete (Figure 4.4)?

Furthermore, not all users are likely to possess strong technical skills, and some will require clear and understandable guidance on how tools work and how to use them.

Figure 4.4 Guidelines on the instrumental layer. Source: COE_2023_6135 | 34533,34704

On the **operational** layer, tools enable users to do their work properly. For example, proper AI use can minimize typos or coherence gaps and result in LinkedIn posts with useful hashtags generated in no time. However, the more I use an AI tool in professionally sound ways to craft my pieces (micro scope), the more I train AI to do my job in the newsroom without me (meso). Even worse, I contribute to making my profession redundant, since AI can mimic public discourse at much lower costs. This has led to the ethical recommendation to media managers of fostering human journalism (Figure 4.5).

L'IA doit renforcer les capacités de travail des équipes [...] SANS les remplacer.
AI should enhance the working capacity of the [...] teams WITHOUT replacing them.

Figure 4.5 Guidelines on the operational layer

Source: DALTON_2025_5994 | 1192,1328

On the **economical** layer, proper tool use is expected to save resources. Over time, this increases a media organization's competitiveness. As a journalist, I am interested in contributing to my employer's success. It helps secure my job and grow my reputation. On the flip side, this strengthens AI as a potential rival of journalism: It benefits AI-driven para-news outlets, such as AI-generated personal newsfeeds on social media. These represent intense competition for journalism in both the audience and the advertising markets. Hence the following ethical requirement (Figure 4.6):

Distribution platforms must embed journalistic values into their AI systems.

Figure 4.6 Guidelines on the economical layer

Source: PARTNERSTHIPONAI_2023_6134 | 13512,13586

On the **societal** layer, successful tool use frees time and enables me as a journalist to critically discuss AI tools. Deep knowledge from experience underpins my reflection in the workplace and in my articles. Yet, however reflective my analyses and recommendations may be, by using AI and discussing it publicly, I risk channeling data and money into an industry that is increasingly being criticized as tech plutocracy marginalizing its critics (e.g., Robertson, 2022). Therefore, guidelines for media policy-makers recommend encouraging collaboration across stakeholder groups (Figure 4.7):

"Encourage cross-sector collaboration: Newsrooms, NGOs, platforms and academic institutions can work more closely to support AI-related research, development and learning."

Figure 4.7 Guidelines on the societal layer

Source: RADCLIFFE_2025_6066 | 72544,72906

4.5 Creative emergent solutions

Ethical dilemmas meet the criteria for wicked problems (→1.2). If they were not both relevant and persistent, they would not be mentioned in most of the documents analyzed (→4.2). Solving such wicked problems requires categorically new, emergent solutions (Brown, Harris et al., 2010). As showed in earlier projects on newswriting, these solutions tend to emerge from the ground floor of media organizations, namely in the newsroom (Perrin, Burger et al., 2008). The case story (a) termed *SWISSAI* (b) shows that this happens along rich points (c) and generates powerful learnings (d).

a. The case story model

What we call a case story is a concise **ethnographic genre** we have used in our series of projects (→3.5) to transform the knowledge generated across stakeholders. This genre blends the three layers of progression analysis (→3.4) with a five-phase model from classical narratology: exposition, complication, evaluation, resolution, and coda (Perrin & Zampa, 2018, p.175). In doing so, it takes the reader from the background of a case study with its routines to a new assignment and its unique process, conflicts, solutions, rich points, and lessons learned (Figure 4.8).

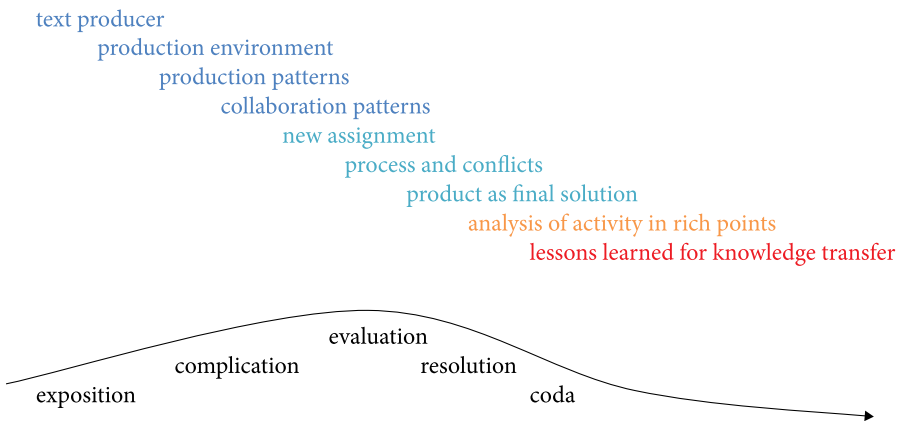


Figure 4.8 *SWISSAI*: Scaffolding the case story, with its steps and suspense dynamics

On the first level, PA uses ethnographic observation, interviews, and document analyses to gather information about the context of a case study: the writer's biography, production environment, and usual patterns of text production and collaboration. In narratology, this corresponds to the **exposition** as the description of the state from which the story will evolve. In the *SWISSAI* case story,

the exposition shows that SP is a young, yet quite experienced journalist with an international track record, fully integrated in a highly international and networked newsroom.

On the second level, PA uses video recording and keystroke logging to track in detail what writers actually do when they produce their text. Starting from a new assignment, the text production process is captured until the product is publication-ready. Problems and conflicts can leave their traces in this phase of the journalistic workflow. In narratology, this phase corresponds to the sequence of **complication**, **evaluation**, and **solution**: problems occur, options are evaluated, and solutions emerge. In the SwissAI case, SP finds ways to benefit from the strengths and avoid the pitfalls of her AI tools.

On the third level, PA uses retrospective verbal protocols (RVPs) to open a window into writers' minds. While watching recordings of their activity, writers are encouraged by researchers to remain in the flow of explaining what they did and why they did it. The resulting protocol is coded as data about writers' language awareness and repertoire of writing strategies (Perrin & Ehrensberger-Dow, 2006). This **emic**, inner view complements data on the **etic**, outer view from the second level of PA. In the SwissAI case, it reveals SP's reasoning as she moves from the problem to her solution.

Taken together, the three levels of PA allow researchers to identify rich points (Agar, 2004) in case studies: moments, in which agents break out of their routines to realize a creative solution. Like in the narrative **coda**, the solution can scale up from the micro level to the meso and macro levels — here, of text production: the newsroom, journalism, society at large (→4.5.d). By doing so, it could contribute to solving a wicked problem. Extended ethnographies have shown that solutions to wicked problems tend to emerge bottom-up, from “positive deviants” (Pascale, Sternin et al., 2010).

b. The SwissAI case story

The name of this case story derives from the topic of the text SP deals with: She is to write a social media post for LinkedIn as a teaser for an article written by one of her colleagues. This article discusses Switzerland's dependency on American and Chinese AI infrastructure. Experts quoted in the article argue for an IT strategy of Swiss **sovereignty**, which includes developing substitutes for widespread digital tools such as Microsoft Office and Chat GPT. While following the standard pattern of PA case stories (→4.5.a), the SwissAI case story explains how SP's post came about (Box 4.1).

Box 4.1 SWISSAI: The case story in the standard format of extended progression analysis

This case study examines the advantages and costs of crossing the boundaries of tools in times of disruption. While working on social media posts and user comments, the journalist spends time and energy combining individual AI tools for specific tasks, rather than using the integrated newsroom tool, which in her experience is “not strong enough for now.”¹⁴

Journalist: SP “always wanted to be a journalist.”¹⁵ In Italy, she studied language mediation and intercultural communication. During an Erasmus student exchange project, she “fell in love” with her host city, Cardiff.¹⁶ She went back there in 2019 for her master’s in international journalism and a job as a radio speaker. In 2020, Covid took her back to Italy, where she was hired at a local newspaper and joined an online university program in English and Russian literature. From 2021 to 2023, she worked as a journalism researcher for BBC Education in Manchester. In 2023, she moved to Switzerland to work as an online journalist at the Swiss international public service broadcaster Swissinfo (SWI).

Newsroom: In terms of size and complexity, SP considers SWI to be “in between” her small Italian newsroom and the BBC.¹⁷ SWI presents itself as “The Swiss voice in the world since 1935.”¹⁸ At SWI, multimedia journalists from 15 countries publish in 10 languages.¹⁹ Some 100 staff work at the headquarters in Bern,²⁰ complemented by 120 freelancers worldwide. SWI is organized in departments,²¹ teams,²² and topic-related “beats.”²³ SP works for the English department as a news journalist, for the Distribution department to advertise SWI stories on social media, and for the Multimedia department as an e-video journalist. At SWI, “most people are in like different teams.”²⁴

14. “If we had one integrated tool, it would be easier — but still the individual tools are much better. Bakerstreet is not strong enough for now. In my job, I have to use different tools.” swi_251113_pasino_swissai_frame_observation, 15:30

15. “I always wanted to be a journalist, [...] I think that made it easier for me.” swi_251113_pasino_swissai_frame_interview, 0006–0008

16. “[...] yeah, I loved it. I fell in love with Cardiff. I was like, I want to go back.” swi_251113_pasino_swissai_frame_interview, 0016

17. The BBC “was proper like corporate. So it was like everything I wrote, I had something like four people who had to go through it.” swi_251113_pasino_swissai_frame_interview, 0106–0110

18. <https://www.swissinfo.ch/eng/about-swi/>

19. These ten languages include Switzerland’s national languages of German, French and Italian, as well as English, Spanish, Portuguese, Russian, Arabic, Chinese, and Japanese.

20. 70 of these staff work in editorial departments, 30 “in distribution, multimedia, information technology, marketing and partnerships, corporate communications, and administration.” <https://www.swissinfo.ch/eng/about-us/working-in-a-diverse-team/47918642>

21. Departments are related to SWI’s ten target languages (see FN 19).

22. Teams include, e.g., journalists, multimedia producers, and distribution managers.

23. What SWI calls “beats” includes the topics Geopolitics, Democracy, Science, Swiss Identity, Economy, Swiss Abroad.

24. “[...] generally people are divided into like languages, but also like beats. So it’s like if you- beats are basically the topics that we cover. So people are also like, most people are in like different teams.” swi_251113_pasino_swissai_frame_interview, 0157–0160

Production patterns: One of SP's key jobs at SWI is writing social media posts. She pens about one or two a day to advertise the main articles on the SWI website. Another daily job is checking comments: Once every morning, she reads through audiences' social media comments on SWI debates on her laptop or phone in order to hide comments that breach SWI's ethical guidelines. This job can take up to three hours a day. Finally, SP scripts, films, speaks, and edits videos,²⁵ "usually [...] one per week" (302). Making a video takes her between four hours and a full day. When speaking in front of the camera, she often adapts her text from the script on the fly to make it sound natural.

Collaboration patterns: Routinized interaction includes organizing daily workflows across SWI departments and teams, as well as contacting colleagues and superiors before hiding a tricky social media comment.²⁶ Intense collaboration results from SWI's linguistic adaptation. Videos are subtitled²⁷ and translated²⁸ using AI tools. However, this does not seem to stimulate audience engagement.²⁹ Therefore, some videos appear in multiple languages based on the same script, but culturally adapted, with one speaker per language in front of the camera.³⁰ A third option, tested by SWI, is to have AI add a voiceover translation.³¹

Assignment: On November 13, 2025, at 10:30 a.m., SP starts to write a LinkedIn "carousel post" to promote an article written by one of her colleagues. The article is entitled "Switzerland must not give in to the Big Tech narrative" and discusses how the country "can be more indepen-

25. SP's job can be behind or in front of the camera — and often she does both "because again, we don't have a lot of resources. Sometimes it's just me, and I have to prop it up on a tripod and film it myself," speaking to the camera as a narrator in her media item. swi_251113_pasino_swissai_frame_interview, 0006–0213–0214

26. "If there's something I'm unsure about or it's a bit tricky, I'll contact the person who hosted the debate. If it's really bad, like the head of audience, obviously." swi_251113_pasino_swissai_frame_interview, 0242–0244

27. <https://www.titletool.de/?lang=en>

28. <https://www.deepl.com/en>

29. "[...] what we've seen is that, for example, like our Chinese audience, if they see someone speaking in English, even if they have Chinese subtitles, they don't really engage with it as much. So the idea is that [...] you should do a video in your native language." swi_251113_pasino_swissai_frame_interview, 0381–0387

30. In such cases, a multilingual journalist can cover more than one language, which helps save time. "I think this last one that we did was actually more efficient because it was just two of us. So I was doing the English and the Italian and my colleague and me were doing the German and the French. And I think that that cut down the times quite a lot because we basically- I wrote the script in English. I get it checked and approved. Then we translated it. So we have the script. We go out, same time we film all four versions, which took us an hour-ish. And then I come back and edit everything." swi_251113_pasino_swissai_frame_interview, 0330–0338 "[...]we actually did it in seven languages. So, I filmed with every single journalist in every single language. So, it was English, Japanese, Chinese, Russian, Arabic, Portuguese, and Spanish. [...] all the same day." swi_251113_pasino_swissai_frame_interview, 0451–0457

31. "So, I think now it would be still me speaking in English, but then having my voice in Chinese as well." swi_251113_pasino_swissai_frame_interview, 0436–0437

dent from tech giants like Microsoft when it comes to artificial intelligence.”³² SWI’s carousel posts on LinkedIn include a “blurb” of two to three paragraphs with hashtags and a link to the main SWI article, followed by four to five slides, each with a photo from the Keystone media archive and a caption of up to 100 characters. She is not under any great time pressure; the text needs to be published the following day.

Process and conflicts: SP starts by reading her main SWI source text, the one she is expected to promote with her LinkedIn post. While and after doing so, she jots down the main points she remembers by hand in her personal notebook.³³ Only then does she open an MS Word file to write her text before copy-pasting it to SWI’s Adobe templates for the LinkedIn carousel post. In addition, she uses Bakerstreet, an AI tool developed by SWI’s mother company SRG, to draft the post, proofread the final product, and curate links and hashtags. Switching between these tools takes time: There is ten times more tooling than writing.³⁴ Under time pressure, this could lead to stress or missed deadlines.

Product: The final carousel post mirrors the overlap of SP’s hand-written main points of the source text and Bakerstreet’s AI suggestion for the text structure.³⁵ The linguistic choices on lower levels mainly result from SP’s detailed reformulation of the sentences and wording that were suggested by AI. Moreover, all the facts referred to in the text are double-checked by SP, and so are the hyperlinks and hashtags.³⁶ The Adobe file containing the entire piece is uploaded to the LinkedIn platform and scheduled for publication the next day at 5 p.m.,³⁷

32. <https://www.swissinfo.ch/eng/swiss-ai/switzerland-must-not-give-in-to-the-big-tech-narrative/90312033.webloc>

33. SP’s notes, taken by hand in her notebook: “Switzerland’s dependence on big AI tech companies | CH heavily dependent on foreign digital technologies (75%) | Quote from Stürmer | Digital sovereignty | Should Switzerland build its own digital infrastructure > Apertus”. swi_251113_pasino_swissai_frame_observation, 13:00

34. Only 69 of 633 actions – 11% – include inserting new text into and deleting text from the emerging piece. swi_251113_pasino_swissai_screenrec

35. “**The problem:** Switzerland is heavily dependent on foreign AI. 75% of its companies and the government rely on big tech platforms like Microsoft’s Copilot and OpenAI’s ChatGPT. | **The risk:** This reliance raises security alarms. Experts warn that data stored in foreign clouds could be accessed by other governments, posing a threat to Switzerland’s national security and digital autonomy. | **The “gilded prison”:** Critics describe this dependency as being locked in a “gilded prison” of expensive digital services, with the Swiss government spending millions to renew licenses with US tech giants. | **The Swiss answer:** A push for “Digital Sovereignty.” Switzerland is investing in its own solutions, such as the “Apertus” project – the country’s first fully open and public large-language model (LLM). | **The debate:** Is true AI independence possible? Some experts are skeptical, pointing out that key resources like computer chips are still dominated by the US and China. | **A global movement:** Others are optimistic, seeing projects like Apertus as proof that sovereign, open-source AI is a realistic alternative. Switzerland is part of a growing number of nations building their own AI future.” swi_251113_pasino_swissai_screenrec, 21:53

36. “I was also checking the hashtags because sometimes it’s happened that they were a bit random. So yeah, just checking to make sure.” swi_251113_pasino_swissai_rvp, 20:23

37. Corresponding actions: Clicking the clock button to schedule the post. | Setting “11/14/2025” and “5:00 PM” as the publication time. swi_251113_pasino_swissai_screenrec, 58:42

while the MS Word file containing the written text is ready to be taken up and translated to other language versions of the post.³⁸

Rich points: SP appreciates linguistic differences such as the one between her own choice “experts warn” and the AI-proposed “experts say.” She says she would not leave the formulation of text to AI.³⁹ This commitment to quality results in a critical openness towards AI. Rather than being overwhelmed and blinded by all her tools’ temptations, she carefully self-monitors her text production process and combines her proper writing skills and high standards with testing and evaluating the tools’ strengths and weaknesses on the go. In doing so, she aims to ensure her text product’s quality while optimizing her individual workflow and contributing to the AI transformation of her newsroom.⁴⁰

Lessons learned: Combining not-yet-integrated AI tools in the newsroom comes at the cost of switching between multiple screens and tool logics. Going back and forth between the tools can be so time-consuming and distracting that an experienced writer may prefer avoiding the generative AI tool and writing the text on their own, in their language, and with their understanding of linguistic quality.⁴¹ However, when it comes to supportive tasks such as suggesting emojis and hashtags or proofreading, AI is highly efficient and can free writers from “boring stuff.”⁴² Finding pictures in the image database would also be such a task, but is not (yet) supported by AI in SP’s toolbox.⁴³

38. “So usually I would send this to the other languages to translate as well. And for them, it’s easier to have them in a Word doc.” swi_251113_pasino_swissai_rvp, 33:50

39. “Yeah, this is the thing because obviously it was suggesting like *experts say* and then I think the risk there is that I would just, yeah, use that. But in my head, actually, the verb *warn* was better because it’s more impactful. So I think sometimes it can be tricky when like it suggests something because it doesn’t allow you to creatively-. In this case, I think *warn* just works so much better because it’s like, oh, it’s a risk. But obviously the tool says, you know, because this is just AI. So it’s like often they see *experts say*, so they will just suggest that, but it takes away.” swi_251113_pasino_swissai_rvp, 13:19

40. “I think, I mean, I wouldn’t use Bakerstreet for this, probably. I mean, we have, obviously, we have been asked to use it and we’ve, I think this is still when we were in the testing phase to give feedback, so obviously I would use it, but I think, honestly, if I needed, especially if I was like in a rush, I probably would just read the thing and do it myself.” swi_251113_pasino_swissai_rvp, 29:37

41. “And honestly, I find this is the, because I find it really hard to like rewrite. Like it would have been so much easier for me to just write it in the first place.” swi_251113_pasino_swissai_rvp, 30:54

42. “The boring stuff and the stuff that actually takes a lot of time.” swi_251113_pasino_swissai_rvp, 04:57

43. “Yeah, for example, like, I’m actually now thinking that maybe we can ask the AI team here if they can, like, with Bakerstreet, if there is a way like where we can write down, like, I need an image of this, this and that, where this, this and that feature and then it can find it in Keystone because that could save a lot of time actually. So, yeah, I think probably would be for me at least more useful than having it write a text that then I have to change.” swi_251113_pasino_swissai_rvp, 36:02

SwissAI is one of the early case studies conducted between 2025 and 2027 in the newsroom of **Swissinfo** (SWI). This media portal is part of the above-mentioned media organization SRG SSR, Switzerland's public service broadcasting company. SWI's specific mandate is to explain "what drives Switzerland"⁴⁴ to both Swiss expats and an international audience interested in Switzerland. Publishing in ten languages by default, SWI has developed an elaborate system of multilingual text production, combining AI translation with cultural adaptation and quality control by humans.

In 2025, AI tools started to be evaluated and introduced beyond translation, along the entire workflow of SWI. In addition, austerity measures were to be expected. Gaining access to the newsroom during such a challenging transformation phase was only possible due to two key elements of transdisciplinary research projects: First, the researchers could draw on personal networks and trust in the field, both on the levels of media management and the journalists themselves. Second, the practical outcomes on the horizon promised benefits for SWI and its journalists.

This usefulness could also be rooted in a contract that wants the researchers to publish only findings catering to media management's needs. Such research can underpin a manager's decision in internal debates and strengthen a media organization's legitimacy in public discourse. However, in addition to contradicting basic research **ethics**, such deals tend to destroy the legitimacy and reputation of the researchers involved and research in general. In transdisciplinary research, a third way has been developed that overcomes the usual differences between practical and scientific expectations.

This third way out of the TD dilemma is the ethnographic **good practice story**. It discusses critical issues as rigorously as the positive ones, but never connects them to individual agents. Instead, it weaves them into synthetic cases or communicates them as generalized findings, for example in the story's exposition, where they contribute to a deeper understanding of the wicked problem. What the real case story aims to identify and foreground, then, is not the usual failures so far, but the emergence of success, namely the rich points on the way to solving the wicked problem.

c. Rich points

Rich points occur when writers make local decisions that **scale up** to the level of overarching problems and solutions. Before diving into four types of rich points in the SwissAI case, a quick tour of the textual pillars of SP's text production

44. <https://www.swissinfo.ch/eng/>

process might be helpful. After COMPREHENDING THE TASK (→2.3), SP started the process by reading the source text she was to advertise in a LinkedIn post. She then prompted her newsroom's custom-made AI tool Bakerstreet to suggest a bullet point summary in the format of the LinkedIn post. The final post differs considerably (Figures 4.9 to 4.11).

The screenshot shows a web page from swissinfo.ch. The header includes the SWI logo and the tagline 'The Swiss voice in the world since 1935'. Below the header, the article title is 'Switzerland must not give in to the Big Tech narrative'. A sub-headline reads: 'Switzerland can be more independent from tech giants like Microsoft when it comes to artificial intelligence (AI), says a leading digital sovereignty expert.' Below the text are buttons for 'Listen to the article', 'Save', and 'Share'. The date 'November 12, 2025 - 09:00' and a duration of '6 minutes' are shown. The main text begins with 'Switzerland is heavily dependent on foreign digital and AI technologies. Some 75% of companies in the Alpine country mainly use AI platforms such as ChatGPT and Copilot (part of Microsoft) for tasks like text generation, coding and data analysis. This figure is in line with global trends.' The second paragraph starts with 'The Swiss government and its administration are also heavily dependent on the digital applications of large US technology companies, especially Microsoft. A change of supplier is considered 'too risky and costly', the administration wrote in a statement in 2023 announcing the switch to Microsoft 365.'

Figure 4.9 SwissAI: Beginning of the source text⁴⁵ that SP is to advertise on LinkedIn

45. <https://www.swissinfo.ch/eng/swiss-ai/switzerland-must-not-give-in-to-the-big-tech-narrative/90312033>

Can Switzerland escape Big Tech's grip?

Switzerland's companies and government depend heavily on foreign AI from giants like Microsoft. This reliance on Big Tech raises crucial questions about the country's digital autonomy and security.

Experts warn of the risks. With data stored in foreign clouds, concerns about security and political influence are growing. Is Switzerland locked in an expensive 'gilded prison' of digital services?

A movement for 'digital sovereignty' is gaining ground. With a strong research community and new open-source AI models, Switzerland is exploring ways to build its own independent digital future.

Is digital independence realistic or a utopia? Read the full analysis and share your thoughts in the comments.

Figure 4.10 SwissAI: Bakerstreet's bullet list summary of the source text

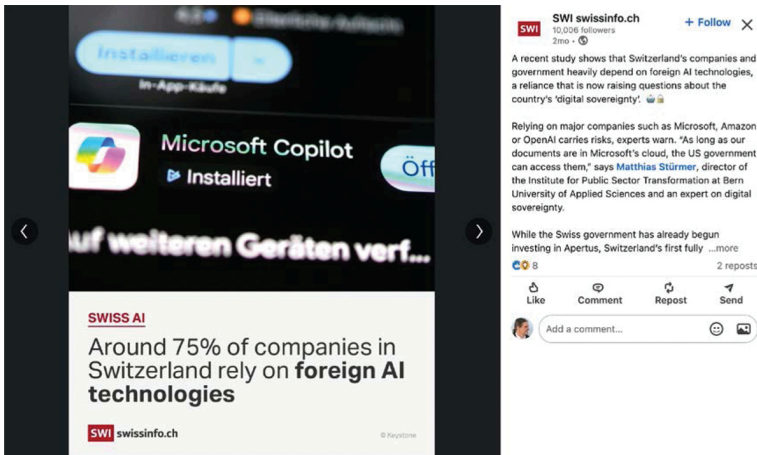


Figure 4.11 SWISSAI: Beginning of SP's final post on LinkedIn

The first type of rich point shows where **Bakerstreet** excels in SP's perception: the activity field of IMPLEMENTING THE PRODUCT (→2.3). This includes spotting typos, creating hashtags and hyperlinks, as well as ensuring SEO, search engine optimization (Figures 4.12 to 4.15). She checks suggested hyperlinks and does not count on AI to detect all the grammar and style issues. Nevertheless, AI saves her time and workload. Whereas using an independent AI tool such as Bakerstreet for this task does not interfere with journalistic ethics, it frees time for writing activities SP considers more creative.

11:18 It checks the spelling.
 11:19 [...]
 11:20 That's useful.

Figure 4.12 SwissAI: Checking the spelling of *sovereignty*

Source: swi_251113_pasino_swissai_rvp

04:21 Like, I do find it really helpful to, like, ask it,
 can you check for typos?
 04:25 For example, we use, like, British English spelling.
 04:28 So can you make sure that, like,
 there's no American English spelling in there?
 04:33 Or optimise for SEO, that's actually really good.

Figure 4.13 SWISSAI: Checking for typos. Source: swi_251113_pasino_swissai_rvp

04:36 Give me hashtags, like, stuff like that.
 04:38 I think it's super useful and it does, like, save a lot of my time
 because I remember for hashtags, for example, I'd have, like,
 before this, I'd have to go on the platform,
 check all the hashtags and check which ones were trending.
 04:50 And now I can do it in, like, two seconds.
 04:52 So that is super useful.

Figure 4.14 SwissAI: Having AI do side tasks. Source: swi_251113_pasino_swissai_rvp

20:23 I was also checking the hashtags
 because sometimes it's happened that they were a bit random.
 20:28 So yeah, just checking to make sure.

Figure 4.15 SwissAI: Checking AI-suggested hashtags

Source: swi_251113_pasino_swissai_rvp

The second type of rich point shows where SP finds that Bakerstreet **does the job** but still needs improving. On the one hand, she finds her in-house tool to be much slower than commercial ones. Asking Bakerstreet to summarize texts can result in torturous wait times as tight deadlines approach. On the other hand, SP perceives Bakerstreet's suggestions for text structures as predictable and uncreative. Outlining a LinkedIn carousel post, for example, always results in the same

dramaturgy. She then picks some of the points but alters their sequence (Table 4.8 and Figures 4.16 and 4.17).

Table 4.8 SWISSAI: Waiting for Bakerstreet’s next move

Source: swi_251113_pasino_swissai_screenrec

Time	Turn	Tool	Action	Text
07:09		Bakerstreet	Opening the source text in Bakerstreet, left column.	
07:10			Opening the “Prompt examples” overview, right column	
07:10			Choosing “SWISSINFO” > “Text prompts” > “Instagram post in English for regular followers”.	
07:19			Clicking to insert the source text into the AI window.	[source text]
07:20			Scrolling up to the top of the pasted source text.	
07:27			Waiting for the AI assistant to display its draft for the post.	
07:40			Hovering over the “Return to list” button at the top of the column.	
07:41			Scrolling up to the top of the source text in the right column.	
07:44			Scrolling down to the draft post that just was added by AI.	
07:45			Scrolling to the suggested hashtags at the end of the post.	
07:51			Scrolling up to the suggested post text itself.	
07:53			Highlighting and copying the suggested post and hashtags.	
07:55	12	MS Word		
07:56			Pasting the suggested post and hashtags	[AI-suggested post]

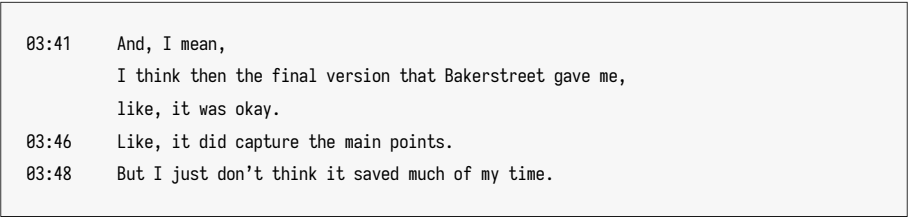


Figure 4.16 SWISSAI: Bakerstreet doing the job. Source: swi_251113_pasino_swissai_rvp

08:45 I probably wouldn't use it,
but the thing is that every single time you give it something,
it will use this thing.

08:51 So you will have this emoji
and then this little catchy headline question.

08:57 And then I was like, just imagine having an Instagram page
where every single post has this.

09:04 Obviously, people are going to get super bored.

10:24 Yeah, I remember
because basically, I was thinking that for LinkedIn,
it's always good to start with like a study
or like researchers, like professors, whatever,
because just that is a platform where you might want.

10:36 So I kind of just changed the first,
like reworded the first paragraph.

Figure 4.17 SWISSAI: Predictable AI suggestions. Source: swi_251113_pasino_swissai_rvp

The third type of rich point shows where SP **misses support** from her in-house tool. In her view, Bakerstreet would be the very tool to pick not only suitable hashtags and hyperlinks from the universe of digital resources, but also matching pictures from the millions in the Keystone image database she must draw on. Producing LinkedIn carousel blog posts is one of the frequent tasks in her job description, and each of these posts is built on a handful of images. Manually searching for these images in the database by exploring combinations of keywords burns precious time (Table 4.9 and Figure 4.18).

24:24 I mean, this is maybe something that it could help with, actually,
because I remember it took me a while
to find some like nice pictures for each of the slides.

Figure 4.18 SWISSAI: Wishing for help from Bakerstreet
Source: swi_251113_pasino_swissai_rvp

Table 4.9 SwissAI: Laborious manual image search

Source: swi_251113_pasino_swissai_screenrec

Time	Turn	Tool	Action	Text
34:00	76	Keystone SDA		
34:01			Pasting the copied name into the image search window.	
34:06			Having displayed only one image, of a footballer.	
34:08			Clicking the Keystone logo to get to the start page.	
34:11			Typing into the search field:	KI
34:20			Getting 14279 images as the search result.	
34:26			Scrolling down at skimming pace.	
34:29			Adding in the search field:	KI schweiz
34:36			Getting 1971 images as the search result.	
34:42			Scrolling down at skimming pace.	
35:45			Clicking an image showing ChatGPT in the app store.	
35:49			Viewing it in a higher resolution.	
35:51			Returning to the images catalogue.	
35:53			Replacing the last word in the search field:	KI schweiz > KI copilot
36:00			Getting 2 images as the search result.	
36:06			Deleting “KI” in the search window, leaving “copilot”	KI copilot
36:11			Getting 126 images as the search result.	
36:12			Scrolling down at skimming pace.	
36:24			Clicking an image showing a man on stage with two AI logos.	
36:26			Getting it displayed in higher resolution	
36:31			Moving the cursor over the caption in the images base.	
36:38			Returning to the “copilot” image search overview.	
36:40			Scrolling down and up at skimming pace.	
36:59			Clicking an image showing AI app logos on a cell phone.	
37:00			Viewing it in a higher resolution.	
37:05			Clicking the download button.	

The fourth type of rich point shows where and why SP wants to stay **ahead of AI**, as a matter of principle. All the above activities focused on the side tasks of writing, mostly in the fields of COMPREHENDING THE TASK and IMPLEMENTING THE PRODUCT. However, when it comes to crafting the piece itself, SP prefers relying on her own voice as a writer. She sees AI as imitating the average and knows that in writing she is above average. Thus, she uses her creativity to make linguistic choices that provide more accurate information to the addressees, in line with journalistic media ethics (Figures 4.19 and 4.20).

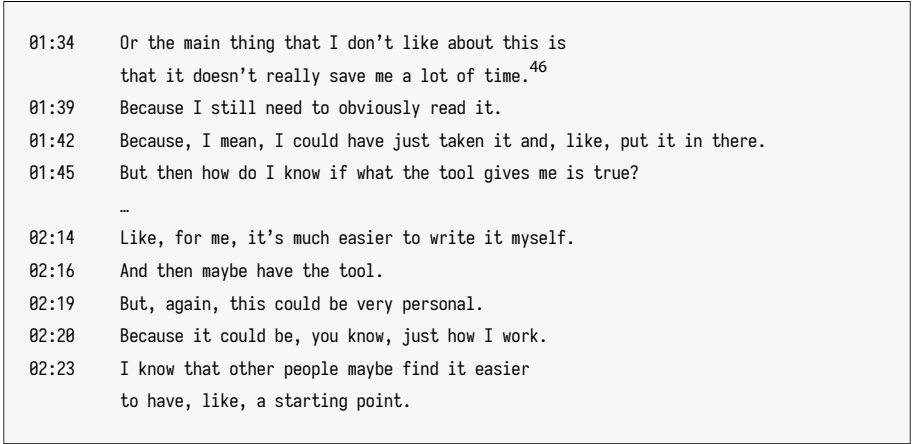


Figure 4.19 SWISSAI: Processing one’s sources oneself

Source: swi_251113_pasino_swissai_rvp

46. The AI-suggested text or formulation can be considered a model the writer has to evaluate before deciding to integrate it completely, alter it, or decline and formulate their own solution. Such model analyses on the go take time, as could be shown for digital writing in a different domain: fifth-grade Spanish learners of English as a foreign language (Criado, Garcés-Manzanera et al., 2026).

13:19 Yeah, this is the thing
because obviously it was suggesting like experts say
and then I think the risk there is
that I would just, yeah, use that.

13:29 But in my head, actually, the verb warn was better
because it's more impactful.

13:33 So I think sometimes it can be tricky
when like it suggests something
because it doesn't allow you to creatively-

13:42 In this case, I think warn just works so much better
because it's like, oh, it's a risk.

13:47 But obviously the tool says, you know, because this is just AI.

13:51 So it's like often they see experts say,
so they will just suggest that,
but it takes away.

13:56 Yeah, I didn't think about that.

...

14:03 But if I was just using their suggestion,
I would have gone with say,
which I think is, I mean, obviously would have been fine.

14:09 It wouldn't have been a mistake,
but it would not have been as impactful
and it would have been much more, I would say, neutral and just plain.

...

30:37 Yeah, I think, because I think you can really tell when, not always-
and I'm not trying to say that it was like bad English,
it was good English,
but I think the tone was very like marketing and not journalistic.

30:51 Yeah.

30:54 And honestly, I find this is the-
because I find it really hard to like rewrite.

30:58 Like it would have been so much easier for me
to just write it in the first place.

32:15 I think you can really tell that it's different,
that I- that it's not a human who's written it.

32:21 And equally, like, obviously my writing is mine.

Figure 4.20 SwissAI: Finding one's own formulations

Source: swi_251113_pasino_swissai_rvp

d. Learnings

What can case studies like SwissAI tell stakeholders in transdisciplinary projects? They show how deeply tools **interact** with newswriting. First, the digital literacy shift has made journalists spend more time selling their stories, leaving less time to tell them. Second, AI implementation in the newsroom benefits from “reflective practitioners” (Schön, 1987) such as SP and RV, as well as from institutionalized loops of mutual learning (→4.3). Third, positive deviants’ creativity helps overcome ethical dilemmas and scales up from the instrumental to the societal layer of tool use (Table 4.10):

Table 4.10 Creative emergent solutions out of ethical dilemmas related to HANDLING TOOLS ENVIRONMENT

Activity scope →	Micro:	Meso:	Macro:
Activity layer ↓	Using AI tools to	Implementing AI tools	Shifting toward AI
Content creation ↘	make a news piece	in a newsroom	tools as a profession
Societal: Reflective positioning	Reflecting, developing, and discussing professional AI ethics Overwriting orchestrated (?) automatisms		
Economical: Being competitive	Following and setting the pace in professional competition Making a difference in a world of average speak		
Operational: Doing things properly	Using the tools to be fast, true, and transparent Finding the genuine words to get the message across		
Instrumental: Handling tools right	Handling and understanding AI tools Knowing that AI mimics average patterns , such as <i>experts say</i>		

On the **instrumental** layer, knowing that AI tools like Bakerstreet always mimic average patterns helps SP scrutinize AI’s linguistic choices. In the ethical dilemma of going deep vs. going fast when adapting to new AI tools, she is able to distinguish constants from variables. One of the constants is that she feels responsible for her language – and strong enough to fulfil that responsibility, whatever the tool is able to mimic. This stance helps her stay in control of her writing (micro scope). In successfully doing so, she contributes to prudent AI shifts in her newsroom (meso) and profession (macro).

On the **operational** layer, SP exploits her tools to automatize side tasks such as feeding the social media machinery by finding hashtags, hyperlinks, and other factors of search engine optimization. This buys her time for her main task: finding the genuine word – or, more generally, the genuine solution to a communicative problem. When discussing her tools experience with RV and superiors, she will insist on having the side tasks automatized and on investing more time in the

main task: intrinsically fast, true, and transparent blog posts (micro scope), news programs (meso), and journalism (macro).

On the **economical** layer, SP benefits from her language awareness, competence, and creativity to make a difference in a growing world of average speak. While searching for AI tools that help her complete side tasks such as finding appropriate images in databases more quickly, she insists on and invests in outperforming AI in her core discipline, namely telling compelling stories with an ethical soundness for which she takes responsibility. In doing so, she fosters her pieces' unique selling proposition (micro scope), as well as those of her newsroom (meso) and journalism as a whole (macro).

On the **societal** layer, SP is patient with Bakerstreet (micro scope). She puts up with waiting times after prompts and keeps on asking for an extension to find images in the Keystone database. While doing so, she feeds back her comments to her organization in cycles of mutual learning (meso). Why does this matter? Her newsroom's parent company SRG SSR has decided to develop Bakerstreet as a proprietary AI tool for journalistic newsrooms (→4.3), largely independent from global AI. By beta-testing it, SP co-creates the digital sovereignty (macro) that others have only started to debate.

Box D. Tools as embodied ideologies: metapragmatics and the co-production of AI technologies

Laura Delaloye Saillen

AI is gradually making its way into the news production process at multiple levels, from content management systems (CMS) and editorial assistants to automated translation tools. Research to date has primarily focused on the implications of AI for newsroom routines, professional autonomy, and the ethics of innovation (Cools & Vreese, 2025; Lewis & Westlund, 2015).

These approaches tend to treat AI as a finished technology introduced into already constituted professional environments. Such a perspective leaves largely unexplored the interactions between media organizations, on the one hand, and AI development companies, on the other, which jointly define and shape both the technology itself and the journalistic practices it is intended to support.

Our research shows that technology — in this case, AI integrated into editorial processes — is produced through ongoing interactions among journalists, media managers, toolmakers, interface designers, and media policymakers. In these processes, negotiations over competing understandings of what constitutes good journalism have tangible technical consequences.

Bringing into dialogue metapragmatics and the linguistics of news production, on the one hand, and ethnomethodology and science and technology studies (STS) on the other, makes it possible to understand interfaces as materialized interpretations of professional practices. The question is therefore no longer simply how AI transforms journalism, but rather how situated understandings of journalism are selected, translated, and stabilized through technological design.

Starting with Silverstein's metapragmatic approach, which examines how communicative forms become associated with normative models of language, speakers, and communicative situations (Silverstein, 2003), and turning to Spitzmüller, 2025, to extend these reflections to software, we propose that design ideologies can be understood as socially organized assumptions about what design is and what it does. Terms such as simple, transparent, and intuitive do not merely describe interfaces, but rather index privileged users, particular forms of action, and specific relations of authority.

STS further helps us clarify how such values acquire material durability. Technologies contain scripts that anticipate actors' actions and prescribe possible courses of action (Akrich, 1992), while design involves processes of translation through which heterogeneous interests are aligned and provisionally stabilized (Callon, 1986). An editorial interface that foregrounds audience metrics, restricts stylistic variation, or automatically generates summaries does not neutrally support journalism. Rather, it embodies a particular model of editorial relevance, efficiency, and linguistic quality.

Such material embodiments can never fully account for actual professional practice, as ethnomethodology, which treats social order as a situated accomplishment, reminds us (Garfinkel, 1967). Journalists are confronted daily with contingencies that cannot be fully represented within workflow models: ambiguous sources, politically sensitive formulations, conflicting stylistic expectations, or inadequate translations. Suchman's critique of plans (Suchman, 2007), following Garfinkel, demonstrates that technologies cannot determine action in advance because the relevance of circumstances only emerges in the course of situated action.

This tension between formalized workflows and situated accomplishment lies at the heart of the relationship between newsrooms and companies developing integrated AI tools such as Copilot or Bakerstreet. Workshops, demonstrations, prototype testing, and troubleshooting sessions constitute key moments during which journalists render tacit distinctions visible to developers. Professional practices, however, are not simply transposed into technical requirements. Their description is necessarily reformulated through the categories, models, and constraints of software engineering.

Hybrid Studies (Dourish & Button, 1998; Mlynář, Sormani et al., 2026) provide us with a productive framework for analyzing this relationship without separating ethnographic understanding from technological intervention. Crabtree, in particular, argued that ethnomethodology should not merely critique abstract design models, but rather should actively contribute to processes of transformation grounded in the practical methods mobilized by social actors (Crabtree, 2004).

For journalism research, this means documenting how observations of news production workflows are translated into technological prototypes and how these prototypes, in turn, generate new opportunities for journalists to articulate, contest, or revise their professional practices. The question that persists and motivates our ethnographic breadth is therefore the following: which actors will succeed in translating their conception of journalism into default technical parameters, and which forms of practical knowledge will resist formalization?

Box E. Introducing *editorial AI*: an ecological approach to AI for news production

Yulia Kukles

On the one hand, the current scholarly debate posits that AI reinforces journalistic practices. On the other, AI is perceived to be causing a current crisis in journalism reflected, among other things, in media organizations' financial struggles, decreasing audiences, and job cuts (Simon, 2025). Without undermining the gravity of the current state of affairs in the industry, refocusing the debate could make sense: from asking whether AI is a boon or a bane to finding out what meaning generative AI takes in journalism.

Several years after generative AI technologies were first introduced in newsrooms, AI for journalists can no longer be considered as an external technology with an external meaning that is simply borrowed by the journalistic field. Rather, it has become a matter of an original meaning produced by and within the field. What is then worth examining is what AI in journalism is made of, by whom, and how. The answer lies in the specifics of how AI technology is designed, implemented, and used in newsrooms, with the three processes forming one ecosystem.

Multiple human and nonhuman actors constitute this ecosystem — tech designers both internal and external, managers both in tech and media organizations, journalists, as well as the materialities and affordances of the technology itself. The daily cooperation of work and communication among these actors tends to be siloed and disconnected: things are lost in translation or are simply never pieced together, resulting in tools superficially helping manage efficiency but not helping journalism and journalists re-establish itself and themselves, respectively, relevant.

This problem calls for an interdisciplinary approach between digital journalism studies and STS to analyze how the meaning of AI is negotiated in and by newsrooms and their stakeholders. The alliance can help research discover the ongoing work of articulating social and technical as well as discursive and material dimensions of AI into a single operating apparatus in journalism. “Ecological thinking” (Cozza, 2021, drawing on Star, 1995), as developed in STS, is particularly suited to this inquiry.

Ecological thinking accounts for human actors alongside nonhuman actors, and interrogates the boundaries produced by those actors to illuminate “spaces between” while foregrounding power relations (Cozza, 2021, 91–92). This ecological approach considers all actors in a system without privileging any single perspective, which does not mean disregarding the specificity of each element. It instead means that all elements are equally worthy of attention, though not equivalent in nature. Anchored in this epistemological stance, the concept of editorial AI focuses on a whole that is more than the sum of its parts.

Editorial AI can be conceptualized as a socio-material configuration specific to journalism in general and news production in particular. This configuration is co-created through the interactions among tech designers and journalists as well as AI systems themselves

whose affordances, constraints, and outputs shape the conditions of that co-creation. Its coherence is drawn not only from the social relationships among human actors, but also from the ongoing negotiations between human practices and the material properties of the technology itself.

Since editorial AI as a socio-material configuration is oriented toward the production of news, the meaning of AI is not imported from outside, but is constructed within and by the journalistic community through that very production. In the interaction of journalism with its stakeholders, editorial AI can be traced across three interdependent levels — design, implementation, and adoption. Each level reveals distinct configurations of actors, power relations, and material conditions. Yet together they form a single meaning-making unit.

The multi-site ethnography of the collaboration among internal tech designers in newsrooms, developers of specialized journalistic tools at organizations external to newsrooms, newsroom managers, and rank-and-file journalists can help investigate whether the concept of editorial AI can be grounded in actual practices accomplished by these actors and whether it is meaningful to them. Following the unique adequacy requirement (Garfinkel, 1967), the concept of editorial AI will be held accountable to the situated logic of the practitioners themselves.

In addition to serving as an inter- and transdisciplinary bridge, the concept of editorial AI also addresses an issue in current theorizing on AI in journalism: the general lack of prevalent conceptual frameworks in the field (Bartleman, Schapals et al., 2026, 20). If editorial AI proves empirically grounded, it may offer one such framework. In doing so, it supports the development of a shared language (Wenger, 1998) through which scholars working across design, implementation, and adoption of AI in newsrooms might speak to one another more coherently.

Conclusion

Guidelines for future applied linguistics in the newsroom

Our analyses suggest that, from a journalism perspective, understanding the unique value offered by humans has become key in AI-supported newsrooms. Such knowledge can help upskill people and co-create both tools and professional education. From a research perspective, it means widening the scope for the layered contexts of writing (→.5.1); going longitudinal to identify constants and variables (→.2); preparing for clean AI analyses of large data corpora (→.3); automatizing instant feedback for practitioners (→.4); and, most importantly, building trust in the field under investigation (→.5).

5.1 Widening the scope

Writing research started in the **lab**. When John Hayes and Linda Flower began to collect data about writing processes (Hayes & Flower, 1980), they did so in laboratory experiments. Writers were given specific tasks and tools. There was no need for them to **COMPREHEND THE TASK** by adapting to changing environments as journalists do, no need to reshape the product due to new thematic aspects popping up during writing, and no deadlines shifted by changes in political agendas. Finally, there was no need to critically reflect on one's AI tools or **IMPLEMENTING THE PRODUCT**.

Unlike in the lab, dynamic context is key in **real-life** writing processes. Early researchers who widened their scope to include the contextual boundedness of text production analyzed the writing processes of literary authors such as Heinrich Heine (Grésillon, 1987) or Marguerite Duras (Grésillon & Mervant-Roux, 2010). Of course, such studies examine their object ex-post (→.3.3). From a history-of-science view, it comes as no surprise that research first turned its attention to a prestigious domain of text production, i.e., world literature, rather than plain journalism.

Introducing PA (→.3.4) meant a focus shift from historical to contemporary writing. Technically, this means going from ex-post analyses to research **in situ**. Real-life writers' processes are captured in natural settings. In journalism, these

settings are mostly collaborative: Texts emerge in work-divided processes of semi-otic and linguistic value creation by “up-cycling” (Haapanen & Perrin, 2020, 4) source texts in intertextual chains (Perrin, 2013a, 62). Still, PA was developed before writing became fragmented (→2.4) in social media and through AI tools.

Including such fragmented writing required **extending PA** on the first level: the ethnography of the writers’ context. Long-term ethnography enables researchers to capture writing phases in meso and macro contexts (→2.3). This includes changes such as the five-phase shift of digital literacy (→2.5). Multi-site ethnography widens the scope of writing research to include stakeholders of growing importance: external regulators, distribution platform providers, and tool-makers (→4.2). Whereas typewriters supported journalism, AI tools can drive it.

In this book, AI has been presented, through a newsroom lens, as a tool. It is worth remembering that writing tools have always been more than instruments in the hands of writers and the language industry (→1.4). In a widened scope, **writing tools** include the printing press that fostered democratization as well as the distribution platforms of social media that put democracy at risk. Once thought through, the tools factor of writing proved to be powerful, not only in the micro scope of crafting texts, but also in the meso and macro scopes (→4.3) of changing newsrooms, professions, and societies.

5.2 Going longitudinal

A closer look at these changes reveals that the **tools factor** may have been underestimated by many, but not necessarily by elites. In the case of Europe, for example, writing as a competence and craft was the preserve of the clergy for centuries. Monks used to be in charge of copying books by hand. Often, copies were kept under lock and key in libraries as treasures of knowledge. When the printing press came to the fore, the church first tried to control it and banned one of the first printed bestsellers, the Bible in German, for its direct accessibility to locals (e.g., Eisenstein, 1979).

In contrast, when the mobile internet emerged, the then President Bill Clinton argued that attempting to censor it was “sort of like trying to nail Jello to the wall.” Instead, “liberty will be spread by cell phone and cable modem” (Griffiths, 2018). It was not. Nevertheless, the influence of communication and writing technologies on societies is obvious — and feeds into the business models of companies such as Palantir. Writing leaves undeletable traces on the internet. Taken together, they allow for the precise targeting and manipulation of masses of individuals (e.g., Lanzing, 2024).

Writing tools were and remain powerful **drivers** of social change. Does this mean that AI disruption is nothing but another step in a long history of revolutions related to cultural key practices? Data show that during the last three decades, journalism has changed dramatically – more than in its first two millennia since the Roman *Acta Diurna* and the two centuries since its professionalization through specialized training and ethics (e.g., Deuze & Witschge, 2018). What makes this fundamental difference is mirrored in our data: the weight of non-journalistic stakeholders.

Of course, the first newspapers were issued by owners of printing presses, and radio and TV journalism depended on broadcasting technology. However, these technologies were owned by individuals and organizations subject to national law. Change came with the internet. Social media and AI technologies are owned by big tech companies and their big bosses. Never before has a handful of **global** players been in control of the main technology and tools needed to survive, not only in the journalistic content market, but also in an advertising market that has traditionally financed journalism.

Currently, these companies decide what news and ads users see. They can target individual users based on the traces those users leave when writing online. Even supranational initiatives to limit their influence on public discourse tend to fail, because big tech is neatly linked to the major powers. The tool has become the dominant factor not only of journalism, but of public discourse worldwide. In this **powerplay**, observing AI appropriation in a newsroom like SWI, with its thorough understanding of professional ethics and its public mandate, means observing history at a crossroads.

5.3 Preparing for clean AI analyses

AI, however, is not just the object of current writing research. Rather, it is about to **transform research** itself. A recent study has identified three main impacts: First, AI “brings new topics to social science research, promoting the swift integration of different disciplines.” Second, big data “will make data-driven approaches a significant research paradigm in social sciences, altering traditional qualitative and quantitative methods [...]” And third, researchers “who can effectively utilize AI tools produc[e] high-quality outcomes more rapidly” (Peng, Duan et al., 2026, 351).

The **trans-disciplinary** integration around new topics, as mentioned in the first point, reverberates the understanding of applied linguistics as an inter- and transdisciplinary field where real-world problems of language use are identified, analyzed, and solved (→1.1). Analyzing text production processes was a trans-

disciplinary endeavor in ancient rhetorics (e.g., Perrin, 2013b), long before the term *writing research* was coined. It remains as such today. The world congresses in the field, such as WRAB⁴⁷ and SIG Writing,⁴⁸ connect disciplines by principle. This field is well prepared for change.

Data-driven research, from the second point, belongs to the standard repertoire in text production research. Studies of automated keystroke-logging over weeks and months in organizations with dozens of workplaces were already conducted almost three decades ago (→3.4). Early approaches of corpus-driven analyses using procedures of statistical modeling such as random forests to identify patterns in text progression data (→3.5; Perrin & Wildi, 2010) have paved avenues for AI analyses of large corpora of partly automatically generated data from multi-site and long-term ethnographies.

Speed becomes essential when practitioners are involved in research projects on an equal footing. If real-world writers such as journalists are expected to open their offices, desktops, and minds to researchers from academia, they must also have a stake in the process. What the world outside academia expects from research is the impetus to solve problems that cannot be resolved by practical means alone. This comes with deadlines for getting things done in the world under investigation. They are paced by business models and newsrooms, not by ivory towers.

In sum, text production research is both well-prepared and in need of using AI itself. However, just as with journalism, academic professional ethics calls for prudent AI inclusion. Our idea for further research collaboration with SWI is to draw on a **sovereign** large language model such as Apertus (Hernández-Cano Hägele et al., 2026) for the AI-supported coding of verbal data – and most of all, for identifying interesting anomalies, trends, and cases in our large and growing corpora of automatically generated observational data on the second level of PA (→3.4 and 4.5).

5.4 Automatizing instant feedback

Why identify interesting cases? And why use AI to do so in real-time, on the go, while journalists write? The answer features a methodological and a practical component. Both have to do with **feasibility**. Where large amounts of data are generated rapidly at dozens of workplaces, keeping track of what is going on requires telling the remarkable from the usual. The remarkable needs further and in some cases immediate attention from both academic researchers and practi-

47. <https://www.isawr.org>

48. <https://www.earli.org/sig/sig-12-writing>

tioners, in our case journalists and media managers, whereas the usual is predictable and supports generalizations over time.

From a **methodological** perspective, interesting cases are most conducive to in-depth analysis. In PA, level 1 data originate in ethnographical observation, interviews, and document analyses of an entire newsroom, such as SWI, plus their stakeholders. This comes at manageable costs. Level 2 data are produced automatically by logging software and cameras, at no cost once the recording procedures have been installed. In contrast, level 3 data are time-consuming for both academic researchers and journalists. Limiting retrospective verbal protocols to remarkable cases is indispensable.

From a **practical** perspective, immediate analyses in the context of all the previous analyses from all the previous projects (→3.4) are a precondition for immediate feedback to the writers. And this is what they are most interested in. Not only does it connect to their still-present memory of what they did and why they did it, it also helps them rethink decisions and improve their piece on the fly. If there is anything practitioners expect from research, it is empirically-based development, coaching, and training. Getting this is a strong argument for them to engage in TD projects.

In TD collaborations, stakeholders have always expected wins in their own **timeframes** (e.g., Agar, 2010, 8). For a long time, these timeframes have differed fundamentally between classic research and most other professional domains. With social media and AI, the pace of academic production has also increased, as have the related problems and worries. In any case, the gap is still fundamental. Publishing four papers per year in one's own field of expertise is different from publishing four pieces on different topics per day. Hence, the difference in expectations on timeframes for learnings.

Envisaging a large research project with public funding, both the research team that authored this book and the SWI team are thinking about systematically integrating TD research into the newsroom's AI implementation **feedback circle** (→4.5.b). This is what was realized in earlier projects such as the TA project (→2.4). There, implementing a quality management circle in the newsroom of the Swiss German-language flagship newspaper "Tages-Anzeiger" was built on two years of progression analyses in the newsroom (Perrin, 2020). AI could now help identify rich points (→4.5.c) in real-time.

5.5 Building trust

As always, such projects need trust. Trust in transdisciplinary research is **multi-dimensional**. It is needed wherever old barriers are crossed and familiar territory

is left behind. Practitioners must trust academic researchers when asked to open their sites. The makers on the ground floor have to trust their management before opening their minds and making potential weaknesses visible to an organization that could use the leverage of research data to monitor them. And science must trust TD researchers before providing resources such as funding and positions.

Ethnographic experience over decades in the field of investigation helps. From our past projects (→3.5), the communities of media managers and journalists know that we identify and share general, anonymized data only on critical situations — and ethnographic stories (→4.5.a) on cases of creative positive deviance. No personal blaming, no regrets in three decades. Not even one request to delete recorded data. Instead, they know that they can count on learning from empirical insights during and after our projects, following the transdisciplinary **research circle** (Figure 5.1).

In the circle, research follows seven steps, the first five of which are similar to classical research: A research question leads to decisions about frameworks and knowledge gaps. Methods are defined and applied, data are gathered and analyzed. Findings, often from case studies (→4.5), are contextualized and generalized in mid-range theories such as *“creative solutions can overcome ethical dilemmas and scale up.”* In contrast to classical research, the learnings are validated with practitioners. This helps practitioners solve their problem and researchers **build the trust** needed for the next projects.

However, besides trust, **mistrust** can benefit current research. In a 2026 YouTube video⁴⁹ on “Understand AI in 14 minutes,” Anthropic’s research partnership manager Chloe Lubinski says that “with more money, which buys compute, you can essentially purchase intelligence.” As can be seen now, this fosters plutocracy that shuns independent journalism just as it shuns independent science. It is time we left our ivory towers and engaged in TD research. On par with, for example, journalists and their practical expertise in moderating independent public discourse in democracies.

49. “The first thing that I really want to tell you is my goodness, to know that this technology is real and that it’s coming faster than you think, and the force behind it is enormous. Now you may or may not have heard of the scaling laws, which is really what kicked off this whole race to begin with, and you really don’t need to understand anything about this graph other than this, which is these models get predictably better with more compute, and the more energy, the more data, the more training that goes into them, and they get smarter, and they get smarter about everything. And so with more money, which buys compute, you can essentially purchase intelligence, and that’s kicked off a cycle that is very hard to stop. A better model does more economically valuable work, which attracts more capital, which buys more compute, which trains a better model, and around and around it goes.” <https://www.youtube.com/watch?v=aBUniZHgCnEhttps://singjupost.com/arc-2026-anthropics-chloe-lubinski-on-ai-transcript/>



Figure 5.1 The transdisciplinary (TD) research circle

The tools factor is about to dominate what people write and read, know and “know.” **Tracing the future** of newswriting means learning from the past that, first, tools make a change that can scale up from practices (→2.1) to workplaces, identities, professions, and society at large. Second, in such grand movements, counterchange starts bottom-up, from positive deviants (→4.5.d), but in conditions that are set top-down (→4.2). Third, as applied linguists (→1.1) and TD researchers (→1.2), we are to identify the creative practices that bear the potential to disrupt mainstream disruption.

Sharing them in the right moment and place is not enough, but a beginning.

Box F. Trust and the human core: an editor-in-chief's perspective on AI integration

Mark Livingston

For a public service media provider like Swissinfo (SWI), which publishes from Switzerland in ten languages for an international audience, the integration of AI is far more than a mere technological upgrade. Indeed, it demands a fundamental reconsideration of our institutional positioning and shakes the very foundations of journalistic identity. Ultimately, credibility is our most valuable asset; our legitimacy rests entirely upon our reputation for accuracy, fairness, and independence.

In an era where generative AI can produce disinformation on an industrial scale and public trust in established media is declining globally, our survival in a highly competitive digital market depends on our ability to differentiate ourselves through high-quality, nuanced content that is culturally tailored to our respective linguistic markets. This fusion of global issues with localized, culturally precise adaptation for our ten language markets lies at the very heart of our mandate.

At the same time, financial pressures demand efficiency gains, yet these must never come at the expense of our public service mission. In this regard, we must actively balance the tension between management expectations and journalists who navigate the gap between top-down guidelines and daily practice. Consequently, we prioritize the integration of AI where routine tasks can be automated — such as generating hashtags, optimizing for search engines and AI retrieval strategies, or performing simple translations that require no specialized cultural adaptation.

However, as the SwissAI case study demonstrates, integrating AI into editorial practice introduces significant friction. Seamless automation is never achievable from the outset with new AI applications. Instead, the workflow resembles a highly fragmented marathon across multiple workplaces and screens, where our journalists often spend more time navigating digital tools and switching between different applications than on the actual writing process. This fragmented working reality demonstrates that the introduction of AI tools deeply disrupts the “handling of tool environments” and frequently leads to a disintegration of the writing process.

As editor-in-chief, a major operational challenge consists in minimizing these friction points and integrating AI tools and their applications as seamlessly as possible into our workflows — specifically through suitable technical interfaces within our central content management system (CMS). In this process, mediators play a key role by bridging the gap between the newsroom and management, translating editorial use cases into precise technical requirements.

When a journalist — as illustrated in the case study — rejects the linguistic register of an AI-generated text in favor of her own journalistic voice and rewrites the text to correct the “bad habits” of the machine, she actively defends Swissinfo’s unique selling proposition.

In doing so, she acts as a “positive deviant” who does not merely adopt the tool blindly, but actively shapes journalistic identity in the AI era through constructive criticism and autonomous agency. To remain a trustworthy source of information — and to be recognized as such — we must actively foster what we define as the “re-appropriation” of AI tools by our journalists.

Through the detailed analysis of our journalists’ micro-practices, transdisciplinary research helps us evaluate whether our top-down ethical guidelines and technical tools are actually viable in practice. Based on such empirical data, we can establish a continuous feedback loop and transform individual, implicit workarounds into institutional knowledge.

Our goal is to systematically promote this reflective practice and ensure that our journalists become active co-creators of our AI applications. Only in this way can we resolve the apparent contradiction between the pressure to achieve internal efficiency gains through AI and the duty to secure public trust through transparent, human-centered, and independent reporting. Ultimately, in an increasingly AI-saturated digital information landscape, we aim to ensure that Swissinfo continues to stand for trustworthiness and human intelligence.

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ASPECTS

The Tools Factor is about to dominate what people write and read, know and believe to know. In this book, we explain how digital tools and agentic AI shape – and are shaped by – text production, ethics, and creativity in the newsroom. Based on thirty years of longitudinal ethnographies in research frameworks of transdisciplinarity and applied linguistics, we discuss what this means for researching and integrating AI in professional newswriting.

Key topics include: How has tools development interacted with professional writing? What does the case of implementing AI in a multilingual newsroom reveal? Why can applied linguists contribute to a sustainable AI shift of public discourse?

Tracing the future of digital newswriting has resulted in three key learnings from empirical evidence. First, tools make a change that can scale up from practices to professions and society at large. Second, in seemingly unstoppable grand movements, counterchange often starts bottom-up, from positive deviants. Third, as applied linguists and transdisciplinary researchers, we are to identify the creative practices that can disrupt mainstream disruption.

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