Capturing the whole

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1 Introduction

The advent of motion picture technology in the last decades of the nineteenth century not only brought about a revolution in entertainment, but also in data-producing practices across the human and social sciences. Researchers working in medicine, psychology and anthropology immediately began experimenting with the new technology as a means for making inscriptions of processes that unfold over time (see Erickson 2011). An early example of the study of movement through frame-by-frame analysis is the work of the Viennese cardiologist Ludwig Braun (1861–1936; Braun 1898), but even before him, in the 1880s, there are instances of "chrono-photographic" research, in which the development of a phenomenon is documented through a series of photographs taken one after another at short intervals (see Curtis 2016). This technology was soon used to create ethnographic documentation, as in the work of the French anatomist Félix Regnault (1863–1938), the British anthropologist Alfred C. Haddon (1855–1940), and the German-American anthropologist Franz Boas (1858–1942).[1]

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[1]On the history of ethnographic film, see Brigade (1995 [1975]) and Hochman (2014). In the early years films made for entertainment and for scientific purposes were not always distinct. Film studios of this era often produced simple documentaries of the daily routines and ceremonies of "exotic" peoples of the Pacific, Africa and the Americas for general audiences in the West. Even many feature films constructed around a fictional plot and starring Western actors were shot in "exotic" locations, against the background of semi-staged village life. Some museums and universities even partnered with studios to produce films that simultaneously served the needs of both science and entertainment.

With the introduction of sound-on-film technology in the late 1920s, it became possible to incorporate speech and other synchronized sound into film recordings. Scholars researching human interaction inched closer to the goal of capturing the whole of the communicative situation: voice, gaze, posture, movement, gesture and so on. By the 1950s, early experiments with film started to crystallize into the techniques of audio-visual sequence analysis familiar to us today and, by the middle of the 1970s, these techniques became firmly established as part of the methodological repertoire of the social sciences.

This volume brings together six contributions that explore the pre- and early history of audio-visual sequence analysis, from the late 1920s to the 1960s. The first three chapters address the emergence of initial attempts at sequence analysis in the early sound-film era, among Gestalt theorists at the University of Berlin and researchers attached to the Psychological Institute at the University of Vienna. The majority of these scholars were forced to emigrate to the United States over the course of the 1930s as the National Socialists seized power in the German-speaking countries. In their American exile, they continued their work and brought new impulses into American social scientific research, a transfer of knowledge and techniques that is visible in the leading project on sequence analysis of the mid-twentieth century, the Natural History of an Interview (NHI), which began at the Center for Advanced Studies in the Behavioral Sciences in Palo Alto, California. The NHI project and its aftermath are treated in the final three chapters.

The title of this volume, *Holisms of communication*, points to what is perhaps the most salient innovation encapsulated in audio-visual analysis of communication: the attempt to pin down the communicative whole. Rather than being restricted to just one dimension of a communicative act – such as spoken words, posture or the rudiments of gesture – audio-visual analysis seemed to bring the entire communicative situation into focus. "Holism" may strike some readers as an odd terminological choice to express this new research orientation. Originating in the anti-reductionist philosophy of the somewhat notorious South African statesman and intellectual General Jan Christiaan Smuts (1870–1950; see Smuts 1926), the term was readily adopted in Western esoteric circles and now has an unmistakable air of incense and prayer bowl about it. But this "holism" is not unconnected with the figures and themes explored in this volume: Smuts' thought grew out of the same intellectual environment in the early twentieth century that gave rise to the Gestalt psychology underpinning the approaches explored in the

first part of this book, while an "ecological" conception of interaction and communication plays an important role in the NHI project examined in the second part.[2]

This volume is the first publication to result from a broader project on the history of audio-visual data practices in the social sciences which is embedded in the DFG-supported Collaborative Research Center "Media of Cooperation", based at the University of Siegen. The overarching goal of the research center is to explore the emergence of digitally networked media and the role these play as co-operative tools in our contemporary society. The research undertaken in this center is highly interdisciplinary, encompassing projects in such fields as media studies, sociology, education, and the digital humanities. In uncovering and reconstructing the emergence of audio-visual sequence analysis in the social sciences, our project serves the broader aims of the research center by developing a methodology of historical praxeology as well as critically examining the philosophical commitments, assumptions and practices underlying sequence analysis in the social sciences as it has developed historically and as it is carried out today. At the same time, our project is a contribution to the history of science. With its focus on methodologies and data practices in the social sciences and humanities, and its specific interest in the dynamics of interdisciplinary and transdisciplinary collaboration, the project advances two areas in the history of science which have not received a great deal of attention to date. One scholar who has contributed to both fields, Wendy Leeds-Hurwitz, is among the contributors to this volume.

In planning this volume, our original intention had been to create a complete communicative event in the form of a workshop. We had arranged to meet in Siegen to give talks and discuss these in person. Unfortunately, the coronavirus pandemic of 2020 rendered such a meeting impossible and so we fell back on the mono-dimensional communicative means of epistolary contact, albeit with a modern technological sheen imparted by the use of e-mail. To simulate something of the discussions that would have taken place at the workshop, we solicited written responses to the papers, which are printed here as appendices to each chapter. The authors and respondents who participated in this project come from a broad cross-section of academic fields, and this is visible in the diverse character of the chapters, which have different emphases and exhibit a range of writing styles. This heterogeneity results in a gestalt that reflects the dialogic interaction of scholars across different disciplines.

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[2]In German-speaking psychology, linguistics and other human sciences of the first half of the twentieth century, the terms *Gestalt*, *Ganzheit* (whole) and *Struktur* (structure) were frequently used as near-synonyms, sometimes with varying political connotations (see Harrington 1996; Knobloch 2005: 137–154).

The following two sections give a more detailed overview of the contributions presented in this volume and their surrounding historical and intellectual context. Section 2 sketches the subjects of the first three contributions, the Gestalt psychologists from Berlin and Vienna who were forced into emigration in the 1930s, while section 3 outlines the NHI project, initiated in 1950s California, which is treated in the final two contributions.

2 From Berlin and Vienna to the USA

A key milieu in which techniques of audio-visual sequence analysis first began to coalesce is the research group around the social psychologist and Gestalt theorist Kurt Lewin (1890–1947), who worked at the Psychological Institute of the University of Berlin until his emigration to the United States in 1933. The signature approach that he developed in the first part of his career was the theory of psychological "topology", which adapted diagrammatic representations and formulas from mathematical topology to the representation of the "life space" of subjects and the putative psychological laws active in their minds (see Lewin 1936). With the successive emigration of Lewin and his closest colleagues from Europe, the "topology group" that he founded came to span across two continents, bringing together such figures as the European Gestalt psychologists Fritz Heider (1896–1988) and Kurt Koffka (1886–1941), as well as the prominent American anthropologists Margaret Mead (1901–1978), Ruth Benedict (1887–1948), Edward Tolman (1886–1959), and William Stern (1871–1938), among others. The group continued after Lewin's death in 1947 up into the 1960s (see Lück 2001: 17–19).

From 1923 onwards Lewin produced films as part of his research in Berlin into child behavior (Kreppner 2010: 249–253), with the goal of investigating affective-psychological processes, whose "characteristic properties do not appear in individual, momentary states, but only in the whole of the process" (*characteristische Eigentümlichkeiten nicht im einzelnen, momentanen Zustand, sondern erst im Ganzen des* Geschehensablaufs *zutage treten*; Lewin 1926: 414). On a theoretical level, he expanded the static figure/ground axioms of Gestalt psychology to deal with *dynamische Gestalten* and *Zeitgestalten*; that is, gestalts that unfold and change shape over time (on these constructs, see, e.g., Koffka 1928).

Lewin's theoretical notions would seem in turn to have contributed to the development of the concepts of "sequence" and "indexicality" in the later ethnomethodology of the American sociologist Harold Garfinkel (1917–2011) and his followers (on Garfinkel's ethnomethodology, see Garfinkel 1967; 2002). Lewin's dynamic rendering of the notion of "field" from Gestalt psychology created an

indexical perspective on signs and highlighted the importance of sequences as an environment of action which serves as a "ground" against which signs are positioned. There were also similarities between Lewin's and Garfinkel's experimental practice, which promoted further cross-pollination between their respective circles of students and collaborators. Both Lewin and Garfinkel focused on everyday situations and sought to conduct experiments using a minimum of equipment, and both liked to create experimental situations where a conflict or disturbance is introduced among subjects, whose reaction is then observed (see Garfinkel 1967: 58; Lück 2001: 28).

In terms of the use of film, one of the most significant members of Lewin's circle was Fritz Heider. Schooled in phenomenology in Graz by the philosopher Alexius Meinong (1853–1920), Heider focused in his experiments on the naïve psychology of participants and their "common sense knowledge". A central insight coursing through his writings is that there is no fundamental break between common sense explanations and scientific theories (an observation shared with other phenomenologists and pragmatists). It was his ambition to develop an explicit account of how this common sense knowledge functions in day-to-day life. A famous example of this is his "attribution theory", a pillar of early social psychology which deals with how people attribute motives to others in explaining their behavior (see Heider 1958). In developing attribution theory, Heider conducted a series of influential experiments in which he presented subjects with short films of animated geometric shapes and asked them to describe the "behavior" of these shapes.

Lewin and Heider are the focus of the first two chapters in this volume. In chapter 1, Helmut Lück explores their intertwined biographies and friendship. He pays particular attention to the interplay between their film-based research and their contributions to psychological theory. In chapter 2, Clemens Knobloch then looks in particular at how Lewin and Heider adapted their ideas and methods to the prevailing empiricist-scientist spirit of psychology in the United States after their emigration, and how their ideas and methods were received and adapted in American social psychology.

A second center of film-based psychological research in this period was the Psychological Institute at the University of Vienna, led by the husband and wife team of Karl (1879–1963) and Charlotte Bühler (1893–1974). Karl Bühler is known chiefly for his "organon" model of language and research into deixis (Bühler 1934), and is considered a founding figure of psycholinguistics (see Levelt 2012; Hoskovec 2018; Friedrich 2018), while Charlotte Bühler made pioneering contributions to developmental psychology (Bühler 1922; Woodward 2012). From the 1930s onwards, film was used extensively at the Vienna institute (Kreppner 2010:

234, 242). The initial impetus for the use of film would seem to have come from Charlotte Bühler. She had encountered film-based research techniques during a study trip to the Yale Clinic of Child Development in the United States from 1924 to 1925, where the developmental psychologist Arnold Gesell filmed infant behavior and reflected on the potential of film for psychology in general (Gesell 1928; 1934). Researchers at the Vienna institute prized film because it provided them with a means to play back sequences of actions and events repeatedly and to slow these down for closer examination. There are indications that Karl Bühler revised his doctrine of deixis in light of the film studies conducted at the institute (see Czwik 2018).

A leading figure for the use of film at the Bühlers' institute was the developmental psychologist Käthe Wolf (1907–1967). In addition to co-supervising several dissertations that employed film-based methods or analyzed the medium of film itself, Wolf began work on a book manuscript on the application of film in psychological research, which has unfortunately been lost (see Czwik 2018). Wolf also organized the phenomenology study circle *Husserlstudien* (Czwik 2018: 43) at the institute; it is therefore no coincidence that phenomenological concepts and terminology play a key role in the analysis of film within the Bühler group. In chapter 3 of this volume, Maria Czwik looks at a key dissertation supervised by Wolf, the *Bildhaftigkeit des Films* ("Graphic quality of film") by Hans Herma (1911–1966), which Czwik treats as representative of the film-oriented research undertaken in Vienna. This dissertation focused on the specific ability of film to transport viewers from their immediate embodied environment and place them in a new perceptual world constructed by the film. Czwik examines how perceptual psychology was applied in Herma's study and the implications of his findings for the further development of the field.

Another important film researcher in the Bühler circle was René Spitz (1887–1974), who collaborated with Wolf on several projects. Central aspects of his psychology of early childhood are based on film documentation of emotionally neglected children in institutions. Starting in the 1930s, he documented the development of infants in orphanages as well as the interaction between mother and child on film. He used the footage for what he called "film analysis" and also produced educational films on infant psychology from the same material (e.g., Spitz 1945; see also Kreppner 2010: 245-246; Geissmann & Geissmann 1998: 213). Spitz developed a methodology of shooting films at a high frame rate that could then be replayed in slow motion for efficient observation (Geissmann & Geissmann 1998: 214).

With the *Anschluss* of Austria onto Germany in 1938, the Bühlers suffered harassment at the hands of the new National Socialist regime, and eventually

decided to leave Austria. After a semi-itinerant two years in London and Oslo, they finally emigrated to the United States in 1940, where they spent five years in Minneapolis before settling in Los Angeles in 1945. Karl Bühler never really gained a foothold in America: in Los Angeles he became a psychologist in private practice and taught occasionally at the University of Southern California. Charlotte Bühler, on the other hand, had much greater success in her American exile: she became Chief Psychologist at the Los Angeles County General Hospital and Professor of Psychiatry at the University of Southern California. Although the Bühlers and the research that had been conducted at their institute in Vienna were not unknown in America, they did not achieve the same level of integration into American psychology as the Berlin Gestalt theorists.[3]

But another member of the Bühler circle at the Psychological Institute, Paul F. Lazarsfeld (1901–1976), was able to adapt his research to the new American environment. At Columbia University, he developed a style of empirical social research that shaped the social sciences in the United States as well as in the German-speaking countries after World War II (see Fleck 2007). As the director of the Bureau of Applied Social Research (BASR), Lazarsfeld was a pioneer of radio research and – more generally – studied the relationship of mass media, communication, and public opinion. He conducted research on audience reactions to feature films, but it is unclear whether he used film technology for the production of data himself. Lazarsfeld left the Bühler group in 1933, during the very early stages of their interest in film. From 1944 to 1946, Wolf worked alongside Lazarsfeld at the BASR.

3 From Palo Alto to New York and Pennsylvania

The single most innovative and influential project of the mid-twentieth century for audio-visual sequence analysis is without doubt the Natural History of an Interview (NHI), which was initiated in 1955 by the émigré psychiatrist and psychoanalyst Frieda Fromm Reichmann (1889–1957) at the Center for Advanced Studies in the Behavioral Sciences (CASBS, Palo Alto) and continued until 1968 at the various home institutions of its members. The project was directed toward achieving a better understanding of communicative dynamics in psychiatric interviews and produced the first systematic analyses of both verbal and non-verbal aspects of social interaction. The methods pioneered in the project

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[3]On the life and work of Karl and Charlotte Bühler, see the entries on these two in Maas' continually updated "biographical catalog" of German-speaking language researchers persecuted and driven into exile during the National Socialist period: https://zflprojekte.de (Maas 2010–).

fed into a number of widely used approaches in the social sciences. One of these later became known as "context analysis", an approach under which social interaction is treated as a "semiotic ecology" created by its participants, in which the receptive activity of the listener is considered as important to the interaction as the productive role of the speaker. The analysis of such semiotic ecologies is only possible with a continuous audio-visual recording of the participants in an interaction (see Erickson 2011: 181). Among the tools variously invented or developed further within the NHI project are transcription systems for verbal and non-verbal communication as well as the theoretical and methodological concept of micro-analysis of interaction (McQuown 1957), which combines elements of American pragmatism, Gestalt psychology, psychoanalysis and the tagmemics of the linguist Kenneth L. Pike (1912–2000; see Pike 1967 [1954]).

The NHI was a collaborative effort undertaken by researchers from across the social sciences. The team assembled by Fromm-Reichmann included such figures as the anthropologist Ray Birdwhistell (1918–1994), the linguists Norman McQuown (1914–2005) and Charles Hockett (1916–2000), and the psychiatrist Henry Brosin (1904–1999). Initially, the members of the project spent several weeks analyzing sound recordings of psychiatric interviews (see McQuown 1957; Lempert 2019), but when the anthropologist Gregory Bateson (1904–1980) joined the team, he brought with him sound-film recordings that served as the subsequent focus of the project's analytic efforts. Bateson had already used film extensively in his research: he and Margaret Mead (1901–1978) employed film and sequential photographs as part of their ethnographic documentation in Bali in the 1930s (Bateson & Mead 1942). In these efforts, Bateson and Mead were following the example of their anthropological elders, Franz Boas, who was Mead's doctoral supervisor, and Alfred C. Haddon, who had taught Bateson at the University of Cambridge. Before joining the NHI project, Bateson had already used film to record and analyze psychiatric interviews in a collaboration with the psychiatrist Jurgen Ruesch (1909–1995; see Ruesch & Bateson 1951; Ruesch & Kees 1956; Engelke 2014; 2018).

The film Bateson brought along to the NHI project was of a counseling session he had conducted with a local Palo Alto mother, known in the project under the alias "Doris", and her pre-school-aged son. This material became the focus of the NHI over the next five years. In chapter 4, Henning Engelke critically examines this film material, looking in particular at the circumstances under which the recording was made and the respective roles of Bateson, his interviewee Doris, her son, and the cameraman. Engelke discusses this film material in terms of his ongoing work on the impact of audio-visual sequence analysis on the development of documentary filmmaking for academic purposes (see Engelke 2007; 2018).

Even though the final report of the NHI, completed in 1968, was never published,[4] the theoretical concepts and methodological practices developed within the project – in particular techniques of segmentation and transcription systems – were taken up in a number of subsequent approaches to audio-visual sequence analysis. From 1958 onwards, a group around Albert E. Scheflen (1920–1980) at Temple University in Philadelphia developed, with the participation of Birdwhistell, a method of context analysis in psychotherapy, which they called the "natural history method in psychotherapy" (see Scheflen 1963; 1966). The work of Scheflen and his team flowed into the further development of interaction studies by Adam Kendon (Kendon 1990). NHI also had a visible influence on the development of "paralinguistics" – the study of prosody, intonation and other modulations of the voice – developed by the linguist George L. Trager (1906–1992; Trager 1958) as well as "proxemics" – the study of the use of space in human communication – developed by the anthropologist Edward T. Hall (1914–2009; Hall 1963; 1966). The analytic perspective and key concepts of NHI also re-appear in the pathbreaking research on verbal and non-verbal behavior in interaction later undertaken by the sociologist Erving Goffman (1922–1982; Goffman 1963), who had studied with Birdwhistell at the University of Toronto. Further important lines of reception run through the sociolinguistic work of Dell H. Hymes (1927–2009) and John J. Gumperz (1922–2013; Hymes 1962; Gumperz & Hymes 1972), as well as from 1967 in the "micro-ethnography" of Frederick Erickson (2011: 281) in education studies. Today, we find traces of NHI-related work in different traditions of video analysis (e.g. Heath et al. 2010, Knoblauch et al. 2012, Mondada 2013).

In chapter 5, Wendy Leeds-Hurwitz and Adam Kendon offer a comprehensive account of the NHI project and its impact. Leeds-Hurwitz and Kendon first describe the NHI and its historical and intellectual background in detail, outlining the group's meetings and the contributions of each member to the overall project. They then assess the innovations made within the project and the reception of these in subsequent scholarship in interaction studies.

The volume closes with a document from the archives: the transcript of a speech given by Ray Birdwhistell in 1980, quite probably one of the last public statements made by Birdwhistell in his lifetime. The speech revolves around one of the most important questions regarding the "holistic promise" of film analysis in the social sciences: What does an audio-visual recording of human interaction actually show? Seth Watter stumbled upon the transcript of this speech in

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[4]McQuown (1971) is the unpublished manuscript of the NHI project's final report. It is part of the McQuown papers held in the Special Collections Research Center of the University of Chicago Library and has circulated to other libraries in microfilm copies. The McQuown papers are a treasure trove of archival documents relating to the NHI project.

an unlikely corner of the Rare Book and Manuscript Library at Columbia University. He has edited and annotated this document and supplied it with a critical introduction, providing us with a very suitable conclusion to the volume.

References

Bateson, Gregory & Margaret Mead. 1942. *Balinese character: A photographic analysis*. New York: New York Academy of Sciences.

Braun, Ludwig. 1898. *Über Herzbewegung und Herzstoss*. Jena: Fischer.

Brigade, Emilie de. 1995 [1975]. The history of ethnographic film. In Paul Hockings (ed.), *Principles of visual anthropology*, 13–43. Berlin/New York: De Gruyter.

Bühler, Charlotte. 1922. *Das Seelenleben des Jugendlichen: Versuch einer Analyse und Theorie der psychischen Pubertät*. Jena: Fischer.

Bühler, Karl. 1934. *Sprachtheorie. Die Darstellungsfunktion der Sprache*. Jena: Fischer.

Curtis, Scott. 2016. *Between photography and film: Early uses of medical cinematography*. https://remedianetwork.net/2016/01/19/medicine-in-transit-between-photography-and-film-early-uses-of-medical-cinematography/.

Czwik, Maria. 2018. Forschungen zum Film am Psychologischen Institut der Universität Wien in den 1930er Jahren. Versuch einer Übersicht. In Janette Friedrich (ed.), *Karl Bühlers Krise der Psychologie. Positionen, Bezüge und Kontroversen im Wien der 1920er/30er Jahre*, 33–59. Cham: Springer.

Engelke, Henning. 2007. *Dokumentarfilm und Fotografie: Bildstrategien in der englischsprachigen Ethnologie 1936–1986*. Berlin: Mann.

Engelke, Henning. 2014. Filmisches Wissen und der Geist des Kalten Krieges. Kybernetische Modelle bei Gregory Bateson und Weldon Kees. In Irina Gradinari, Dorit Müller & Johannes Pause (eds.), *Wissensraum Film*, 225–241. Wiesbaden: Reichert.

Engelke, Henning. 2018. *Metaphern einer anderen Filmgeschichte: Amerikanischer Experimentalfilm 1940–1960*. Marburg: Schüren.

Erickson, Frederick. 2011. Uses of video in social research: A brief history. *International Journal of Social Research Methodology* 14(3). 179–189.

Fleck, Christian. 2007. *Transatlantische Bereicherungen: Zur Erfindung der empirischen Sozialforschung*. Frankfurt am Main: Suhrkamp.

Friedrich, Janette (ed.). 2018. *Karl Bühlers Krise der Psychologie. Positionen, Bezüge und Kontroversen im Wien der 1920er/30er Jahre*. Cham: Springer.

Garfinkel, Harold. 1967. *Studies in ethnomethodology*. Englewood Cliffs: Prentice-Hall.

Garfinkel, Harold. 2002. *Ethnomethodology's program: Working out Durkheim's aphorism.* Anne W. Rawls (ed.). Oxford: Rowman & Littlefield.

Geissmann, Claudine & Pierre Geissmann. 1998. *A history of child psychoanalysis.* London: Routledge.

Gesell, Arnold. 1928. *Infancy and human growth.* New York: Macmillan.

Gesell, Arnold. 1934. *An atlas of infant behavior.* New Haven: Yale University Press.

Goffman, Erving. 1963. *Behavior in public places. Notes on the social organization of gatherings.* New York: Glencoe.

Gumperz, John J. & Dell H. Hymes. 1972. *Directions in sociolinguistics: The ethnography of communication.* New York: Holt McDougal.

Hall, Edward T. 1963. A system for the notation of proxemic behavior. *American Anthroplogist* 65(5). 1003–1026.

Hall, Edward T. 1966. *The hidden dimension.* Garden City: Doubleday.

Harrington, Anne. 1996. *Reenchanted Science: Holism in German culture from Wilhelm II to Hitler.* Princeton: Princeton University Press.

Heath, Christian, Jonathan Hindmarsh & Paul Luff. 2010. *Video in qualitative research.* London: Sage.

Heider, Fritz. 1958. *The psychology of interpersonal relations.* New York: Wiley.

Hochman, Brian. 2014. *Savage preservation: The ethnographic origins of modern media technology.* Minneapolis: University of Minnesota Press.

Hoskovec, Tomáš (ed.). 2018. *Karl Bühler, une théorie du langage redécouverte / Karl Bühler, eine Sprachtheorie wiederentdeckt / Karl Bühler, a theory of language rediscovered.* Kanina: OPS.

Hymes, Dell H. 1962. The ethnography of speaking. In Thomas Gladwin & William C. Sturtevant (eds.), *Anthropology and human behavior*, 13–53. Washington, D.C.: Anthropology Society of Washington.

Kendon, Adam. 1990. *Conducting interaction: Patterns of behavior in focused encounters.* Cambridge: Cambridge University Press.

Knoblauch, Hubert, Bernt Schnettler, Jürgen Raab & Hans-Georg Soeffner (eds.). 2012. *Video analysis. Methodology and methods. Qualitative audiovisual data analysis in sociology.* Frankfurt a. M./Berlin/Bern/Bruxelles/New York/Oxford/Vienna: Peter Lang.

Knobloch, Clemens. 2005. *Volkhafte Sprachforschung: Studien zum Umbau der Sprachwissenschaft in Deutschland zwischen 1918 und 1945.* Tübingen: Niemeyer.

Koffka, Kurt. 1928. On the structure of the unconscious. In Ethel S. Dummer (ed.), *The unconscious: A symposium*, 43–68. New York: Alfred A. Knopf.

Kreppner, Kurt. 2010. The role of observational methodology and the application of film in early American and European developmental psychology. In Aaro Toomela & Jaan Valsiner (eds.), *Methodological thinking in psychology: 60 years gone astray?*, 231–260. Charlotte: IAP.

Lempert, Michael. 2019. Fine-grained analysis: Talk therapy, media, and the microscopic science of the face-to-face. *Isis* 110(1). 24–47.

Levelt, Willem. 2012. *A history of psycholinguistics: The pre-Chomskyan era*. Oxford: Oxford University Press.

Lewin, Kurt. 1926. Filmaufnahmen über: Trieb- und Affektäußerungen psychopathischer Kinder (verglichen mit Normalen und Schwachsinnigen). *Zeitschrift für Kinderforschung* 32. 414–447.

Lewin, Kurt. 1936. *Principles of topological psychology*. Trans. by Fritz Heider & Grace M. Heider. New York/London: McGraw-Hill.

Lück, Helmut E. 2001. *Kurt Lewin. Eine Einführung in sein Werk*. Weinheim: Beltz.

Maas, Utz. 2010–. *Verfolgung und Auswanderung deutschsprachiger Sprachforscher 1933–1945*. https://zflprojekte.de.

McQuown, Norman A. 1957. Linguistic transcription and specification of psychiatric interview materials. *Psychiatry* 20(1). 79–86.

McQuown, Norman A. (ed.). 1971. *The natural history of an interview*. Chicago: Microfilm Collection of Manuscripts on Cultural Anthropology, University of Chicago, Joseph Regenstein Library, Department of Photoduplication.

Mondada, Lorenza. 2013. Video as a tool in sociology and anthropology. In Silvia Ludwig, Cornelia Müller, Alan Cienki, Ellen Fricke, Silva H. Ladewig, David McNeill & Sedinha Teßendorf (eds.), *Body – language – communication: An international handbook on multimodality in human interaction*, 982–992. Berlin/Boston: De Gruyter Mouton.

Pike, Kenneth. 1967 [1954]. *Language in relation to a unified theory of the structure of human behavior*. Glendale: Summer Institute of Linguistics.

Ruesch, Jurgen & Gregory Bateson. 1951. *Communication: The social matrix of psychiatry*. New York: Norton.

Ruesch, Jürgen & Weldon Kees. 1956. *Nonverbal communication. Notes on the visual perception of human relations*. Berkeley: University of California Press.

Scheflen, Albert E. 1963. Communication and regulation in psychotherapy. *Psychiatry* 26(2). 126–136.

Scheflen, Albert E. 1966. Natural history method in psychotherapy: Communicational research. In Louis A. Gottschalk & Arthur H. Auerbach (eds.), *Methods of research in psychotherapy*, 263–291. New York: Appleton.

Smuts, Jan Christian. 1926. *Holism and evolution*. New York: Macmillan.

Spitz, René A. 1945. Hospitalism: An inquiry into the genesis of psychiatric conditions in early childhood. *The Psychoanalytic Study of the Child* 1. 53–74.

Trager, George L. 1958. Paralanguage: A first approximation. *Studies in Linguistics* 13(1–2). 1–12.

Woodward, William R. 2012. Charlotte Bühler: Scientific entrepreneur in developmental, clinical, and humanistic psychology. In Wade E. Pickren, Donald A. Dewsbury & Michael Wertheimer (eds.), *Portraits of pioneers in developmental psychology*, 67–87. New York: Psychology Press.