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EMCA informed experimentation as a way of investigating (also) "non-accountable" interactional phenomena

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Abstract

Consistent with social constructionism, EMCA is committed to "ontological muteness" with reference to those aspects of social reality that go beyond the publicly observable, accountable features of interaction. Therefore, phenomena such as prereflective mirroring mechanisms and physiological responses cannot be addressed with EMCA inquiry, although they can shape social actions and sequences of action in significant ways. Here I outline EMCA informed experimentation as a way of investigating also such "non-accountable" interactional phenomena. The experimental induction of social interaction in the lab allows the researcher to obtain larger amounts of parallel instances of data than would be possible in naturally occurring settings. This allows the use of statistical analysis to separate basic interactional patterns from "noise" and to measure participants' behaviours with technologies such as motion capture and physiological signal analysis. Such research process differs from the traditional, inductive EMCA approach with "unmotivated looking" of interaction as the starting point. The chapter describes the process as involving five phases (theorizing the interactional target phenomenon, inventing the social interactional tasks, running the experiments, coding or rating, and checking for inter-observer reliability, and statistical analysis and the interpretation of results) and discusses the concerns that an EMCA researcher may encounter during them.

Keywords: experimentation, social constructionism, mirroring, motion capture, physiological measurements

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Ethnomethodological conversation analysis (EMCA) constitutes a break from the traditional social scientific approaches. While Parsons explained the orderliness of social action in terms of the socialization of actors into the values and norms of their society, EMCA researchers explain social order with reference to the mundane practices by which members make sense of the world and act in it (Heritage 1984). What is thus demanded of social science, and what EMCA aims to do, is to document "the processes by which social life is constituted rather than treating social phenomena as given objects in the world" (Hammersley 2003: 755). This is also my aim in this chapter. Albeit deviating from some principles of EMCA, I seek to contribute to a better understanding of how the social world comes into being.

The chapter has the following structure. First, I will describe the methodological commitment of EMCA to "ontological muteness" regarding those aspects of social reality that go beyond what may be seen as the publicly observable, accountable features of interaction. Then, I introduce two interactional phenomena—prereflective mirroring mechanisms and the physiological underpinnings of interaction—which call for deviation from this insight. Thereafter, I will discuss the experimental induction of social actions and sequences of action as a way of empirically investigating these two topics. Finally, I will explain the research process associated with an EMCA informed experimental research endeavour and draw certain overall conclusions from the discussion.

Revisiting the ontological assumptions of EMCA

Social constructionism and the EMCA commitment to ontological muteness

Some of the central tenets of EMCA can be clarified with reference to the broad field known as social constructionism (Burr 2015). Historically, both EMCA and social constructionism draw from the phenomenological approach by Berger and Luckmann (1966), which stresses the central role of human interpretation and communication in the constitution of social realities. This key notion of social constructionism is shared by all branches of EMCA—discursive psychology (Edwards & Potter 1992; Wiggins 2017), micro sociology (Goffman 1967), and interactional linguistics (Couper-Kuhlen & Selting 2001). Some EMCA scholars have nonetheless actively opposed the idea of their research representing social constructionism (see e.g., Watson 2000; Wowk 2007). A key point where EMCA has been seen to deviate from social constructionism is epistemology. While social constructionism is generally critical towards knowledge (Burr 2015: 2–3), the EMCA rhetoric, in which the researcher can "sit back and observe the structuring quality of the world as it happens" (Boden 1994: 74), presupposes a view in which social reality exists objectively and is in this form also researchable (Burr 2015: 183).

Certain principles of social constructionism are, however, subscribed to by virtually every EMCA scholar. For example, this holds for the notion of performativity in language use. Words are used to do things (Austin 1962), which means that, as social action, words have concrete consequences (Burr 2015: 10). Furthermore, EMCA is consistent with the social constructionist view of the social world being constantly constructed and maintained in and through social processes (Burr 2015: 4–5). This principle fits seamlessly with the EMCA principle of refraining from taking any sociolinguistic variables or social identity categories as a starting point for the analysis of interactional phenomena (Drew & Heritage 1992: 17). Instead, for an EMCA researcher, these aspects of social reality are *interactional achievements*, which are constructed by participants rather than being stable, pre-existing structures (Svennevig & Skovholt 2005). Finally, EMCA shares the methodological commitment of social constructionism to "ontological muteness" regarding those aspects of social reality that go beyond the publicly observable features of interaction. The analysis should focus solely on how the participants *themselves* interpret each other's behaviours as "morally accountable" (Garfinkel 1967) actions, and the researcher is not supposed to produce any ontological claims detached from the participants' own interpretations.

The EMCA focus on participants' own publicly displayed orientations as a sole basis for making analytic claims on what is happening in the interaction has been criticized for various grounds. For example, some critics have invoked the notion of the social world being intertwined with power relations, which affects what different people can do in their interactions with others and how they can legitimately treat their interaction partners (Burr 2015: 5). Indeed, there are many situations in which a researcher could have compelling reasons to assume that the participants' relationship is in some way fundamentally unequal or unbalanced (e.g., sexual harassment and violence), in which case the sole focus on the participants' publicly displayed orientations leaves the researcher at the risk of disregarding those aspects of interaction that are particularly relevant for the participants themselves (Wetherell 1998; Billig 1999).

In this chapter, I will describe EMCA informed research that deviates from the ontological muteness characteristic for this field of inquiry. I will describe EMCA informed research on two interactional phenomena that tend to bypass participants' publicly displayed orientations in terms of moral accountability—the prereflective human mirroring mechanisms and the physiological underpinnings of social interaction. Although these phenomena are likely to evade EMCA analytic tools, I still assume these phenomena to be play a key role in what EMCA is generally interested in—that is, in how social interaction is organized as actions and sequences of action.

Phenomenon I: Prereflective human mirroring mechanisms

Mirroring is common in various domains of human behaviour: people have been found to copy each other's lexical choices (Garrod & Anderson 1987), to mimic each other's facial expressions (Lundquist & Dimberg et al. 1995), to imitate each other's body postures, movements, and gestures (Chartrand & Bargh 1999; Kimbara 2006; Shockley et al. 2007), and to entrain to the melodic and rhythmic features of each other's speech (Stevanovic & Kahri 2011; Gorish et al. 2012). While the human mirroring mechanisms range from intentional to prereflective (automatic), here I will focus on the pre-reflective tendency of humans to synchronize their bodily behaviours with those of each other. Such spontaneous synchrony has been observed, for example, when pairs of people walk (Zivotofsky & Hausdorff 2007), swing pendulums (Schmidt & O'Brien 1997), or sit in rocking chairs (Richardson et al. 2007). Prereflective mirroring mechanisms have been shown to exist already early in infancy (e.g., Condon & Sander 1974).

Extensive literature points to the social meaningfulness of the prereflective mirroring mechanisms. These mechanisms play a significant role in the degree to which individuals are perceived as a social unit or entity (LaFrance 1985; Hamilton & Sherman 1996; Marsh et al. 2009). They have also been suggested to facilitate communication by helping the alignment of mental and affective states (Cross 2005; Frith & Frith 2006). More specifically, empirical studies have shown, for example, that synchrony in body movements increases compassion (Valdesolo & DeSteno 2011), trust (Launay et al. 2012), rapport (Miles et al. 2009), affiliation (Hove & Risen 2009) cooperation (Wiltermuth & Heath 2009), generalized prosociality (Reddish et al. 2014), and empathy (Rabinowitch et al. 2013).

The positive social consequences of prereflective mirroring have been shown to be sensitive to the participants' more specific conversational activities and the requirements of the setting (e.g., Shockley et al. 2003). For example, Paxton and Dale (2013) found significantly less bodily synchrony within a dyad during argumentative settings, compared to affiliative ones. Fusaroli & Tylén (2012) found that when dyads were making joint decisions in a psychophysical task, the degree to which the participants matched each other's task-relevant expressions correlated positively with their task performance, whereas the indiscriminate matching of all expressions had a negative effect on the task performance. Findings such as these suggests that people's behaviours vary with respect to when they mirror each other's behaviours and when not. Some researchers have even suggested that it is precisely the alternation between mirroring and non-mirroring that drives the interaction and makes it interesting (Beebe & Lachman, 2002; Fuchs & De Jaegher, 2009). These ideas highlight the relevance of prereflective mirroring from the EMCA perspective (Stevanovic, Himberg, et al. 2017; Stevanovic & Himberg, 2021). If people do not mirror each other's behaviours all the time, the EMCA researcher asks: "Why that now?"—that is, what it is in the situation at the moment that makes mirroring more or less relevant. Even if the mirroring behaviours tend to bypass participants' publicly observable moral orientations (i.e., it is unlikely to be held accountable for a "mirroring failure"), it is still possible that these behaviours are constitutive of how participants' interactional contributions are organized in and interpretable as actions and sequences of action.

In our EMCA informed experimental study on dyadic joint decision-making interaction (see Stevanovic, Himberg, et al. 2017), we compared the degree of similarity in the participants' body sway during sequential continuations and sequential transitions, finding that the instances of highest body-sway synchrony occurred during the sequential transitions. In my view, this finding suggests that it is specifically at those moments of interaction when a close coordination is critical—for example, when the participants need to reach and display a common understanding that a joint decision has been reached—that the prereflective mirroring

mechanisms can become consequential for the sequential organization of action. From this perspective, the phenomenon becomes a topic of EMCA informed inquiry.

Phenomenon II: Physiological underpinnings of social interaction

While the prereflective human mirroring mechanisms tend to bypass participants' publicly observable moral orientations, the situation is even more so for the participants' physiological, affective, psychological, and experiential realities. Phylogenetically, many human mental characteristics have been suggested to have evolved specifically to meet the needs of social interaction (Levinson 2006; Scott-Phillips 2014). This has led some researchers to ask how the core topics of EMCA—actions and sequences of action—are underpinned by these processes. Here I will discuss the participants physiological responses to interactional events.

Human physiological responses are varied. Electrodermal activity has often been used as a measure of emotional arousal, and increased activity has been linked to various social and emotional stimuli (e.g., DiMascio et al. 1957; Khalfa et al. 2002; Stark et al. 2005; Marci et al. 2007). Other physiological response variables that have been associated with specific social and affective processes are heart rate (Konvalinka et al. 2011), breathing (McFarland 2001), and facial electromyographic activity (Deschamps 2012). Measuring these physiological responses requires technical equipment other than video recordings, which is new to EMCA but has played a central role in psychological research.

One set of studies on the physiological underpinnings of social interaction has focused on the degree of *synchrony* in the physiological changes in the interacting participants (Feldman et al. 2011; Marci et al. 2007; Konvalinka et al. 2011). In these non-EMCA studies, physiological synchrony has come across as a feature of intense social interaction, which may range from competitive computer games (Sovijärvi-Spapé et al. 2013) to fire-walking rituals (Konvalinka et al. 2011). Consistently with this insight, our own EMCA informed experimental study on joint decision-making interaction (Stevanovic et al. 2021) showed physiological synchrony to be higher during proposal sequences, compared to the other types of sequences constituting the participants' conversational activity.

Another related set of studies has focused on how social-interactional events relate to *increases* or *decreases* in the physiological indicators of participants' arousal. For example, in an early study, DiMascio and colleagues (1957) examined psychotherapy sessions with reference to the categories of Bales' Interaction Process Analysis (Bales 1950), finding that the categories "showing tension", "showing tension release", and "showing antagonism" were reflected in the participants' heart rates in systematic ways. This type of focus has also characterized some recent EMCA informed experimental studies on the physiological underpinnings of interaction (Voutilainen et al., 2014; 2018a; Peräkylä et al., 2015; Stevanovic et al. 2019b; 2021; 2022; Koskinen et al. 2021). For example, focusing on storytelling and story reception, Peräkylä and colleagues (2015) found that an increased level of affiliative story reception is associated with a decrease in the storyteller's arousal and an increase in the story recipient's arousal, as indicated in the participants' SC response during the storytelling episodes (see also Stevanovic et al. 2019b). The authors interpreted this finding by drawing on the dyadic systems theory by Beebe and Lachmann (2002), which postulates that the system by which participants regulate their affective arousal is bidirectionally connected to the system by which participants regulate the unfolding of social interaction.

From the perspective of EMCA, the dyadic systems theory by Beebe and Lachmann (2002) offers an important insight. It suggests that, even though one half of this entire big picture escapes publicly displayed moral orientations (self-regulation of arousal), the understanding of the entire picture is necessary to get a deeper understanding of the other half of the system—the one that is governed by the mechanism of moral accountability (regulation of interaction) and constitutes the focus of traditional EMCA inquiry.

Towards the experimental induction of actions and sequences of action

EMCA has emphasized close observation and rigorous descriptions of the structures of social interaction, as these become visible in naturally occurring interactional encounters, and excluded experimental and laboratory studies from its traditional scope (Kendrick 2017). Laboratory experiments have been argued to transform the dynamics of interaction into forms that are not anymore relevant for social scientific inquiry (Schegloff 1996b: 28). Unlike the physical and material world, which may be investigated experimentally, human activity has been argued to be quite different in a laboratory than in real life situations (Levitt & List 2007). Thus, the results obtained in a laboratory study are likely to suffer from problems of ecological validity and thus not generalize to the world outside the lab. In addition, experimental research has also been criticized for sticking to the prevailing preconceptions of human activity rather than being genuinely curious about what people do (Schegloff 2004).

However, every social interactional encounter is embedded in some *context*. While this holds for all encounters taking place within various naturally occurring settings, this holds also for interactions in a laboratory. While EMCA rejects the "bucket theory of context" (Heritage 1987; Goodwin & Heritage 1990: 286) in which pre-existing circumstances are seen to determine the interaction from above, this also means that the consequentiality of the laboratory context for the participants' interaction should not be taken for granted. Instead, just like in the analysis of everyday encounters, it is important to observe the extent to which participants themselves display their orientations to various features of the context and consider their relevance for research on this basis (see Schegloff 1991; 1997). From the perspective, no tenable distinction between "natural" and "contrived" data can be made (Speer 2002).

How should one then best induce the interaction phenomena of interest in the distinctive context of the laboratory? The answers vary, as has been demonstrated in EMCA informed experimental studies conducted during the last years. For example, if we want to study people's perceptions of social-interactional stimuli, this can be done by studying one participant at a time (see e.g., De Ruiter et al. 2006; Roberts, et al. 2006; 2011; Hirvenkari et al. 2013). However, if we want to examine how participants in interaction react to social-interactional stimuli in situ, we should design experimental tasks that allow the generation of repeated instances of such reactions (Bavelas et al. 2000; Clark & Krych 2004). Also, if we want to learn about people's interactional use of gestures, we cannot attach their hands to many wires and sensors that could change the trajectories of their hand movements (see e.g., Bavelas et al. 2008; 2014; Holler & Wilkin 2011). But then again, if we want to make use of contemporary measurement technologies (e.g., eye-tracking, breath tracking, motion capture) to get detailed information about those behaviours that cannot be reliably investigated with the help of video recordings alone, we may need to use some measuring equipment attached to the participants' bodies (see e.g., Holler & Kendrick 2015; Torreira et al. 2015; Stevanovic, Himberg, et al. 2017). This is also the case for physiological measurements, which typically limit the participants' physical freedom (see e.g., Voutilainen et al. 2014; 2018a; Peräkylä et al. 2015; 2016; Stevanovic et al. 2019b; 2021; Koskinen et al. 2021). Hence, whether and how experimentation would make sense as a means of investigation must always be assessed in the light of the specific questions that one wants to study.

EMCA informed experimental research may be motivated by various reasons. First, one might want to assess the generalizability of certain findings obtained in the qualitative data-driven scrutiny of naturally occurring interactions. The possibility of inducing repeated instances of those actions and sequences of action that one has previously studied on a case-by-case basis and subjecting the observations to quantification and statistical analysis might come across as a natural next step in one's attempts to better understand these interactional phenomena. Second, one might be interested in comparing the interactional practices of different participant groups (e.g., participants with various clinical conditions). Given that such

differences cannot be considered as absolute and static but as subject to high interindividual and intraindividual variation, analytic claim must be done based on a larger collection of parallel cases than would be possible to obtain by using naturally occurring data only.

Third, as has been highlighted in this chapter, one might want to examine social-interactional phenomena, such as the prereflective human mirroring mechanisms and the physiological underpinnings of interaction, which can best be technically measured in laboratory conditions. This is not only due to the possibilities of using measurement technologies in the lab, but also due to the nature of the phenomena as possibly bypassing moral accountability. To accept the possibility that the construction of actions and sequences of action could be also informed by interactional phenomena that the participants are not reflexively aware of makes it relevant also for the researcher to accept the possibility that not every single case in the data can be accounted for in similar terms. In other words, the EMCA principle involving the need to account for all the so-called "deviant cases" must be relaxed and replaced by effective ways of separating the generic patterns of action construction from what may now be regarded as "noise". Such separation necessitates larger amounts of comparable data (with parallel actions and sequences of action) than one might be able to obtain in natural settings.

Research process associated with EMCA informed experimentation

The experimental method has a long history in the natural sciences, where it has been specifically associated with testing hypotheses derived from existing theories and illustrating the consequences of manipulating individual variables. This is radically different form the inductive EMCA enterprise with "unmotivated looking" of naturally occurring interactions as a starting point. The EMCA informed way of conducting experiments must therefore be conceived as a compromise between these two entirely different ways of carrying out research.

I suggest that the research process associated with EMCA informed experimentation encompasses the following five steps: (1) theorizing the interactional target phenomenon, (2) inventing the social interaction tasks, (3) running the experiments, (4) coding or rating and checking for inter-coder reliability, and (5) statistical analysis and the interpretation of results. In what follows, I will briefly discuss each step separately, pointing to certain complications and concerns that an EMCA researcher might experience during them.

Theorizing the interactional target phenomenon

The first step in an EMCA informed experimental research process involves theorizing about the interactional target phenomenon. From the EMCA perspective, this idea is contradictory. EMCA has traditionally been skeptical about social scientific theories and conceptualizations of social interaction, which have been considered not to make justice to the complexities of human interaction but rather to mislead researchers (ten Have 2007 [1999]): 29–31). Simultaneously, EMCA literature itself contains many concepts that are necessary for any EMCA finding to get formulated, although the status of these concepts as *theoretical* ones has seldom been discussed.

The EMCA informed way of conducting experiments must be cognizant of the immense theoretical substance of the EMCA approach (see Heritage 2009) and the researcher must be willing to explicate the phenomena that this specific theoretical understanding of social interaction can help to elucidate. The core EMCA assumption about conversation constituting an institutional order of its own involves several sub-assumptions that can inform empirical inquiry and motivate the generation of hypotheses. First, the organization of *turn-taking* is assumed to be elementary in the management of the entire interaction order. EMCA informed experimental research can then make use of the concepts of "turn constructional units", "transition relevance places", and "turn allocation" (Sacks et al. 1974), and the taxonomies of

different types of "overlaps" (Jefferson, 1984) to construct hypotheses about the specific practices that participants engage in when alternating with their spoken utterances (see e.g., De Ruiter et al. 2006; Hirvenkari et al. 2013). Moreover, social interaction is assumed to be underpinned by the organization of utterances and expressions into chains of initiating and responsive utterances in terms of *sequence organization* (Schegloff 2007). Here, for example, the notion of "preference" and its associated practices provide a rich source of hypotheses for experimental research (see e.g., Roberts et al. 2006; 2011; Bögels et al 2015). In addition, hypotheses may be drawn from the EMCA literature on *repair* (Schegloff et al. 1977), *turn-design* (Lerner 1995), *epistemics* (Heritage 2013), and *deontics* (Stevanovic 2018), although not much has yet been done in this respect.

Notably, theorizing interactional phenomenona must not be exclusively based on EMCA literature. In addition, the EMCA informed theorizing of actions and sequences of action may be augmented by using theories from other fields, such as psychology (De Ruiter & Albert 2017). It is from this perspective that also questions about "non-accountable" interaction phenomena surface. As traditional EMCA operates on ontological and epistemological assumptions that are not compatible with this view, some researchers might be inclined to deny the EMCA informed nature of research on such questions. However, solely the idea of social action and its multiple resources and configurations in chains of initiating and responsive actions is essentially *informed* by EMCA. In my view, it is only right and just to acknowledge this source of inspiration when theorizing social interaction, as it motivates asking questions that have not been asked by researchers from other fields of inquiry.

Inventing the social interaction tasks

The next step in designing an EMCA informed experimental study is to invent social interaction tasks and task instructions that would lead the participants "spontaneously" to produce those actions and sequences of action that one wants to investigate. This aim is characterized with an inherent tension between two goals. One the one hand, it will be elementary to come up with ways of invoking the relevant actions and sequences maximally naturally. The task instructions should thus be generic enough not to directly influence the precise forms in which the relevant actions and sequences are realized during the task. On the other hand, specifically to deal with "noise" associated with the analysis of prereflective and "non-accountable" phenomena, it will be important to design the task in such a way that each dyad or group of participants will necessarily have produced repeated instances of the target phenomenon by the completion of the task. While the balancing between the two above-mentioned goals is challenging, it is not impossible. As pointed out by Schegloff (1991: 54–57), some tasks may generate modifications to how participants normally interact, but there can also be other tasks that preserve the dynamics of the turn-by-turn sequential unfolding of naturally occurring interaction.

When planning the experimental tasks, it is useful to anticipate later steps in the research process. Specifically, the coding of interaction (see below) will be easier if the key events that the study focuses on are easily and reliably identifiable from the data. Thus, for example, in our studies on joint decision-making sequences (Stevanovic, Himberg, et al. 2017; Stevanovic et al., 2021), we wanted to make sure that transitions from a decision-making sequence to a next would be realized as unambiguously as possible. Thus, we ended up using a task, in which the participants were given a series of 8 letters in the alphabetical order (e.g., H, I, J, K, L, M, N, O) and then asked to select 8 adjectives that would start with these letters and describe a fictional target (e.g., Donald Duck). As a motivation for the task, the participants were told to imagine being editors of a children's book, teaching the alphabet by featuring the target character with a series of adjectives. The participants carried out the task entirely without experimenter intervention. Once a decision for one letter was reached, the dyad moved on to the next letter in the alphabet, which means that the typical practice by which a transition to a new sequence

was constructed was the mentioning of the next relevant letter (e.g., "and then K"). As indications of transitions, such utterances were easily and reliably identifiable from the data.

Running the experiments

Running the experiments can be a relatively straightforward task for a researcher that inherits the experimental setup and can continue the research done by their predecessors (Strinagesh 2006: 170). In contrast, building an experimental setup from the scratch is a formidable task, which might discourage the EMCA researcher who wants to try something new for a change. The possibility of collaborating with researchers from other fields (e.g., psychology, cognitive science, and neuroscience) is therefore worthwhile.

Recruiting participants to the experiments is somewhat different from recruiting them to a typical EMCA study. On the one hand, the recruitment may be considered easier in that the researcher is not imposing their (video camera) presence on any naturally occurring setting but asks for volunteers to participate in a setting created solely for research purposes. On the other hand, the idea of testing specific EMCA driven hypotheses necessitates care in the selection of the participants. Because an EMCA researcher typically wants to focus on interactional phenomena, and not person-specific individual-level variables, the latter need to be controlled as far as possible. Given the size of the data set that one might be able to realistically obtain, the best way to control for these variables is to delimit the population that the participant sample represents. In our own studies, we have set criteria for the participants age, gender, mother tongue, educational level, and work experience, which could have most likely interfered with those physiological responses that we were specifically interested. Unless a candidate fitted to a specific participant profile, they were excluded from the study.

In the EMCA studies, the unique context of each conversational contribution is taken into consideration in the analysis of the participants' conduct. However, in the experiments that target prereflective and "non-accountable" interactional phenomena, it is important to keep the amount of unintentional contextual factors that could influence the results (e.g., changes in illumination, room temperature, and humidity) to a minimum. From the perspective of social interaction, the delivery of the task instructions necessitates specific care, as most subtle differences in the ways in which the task is explained to the participants may reflect on their entire conversation. Also, in case the experiment consists of several tasks to be conducted during a single laboratory session, it is important to have the have the order of the tasks counter-balanced across the different sessions.

Coding or rating of interaction and checking for inter-observer reliability

Next, the interactions induced through the experimental tasks must be *coded* for their relevant features to enable their quantification and statistical analysis. This part of the research process is the same, independent of whether the research is interested in "non-accountable" phenomena or those that are subject to participants' moral orientations. While also classical CA work is compatible in spirit with certain aspects of quantitative methodology, specifically when it comes to identifying, categorizing and counting instances of a phenomenon (Stivers 2015), in formal coding, the categorization process is more transparent, as the categorization criteria must be made explicit in a coding scheme. The basic idea of the coding scheme is that, in principle, any researcher following the scheme would end up categorizing the target phenomena in the same way. The statistical testing of whether the categorization criteria are clear enough, which is typically done by using Cohen's kappa coefficient (Cohen 1960), will then become a critical part of the process. Reaching a sufficient level of inter-observer agreement is necessary to be able to proceed with the analysis.

One persistent challenge in the attempts to code social interaction has to do with the fact that many aspects of human behaviour may be better understood as continuous than as categorical

(Stivers 2015). Therefore, another possibility to quantify social-interactional phenomena is to *rate* those dimensions with reference to which participants behaviours appear continuous. Such dimensions include, for example, empathy (Peräkylä et al. 2015; Voutilainen et al. 2018b), dominance and affiliation (Stevanovic, Henttonen, et al. 2017; 2019a; 2019b), and the level of participation or responsiveness (Stevanovic et al. 2020). An advantage of rating over coding is the possibility of using multiple "naïve" raters to observe the same interactional phenomena, while the intraclass correlation coefficient (ICC) may be used to assess agreement between the raters (Koch 1982). Instead of designing a detailed coding scheme, the raters may be instructed to rely on their own culturally based intuitions on what behaviour constitutes, for example, an affiliative response in different types of contexts.

Statistical analysis and the interpretation of results

The purpose of coding and rating is to help capture the complexities of social interaction in numbers. Numbers enable not only the scrutiny of the distributions of the relevant phenomena but also the examination of the relationship between these phenomena and other numerical variables—be they social, behavioural, affective, experiential, or physiological in nature.

A central task of the researcher is to determine which variables are to be seen as predictors and which as outcomes. From the EMCA perspective, this assignment of roles is not intuitively straightforward. Our own study on body sway during sequential transitions (Stevanovic, Himberg, et al., 2017) is a case in point. The study was motivated by the idea of sequential transitions as *interactional achievements* that the participants' synchronized body sway could contribute to. A successful sequential transition thus appeared as an *outcome* of what participants manage to do. From the perspective of statistical analysis, however, the reasoning worked the other way around. We had previously divided the participants' conversations into two different types of segments: sequential continuations and sequential transitions. To test our hypothesis, we treated the variable "segment" as a predictor variable, to see whether it would be able to predict the level of "body sway synchrony" as an outcome variable. While the statistical analysis showed that the participants' levels of body sway synchrony were higher during the sequential transitions, compared to the sequential continuations, and that this pattern was unlikely to be a co-incidence, we obtained no information about the mechanisms or causal relationships underlying this pattern. Instead, it was our EMCA informed understanding of social interaction and of sequential transitions as *interactional achievements* (i.e., "outcomes" of interactional practices) that allowed us to interpret the result and expand our understanding of the resources that participants use for this purpose.

Conclusions

In this chapter, I have described EMCA informed experimentation as a way of addressing social-interactional phenomena that tend to bypass moral accountability, but which may still be ontologically real and relevant for how social interaction is organized as actions and sequences of action. I have given two examples of such phenomena: the prereflective human mirroring mechanisms and the physiological underpinnings of social interaction.

The idea that some interactional phenomena may typically bypass moral accountability is challenging from the EMCA perspective. It emphasizes the need to use quantification to distinguish between the basic and non-basic patterns of interaction and involves a relaxation of the requirement to account for "deviant cases". While researchers in other fields are used to dealing with "noise" in the data, for an EMCA researcher, such an idea is hard to reconcile with the notion of "order at all points" (Sacks 1984: 22). EMCA informed experimental research thus involves various complications and concerns that are likely to arise during the research process. In addition, publishing the results may involve a further risk: I once had a paper

submitted to a journal for nine months, after which the editor returned the submission stating that that they had been unable to find reviewers for the paper.

Despite the above-mentioned difficulties, I strongly believe that the complexities of human social interaction must be further investigated and new ways of grasping them must be developed. EMCA has been elementary in shedding light on those actions and sequences of action by which the social world comes into being. EMCA informed experimentation is about doing the same from a somewhat different perspective.

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