
Encounters at the Borders of the Social World

Theoretical and Methodological Considerations on a New Type of Sociological Research

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Abstract

This article deals with the question of how sociology can overcome its 'anthropological bias'. Its starting point stems from the observation that new kinds of communication technology such as 'sociable robots' and 'embodied conversational agents' call the traditional human-centred perspective of sociology into question. Against this backdrop, the article aims to search and develop analytical tools that will allow one to de-anthropologise sociology. In order to do so, the article introduces, discusses and connects two distinct sociological approaches: Gesa Lindemann's analysis of the borders of the social world and the ethnomethodological membership categorisation analysis. The combination of these approaches offers appropriate methodological tools for open-ended empirical investigations at the borders of the social world, where humans meet robotic humanoids.

1. Introduction

While the question of *non-human agency* has been discussed in science and technology studies (STS) since the 1980s (Callon 1986; Collins & Yearley 1992; Johnson 1988), this does not apply to traditional sociology. Instead,

the field of sociological research is [traditionally] restricted, for example, to the social systems constituted by social actions of living human beings (Parsons), to the symbols developed in human interactions (Mead), or to the actions within human social relationships, which constitute social forms (Weber) (Lindemann 2005, 69).

Thus, it is not surprising that most social theories and research methods limit their focus to *human* beings who mutually coordinate their actions with those of others. The social world of sociology is traditionally conceptualised as a *human world*. As a consequence, machines, animals or other entities and their actions are not conventionally subjects of sociological inquiry.

However, limiting the realm of the 'social' to human beings has been questioned in recent years. The reasons for this lie in the new attention being paid to the (old) STS debates (Conradi, Derwanz & Muhle 2011; Kneer, Schroer & Schüttpelz 2008) and the theoretical shifts in the social sciences (cf. Knappett & Malafouris 2008; Latour 2007; Lindemann 2005) as well as in the emergence of new types of communication technology, which challenge the dichotomy between humans and machines. In particular, the products of 'social robotics', so-called 'sociable robots' and 'embodied conversational agents' (ECAs), call the traditional human-centred perspective of sociology into question (cf. Krummheuer 2008, 2010; Muhle 2010, 2013; Straub, Nishio & Ishiguro 2012). This is due to the fact that such 'humanoids' are intended to simulate human behaviour and to become social actors in a way, which is traditionally reserved for human beings. Cynthia L. Breazeal, one of the pioneers of social robotics, describes the 'vision of social robots' as follows:

For me, a sociable robot is able to communicate and interact with us, understand and even relate to us, in a personal way. It should be able to understand us and itself in social terms. We, in turn, should be able to understand it in the same social terms—to be able to relate to it and to empathize with it. Such a robot must be able to adapt and learn throughout its lifetime, incorporating shared experiences with other individuals into its understanding of self, of others, and of the relationships they share. In short, a sociable robot is socially intelligent in a human-like way, and interacting with it is like interacting with another person. At the pinnacle of achievement, they could befriend us, as we could them (Breazeal 2002, 1).

Breazeal's description of the vision of social robots foreshadows the fact that the separation of a social world of humans and a technical world of

machines becomes disputable. Consequently, the new phenomenon of humanoid machines becomes a relevant subject for sociological inquiry. If the vision of sociable robots becomes reality, it indicates nothing less than qualitative changes at the borders of the social world, which will eventually compel a revision of the basic assumptions of sociology.

To meet this challenge, sociology needs to develop theoretical and methodological tools, which, in contrast to traditional analytical tools, are not human-centred. On the one hand, the desired tools need to allow for an extension of the realm of the 'social' to non-human entities. On the other hand, criteria are also needed to maintain a clear definition of the 'social' in order to further be able to distinguish between social and non-social entities/relationships. In this way it should be possible to carry out investigations at the borders of the social world that treat which entities can become social actors to each other as an open empirical question. Against this background, it is the goal of this article to search for and develop appropriate tools.

In order to do so, in what follows I will first draw on a concept for 'the analysis of the borders of the social world', as it is being developed by German sociologist Gesa Lindemann (2002; 2005; 2009a; 2010) (section 2). In a second step (section 3), I will connect Lindemann's considerations with the empirical approach of ethnomethodological 'membership categorisation analysis' (Antaki & Widdicombe 1998; Fitzgerald & Housley 2002; Gafaranga 2001; Stephen Hester & Eglin 1997; Housley & Fitzgerald 2002, 2009; King 2010). As I will show, this connection makes sense insofar as both approaches can benefit from each other. Membership categorisation analysis provides adequate analytical concepts for detailed empirical investigations, which are missing in Lindemann's approach. Conversely, membership categorisation analysis can be de-anthropologised in combination with Lindemann's theoretical approach so that it becomes a powerful tool for empirical analyses at the borders of the social world. Finally, I will draw conclusions on my findings (section 4).

2. Gesa Lindemann and the analysis of the borders of the social world

Referring to the work of Thomas Luckmann (1970) and the STS debates that have taken place since the 1980s (cf. section 1), German sociologist Gesa Lindemann argues for a de-anthropologisation of sociology. In accordance with Luckmann and the STS debates, Lindemann states “that only a historically changeable interpretation process can determine who can act as a social actor. Hence, social science research must ask how the borders of the social world are drawn in concrete historical situations” (Lindemann 2005, 70). For modern western societies, she supposes that it is only living human beings who are classified as social actors in a generally valid way. With reference to pets, she clarifies her assumption as follows:

Though some pets – dogs for example – are treated as persons by their masters, in western democratic societies they generally cannot cross into the realm of the social. These animals are not persons in their own right, as human beings are; personhood is attributed to them by their masters. The personhood of these animals is not generally valid, but it is dependent upon entities who are persons in their own right. In a modern society there is a border which the animal cannot cross; such a border is beyond the reach of sociological research as long as sociologists do not question the assumption that only living humans can be social actors. Only if sociologists cease to presuppose that only living humans can be social actors will they be able to notice that while in some societies only humans are social actors in their own right, in other societies animals, gods, the deceased, plants, or other things can occupy the status of an actor as well. In other words: in order to make such borders visible, sociologists must begin to question their anthropological bias (Lindemann 2005, 70).

As becomes obvious from the above quotation, Lindemann assumes that entities other than living human beings might become social actors. However, at the same time she states that in modern (western) societies only living humans are treated as social actors in a generally valid manner. To understand this assumption, it is necessary to take a closer look at her social-theoretical considerations.

2.1 Lindemann's contribution to social theory

Lindemann offers a 'formal theory of the social', which is based on the theorem of 'double contingency' as invented by Talcott Parsons and further developed by Niklas Luhmann (cf. Lindemann 2005, 72). Parsons uses the theorem of double contingency to distinguish

between objects which interact with the interacting subject and those objects which do not. These interacting objects are themselves actors or egos [...]. A potential food object [...] is not an alter because it does not respond to ego's expectations and because it has no expectations of ego's action; another person, a mother or a friend, would be an alter to ego. The treatment of another actor, an alter, as an interacting object has very great consequences for the development and organization of the system of action (Parsons & Shils 1951, 14f).

Consequently, in a *social* interaction – as defined by Parsons – both interlocutors “know that both know that one could also act differently” (Vanderstraeten 2002, 77). They do not merely react to the visible actions of their counterpart; rather, they develop mutual interpretations of their actions as responses to expectations that are associated with their actions. This has significant consequences for the emergence of social systems and allows one to draw a distinction between social actions and other forms of action. For this, the importance of expectations is crucial. As Parsons points out, “it is the fact that expectations operate on both sides of the relation between a given actor and the object of his orientation which distinguishes social interaction from orientation to nonsocial objects” (Parsons & Shils 1951, 15). Additionally, according to Parsons, Luhmann emphasises that the analytical decision of whether an action is social or not depends on the complexity of underlying expectancy structures: “With double contingency there is a need for [...] complicated expectancy structures that rely heavily on preconditions, namely *expectation of expectations*” (Luhmann 1985, 269). This means that an action can be treated as 'social' if (from the perspective of a given entity, or rather an 'ego')

the behaviour of the other person cannot be expected to be a determinable fact; there is a need to see it in terms of his selectivity, as a choice between various possibilities. This selectivity is, however, dependent on others' structures of ex-

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pectation. It is necessary, therefore, not simply to be able to expect the behaviour, but also the expectations of others (Luhmann 1985, 269).

In this sense, social actions only emerge between entities that attribute the expectation of expectations to each other. Traditionally, this perspective allows one to clearly distinguish between social interactions on the one hand and the use of machines/technology on the other: in contrast to (human) interaction, the use of machines can be described as a situation with simple expectations. Whereas every input to the machine creates an expected output, a given ego can stabilise simple, but persisting, expectations of the machine's activities. The machine in comparison has no expectations of ego's action. Looking at such a definition of sociality, it would at a first glance seem to be obvious that only living human beings can become social actors. What other beings would be able to develop complex relationships based on the mutual expectation of expectations?

Nevertheless, the theorem of double contingency can also be used as a social theoretical concept, which does not presuppose that it is only humans who experience double contingency and develop expectation of expectations. This is exactly Lindemann's argument. She starts with the theorem of double contingency, but enhances it in a particular way: She claims the need for a 'foundational interpretation' in addition to the theorem of double contingency. This foundational interpretation logically precedes the interpretation of the other's expectations. Accordingly,

it is necessary within the framework of the formal theory of the social to logically distinguish two steps of interpretation. The first step consists of making the distinction between those who must be treated as a You and those entities who do not have to be treated in such a manner (Lindemann 2005, 75).

This means that a given ego first has to decide whether another entity in his or her environment is another social actor (or rather an 'alter ego') with expectations or not. Only after this distinction is drawn does it make sense to interpret the other's actions as expressions of expectation-expectations.

Along with the invention of a 'foundational interpretation' come two assumptions. First, the (mutual) identification of social actors as social

actors is an *interpretative process*. This means that there is no 'natural' or 'biological' reason why only humans should be social actors. The equation human = social actor is not only self-evident but furthermore (historically) contingent. This is why Lindemann argues for a de-anthropologisation of sociology. Second, even if the equation human = social actor is not self-evident, it is, however, very stable. Lindemann assumes that modern societies have developed a particular 'institution', which guides the foundational interpretation. This institution is the *physically embodied human being, who is biologically alive* (cf. Lindemann 2009, 82). That is, according to Lindemann, in modern western societies (only) the appearance of a human body "can be seen as an indication of the existence of an entity with which Ego can exist in a relationship characterized by expectation-expectations" (Lindemann 2005, 73).

The living human being as institutionalised social actor is framed by a so-called 'anthropological square'. This means that a fourfold demarcation can be identified, which distinguishes living human beings as social actors from non-social entities (cf. Lindemann 2009b, 98). The first line of demarcation is set up at the beginning of life. To cross the border to the social world, a person must be alive enough to have the status of a social actor apply to him/her. Accordingly, fetuses or newborn babies are generally not yet valid social actors. Similarly, the second line of demarcation is set up at the end of life; people who are no longer alive enough lose their status as generalised social actors. Lindemann (2002) convincingly describes this loss of agency in an empirical analysis of the practices in intensive care and neurological rehabilitation.

Additionally, two other demarcations are identified by Lindemann: the human/animal difference and the human/machine difference. These four demarcations traditionally separate the social world from the non-social world. Consequently, a sociology that is interested in the borders of the social world and their potential transformations is required to focus on (one of) these demarcation lines. In other words, the anthropological square can serve as a heuristic for analyses at the borders of the social, which aim to answer fundamental sociological questions: (1) How are the borders between the social and the non-social world drawn? (2) (How) do these borders change? and (3) Which entities might cross into the realm of the social?

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As already mentioned, Lindemann (2002) performs such an analysis in relation to the demarcation at the end of life. Likewise, it is possible to conduct a similar analysis of the demarcation between humans and machines. As I have argued in the introduction, owing to recent developments in the domain of social robotics, there are good reasons to suppose forthcoming transformations of this demarcation line. Accordingly, it can be assumed that “border phenomena are likely to occur” (Lindemann 2005, 76) when (in the future) humans meet humanoid robots or ECAs, so that answers to the three fundamental questions raised above can be found in analyses of encounters between humans and humanoids.

2.2 Lindemann's methodology

But how can such analysis be realised? Lindemann gives just a few pieces of methodological advice, which remain more or less abstract and carry certain problems. Referring to her analysis of the practices in intensive care and neurological rehabilitation, Lindemann describes her methodological approach as follows:

Initially, I identified a core class of social actors. I then observed whether these actors need to deal with questionable entities. I chose language in order to empirically operationalize the formal theory of the social. Those entities who communicate with each other using language were interpreted as social actors, that is, they were interpreted as existing in a relationship structured by mutual expectation-expectations. Subsequently, I observed whether the identified social actors (doctors, nurses, and therapists) constitute a border between entities who are actually social actors and other entities. Thus my focus was on the relationship between social actors and their counterparts (Lindemann 2005, 76f).

Looking at the quotation, two main problems with Lindemann's approach surface. The first problem lies in the fact that Lindemann does not say how exactly it can be observed whether “social actors [...] constitute a border between entities who are actually social actors and other entities” (Lindemann 2005, 77). This means that Lindemann's approach is not precise enough to guide detailed empirical analyses.

The second problem concerns an asymmetric bias, which is inherent in Lindemann's methodology. It presupposes "a core class of social actors" and simply follows their actions in order to find out how the borders of the social are drawn. With this methodological decision, Lindemann rather surprisingly reiterates a problem of which she is aware when she herself is criticising STS scholars (cf. Lindemann 2005, 71). Hence, she assumes that Bruno Latour and Michel Callon "presuppose a naive empiricism and end up re-establishing the methodological relevance of the distinction between humans and other beings" (Lindemann 2005, 71), but does almost the same when she starts her analysis with the identification of a "core class of social actors". Such an a priori distinction between a core class of social actors on the one hand and 'problematic' actors on the other is very similar to Latour's and Callon's distinction between humans and other beings. In particular, it carries the methodological problem that if the scientific observer decides in advance which entities are 'unproblematic' social actors and which not, then who indeed is a social actor can no longer be treated as an open empirical question. Against this background, it becomes necessary to search for other methodological tools, which fit Lindemann's theoretical considerations but allow a symmetrical and open-ended analysis of social border phenomena. This is where ethnomethodological membership categorisation analysis comes in.

3. Membership categorisation analysis as a methodological tool for the analysis of social border phenomena

Harvey Sacks, the founder of the well-known ethnomethodological 'conversation analysis', also developed the methodological approach of membership categorisation analysis (MCA). As Andrew King points out, MCA can be defined as "a form of conversation analysis that explores how individuals make sense of and order their social worlds, particularly how they constitute social actions through making categorisations and attributions" (King 2010, 1). As the term suggests, the main emphasis of MCA lies

on the use of membership categorisations during conversations. Such “membership categories [...] are classifications or social types that may be used to describe persons” (Stephen Hester & Eglin 1997, 3).

The idea behind MCA is “that social identities are resources that participants use in interaction with other participants” (Gafaranga 2001, 1913) in order to develop expectations of their (expected) possible next actions. Sacks observed that “one of the features of description and recognizability in conversation is the display of categories and the methodical process of categorization” (Fitzgerald & Housley 2002, 580). Subsequently, MCA scholars assume that participants in interactions principally need to categorise their counterparts in order to be able to create expectations of their activities, motives and characteristics. Accordingly, people’s activities are always interpreted as ‘category-bound activities’, which on their part allow for classifications (or rather expectations) of the (actions of) others. Otherwise, it would not be possible to understand the meaning of each other’s actions, given the fact that “the behaviour of the other person cannot be expected to be a determinable fact” (Luhmann 1985, 269), as Niklas Luhmann states against the background of the theorem of double contingency (cf. Section 2.1).

3.1 The analytical concepts of membership categorisation analysis

On the basis of these assumptions, MCA “examines the way in which members organize their interaction using categories, devices and predicates, mapped onto a category or collection of categories” (Fitzgerald & Housley 2002, 580). For this, Sacks has generated “a further set of analytical concepts” (Fitzgerald & Housley 2002, 581) that guides MCA analyses. Of these, three analytical concepts are of interest in the context of this article: (1) membership categories, (2) membership categorisation devices and (3) category-bound activities.

As already mentioned, *membership categories*, “as defined by Sacks, are classifications or social types that may be used to *describe persons* [emphasis added]” (Stephen Hester & Eglin 1997, 3). Corresponding membership categories may be ‘mother’, ‘sister’, ‘baby’, ‘husband’, ‘colleague’, ‘boss’, ‘scientist’, ‘technician’, ‘football player’ or ‘musician’. Different kinds of

categories trigger certain expectations of properties, typical activities and expectations of the categorised persons. If we call our sister, we might expect an informal, warm greeting and her willingness to listen to our personal problems. However, we would by no means expect the same from our colleagues or our boss. This demonstrates the way in which membership categories structure expectations and the course of interactions. Building on the concept of membership categories, the notion of membership categorisation devices (MCDs) underscores that certain categories may be linked together to form classes or collections (cf. Stephen Hester & Eglin 1997, 3). This idea

refers to the fact that, in the locally occasioned settings of their occurrence, some membership categories can be used and heard commonsensically as 'going together', whilst others cannot be so used and heard. For example, the collection or MCD 'family' may be so heard to include such membership categories as 'mother', 'father', 'son', 'daughter', 'uncle', 'aunt', etc., and to exclude 'trumpet player', 'dog', 'marxist feminist' and 'Caucasian' (Stephen Hester & Eglin 1997, 4).

As already indicated, membership categories are inseparably connected with expectations of particular activities. We expect our sister to listen to our personal problems, but we do not expect her to apply for the same job as we do. With our colleagues, it is probably the other way around. In this context, Harvey Sacks introduces the term 'category bound activities', "which are those *activities that are expectably and properly done by persons who are the incumbents of particular categories* [emphasis added]" (Stephen Hester & Eglin 1997, 5).

If we examine these concepts, it reveals that MCA was originally intended for the analysis of human interactions, not for analyses at the borders of the social world. Membership categories are clearly defined as descriptions of persons, which means humans not robots or machines. MCA's methodological starting point is by no means the question of which entities can become social actors for each other. Furthermore, MCA traditionally takes human beings as (the one and only) unquestioned social actors and investigates how they categorise themselves and each other in ongoing interactions. Consequently, the activities of robots or ECAs up to now have not been described in terms of membership categorisations.

3.2 De-anthropologisation of membership categorisation analysis

Nevertheless, it is possible to reformulate both the distinction between humans and non-humans (or rather social and non-social actors) and the potential transformations at the borders of the social world on the basis of the above-mentioned analytical concepts. Thus, it becomes feasible to avoid the anthropological restrictions of MCA and to use its analytical tools for analyses at the borders of the social world. In order to do so it is essential that membership categorisations, which serve as descriptions of persons in interaction processes, are not to be confounded with essential properties of the described persons. Instead, they are *attributions* that occur during interaction processes and (potentially) underlie transformations over time. Hence, categorisations and their ligation to particular activities are always contingent and not determined. As Sally and Stephen Hester put it,

categories are always 'categories in context' and this means that the task for MCA is to discover how collections, categories and predicates are used on the occasions of their occurrence rather than presuming their stable cultural meanings (Hester & Hester 2012, 566).

Thus, membership categories can best be understood as 'turn generated categories' (Fitzgerald & Housley 2002, 581). They are products of everyday interaction processes and are not stable properties of humans or other entities. Consequently, Sue Widdicombe argues from a MCA perspective that "agency, in the sense of an action orientation is [...] intrinsic to the analysis without locating it in self-conscious intentionality, cognitive process, or in abstract discourses" (Widdicombe 1998, 203). From this follows that categorisations and category-bound activities, which belong to particular membership categories or MCDs, always underlie transformations depending on the situated contexts of their use (cf. Sally Hester & Hester 2012). Additionally, with reference to the considerations of Gesa Lindemann (cf. section 2.1), it can be argued that they are also historically contingent and may underlie long-term transformations resulting from changes at the borders of the social world. This argument finds support from STS scholar Steve Woolgar (1991). He also claims

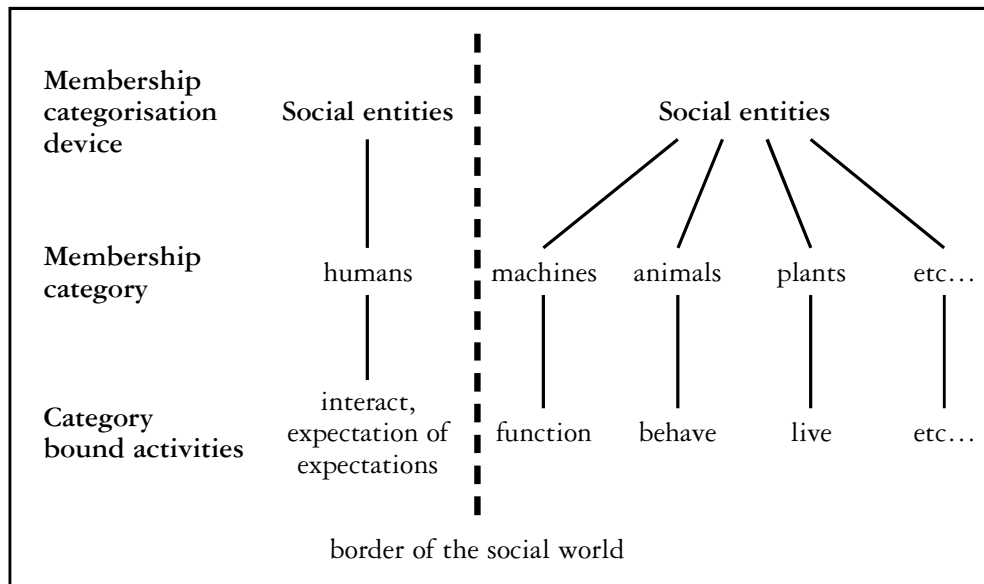
that the attribution of agency only to humans is not rooted in human nature. Instead, it “is institutionalised in conventional practice” (Woolgar 1991, 62), which varies over time and cross-culturally (cf. Woolgar 1991, 65). To make this point clear, Woolgar introduces the term ‘moral order of representation’, which is defined as a “world view which embodies notions about the character and capacity of different entities, the relationship between them, their relative boundedness, and the associated patterns of rights and responsibilities” (Woolgar 1991, 66). Accordingly, the modern (western) worldview, which attributes social agency only to humans in a generally valid way (cf. Lindemann 2005, 70), can be considered as a historically and culturally contingent ‘moral order of representation’.

Following Woolgar, the crucial point concerning the moral order of representation is that it “changes with the introduction of a new entity” (Woolgar 1991, 66). This allows one to ease the restrictive equation ‘social actors = human being’ and to reformulate the distinction between humans and machines as a historically instituted distinction according to a particular and contingent moral representation of order, which may change with the introduction of social robots and embodied conversational agents. In terms of MCA, this means that in the present moral order of representation the separation of humans and machines can be analysed as a distinction between two different kinds of membership categorisation devices, which collect different membership categories. Robots, ECAs, computers and other kinds of communication technologies belong to the device ‘machines’, which itself is part of the collection ‘non-social entities’. Against this, children, adults, technicians, scientists, and so on belong to the device ‘humans’, which is synonymous with the collection ‘social entities’.

Along with this differentiation of membership categorisation devices come different expectations with respect to the typical activities of humans, machines and other entities. As I have argued in section 2.1, these differences can be analysed with reference to the theorem of double contingency, which allows a distinction to be made between social and non-social relations/actors. With regard to machines, this means that they are not expected to have expectations; instead, they are expected to function.

Consequently, in terms of the analytical concepts of MCA, the modern moral order of representation can be displayed as follows (cf. Figure 1):

Figure 1. The modern 'moral order of representation'



Today, only human beings belong to the membership categorisation device 'social entities'. They are treated differently to machines and other non-human entities because they interact with each other and develop expectations of each other's expectations. But there is no reason why this should not change if one day machines fulfil the vision of social robotics and become "able to communicate and interact with us, understand and even relate to us, in a personal way" as roboticist Cynthia L. Breazeal (2002, 1) suggests (cf. section 1). Typical activities, which today are bounded to human beings, may then also expectably and properly be done by robots and ECAs. Therefore, it should be both possible and reasonable to apply the methodological concepts of MCA not only to human interactions but also to (future) human-machine interactions. If agency is only "intrinsic to the analysis" and not to the entities that participate in interactions, it should be possible to observe whether and how agency or personal categorisations are attributed to non-human beings when it comes to encounters between humans and robotic humanoids. For analyses of

these kinds of encounters at the borders of the social world, it is not necessary to define a core class of social actors as Gesa Lindemann suggests (cf. section 2.2). Instead, it is sufficient to follow the ongoing processes of interactions (between humans and non-humans) in order to analyse whether and how personal categorisations occur in the course of the interactions as 'turn-generated categories' – not as categories which are a priori invented for analysis by the scientific observer. It is exactly this kind of methodology that allows one to treat which entities become social actors for each other as an open-ended empirical question.

The leading empirical question is then whether 'interacting' and 'expecting expectations', which up to now have been activities that are bounded to humans, also become (permanently) attributable to robots or ECAs. If this is the case, one may conclude that significant transformations at the borders of the social world are taking place, because the human/machine difference as one of the demarcation lines between social and non-social actors (cf. section 2.1) becomes fragile and a change in the modern moral order of representation occurs.

4. Conclusion

As I mentioned in the introduction, it was the goal of this article to search for and develop appropriate tools for a new type of sociological inquiry, namely, analyses at the borders of the social world. In order to do so I introduced, discussed and connected two different sociological approaches: Gesa Lindemann's analysis of the borders of the social world and the ethnomethodological membership categorisation analysis. On the one hand, the connection of these approaches allows one to draw attention to social border phenomena, which up to now have not been the focus of mainstream sociology. This is, first and foremost, the merit of Lindemann's contribution to social theory. On the other hand, the de-anthropologised version of membership categorisation analysis, which I developed in section 3 with reference to considerations of Lindemann and STS scholar Steve Woolgar, offers appropriate tools for open-ended empirical investigations at the borders of the social world.

Owing to space restrictions it was not possible to elucidate the potential of the elaborated tools on the basis of empirical data. First exemplary analyses (in German) can be found in Muhle (2013), but the further development and exploration of this new kind of sociological research is still an open task.

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