

5 The Changing Meanings of Things: Found Objects and Inscriptions in Social Interaction

Jürgen Streeck

It is common practice in the disciplines that study human communication that categorical distinctions are drawn between the various media, symbol systems, and modalities of communication. Thus, one commonly distinguishes between spoken and written communication, between writing and drawing, writing and gesture, and between instrumental and symbolic acts. But these clear-cut distinctions are abstractions. They posit only canonical uses of the media and make it difficult to describe symbolic activities that fall “in between” the categories and merge components from more than one or that are the products of “non-canonical” enactments of practices. Social interaction is full of such hybrid, non-canonical acts. Social interaction is a vociferous process, always hungry for stuff out of which signs, symbols, and scenic arrangements can be made, and it often appropriates for its own purposes other props such as objects on the table, or mediated practices such as writing, diagramming, or doodling. Moreover, in the course of social interaction, physical objects often accumulate situated meanings over time – meanings over and beyond those with which they enter the scene, but which they may retain throughout and beyond the current encounter.

This complexity of communication in a world largely made up of human artifacts has as of late come into view. Researchers studying communication in the workplace (Drew & Heritage, 1992; Hutchins & Klausen, 1996) as well as human-machine communication (Suchman, 1987) have suggested that “talk and activity in such a setting mutually structure each other in ways that require a rethinking of some of the basic frameworks for the analysis of human interaction” (Goodwin, 1993: 1). It is of particular importance to take account of the fact that quite often in such settings, “meaning” and “information” are not only inherent in linguistic and embodied components of the communicative process – talk and gesture – but are *distributed* across a variety of places and representation systems (Lynch & Woolgar, 1988), which include internal as well as external knowledge

representations.¹ Meaning therefore does not only flow through symbols and expressive forms that make up our ancient and primary tools for communication, and it is not only contextualized by the material environment; rather, the environment, through the interpretive uses the participants make of it in their situated activities, becomes a *component* of the process of communication. States of artifacts retain memories of local interaction (Hutchins & Klausen, 1996: 28). In this process, the minds of the interactants interact with the minds of previous generations that are embodied in material culture.² Among the mediated and symbolic activities that are often carried out alongside social interaction are ones that involve *inscriptions* – writing, diagramming, calculating, and so on. Inscriptions are as important in the business world as they are in science labs; in fact, writing in the Western hemisphere appeared for the first time as an accounting system in the context of trade – in the function of “external memory storage” (Donald, 1991; Schmandt-Besserat, 1996).

¹ Among the scholars who have argued for a “distributed” view of meaning making are Hutchins (2006) and Ingold (2000), who have emphasized that human symbolic activity begins with *gathering meaning* from the environment rather than depositing it in it. Much of the initial and continuing motivation of this line of research has been provided by anthropologists, psychologists, and cognitive scientists who have studied human cognition at work in real-life settings such as grocery stores (Lave, Murtaugh, & de la Rocha, 1984) and suggested that the human mind is not only located in individual brains but also in environments, which, after all, are themselves largely human-made (Norman, 1993b). Cognition therefore ought to be studied as a situated activity in which individual skills and knowledge interact with (a) skills and knowledge in other individuals, and (b) mind as it is embodied in artifacts. The “unit of analysis” of this approach is the “culturally constituted functional group rather than an individual mind,” and it describes cognitive processes by tracing the movement of information through a system, which includes “the organization of the tools in the work environment” (Hutchins & Klausen, 1996: 15). The approach is known as “distributed cognition” or “socially shared cognition” (see Bruner, 1990; Hutchins, 1995, 2006, and this volume; Norman, 1993a, 1993b; Resnick, Levine, & Behrend, 1990; Scribner, 1984).

² For views of gesture informed by this view, see Becvar, Hollan & Hutchins (2005) and Streeck (2009).

This chapter describes articulations of speech, gestures, objects and their arrangements, and graphic signs. In the first part, I describe how things become situated symbols. The participants' actions and conversation are interwoven with material objects and arrangements that become, both physically and with respect to the meanings that they embody for the parties, products and external memories of these very actions and conversation. Things that enter the interaction as "just things" become components of scenic arrangements in which social meanings are embodied. The things explored in the first part of the chapter are prefabricated: They exist prior to the scene. In the second part, I examine artifacts that are created *in situ*: graphic marks made on a sheet of paper. In both sections, both the *making* of the artifacts (the handling and arranging of objects, the making of graphic marks) and the *products* of these makings are relevant. The process of making is *dramatized* (Goffman, 1959), and the artifacts, once they have been made, altered, or arranged, endure, embodying over time socially significant senses in ways that ephemeral speech and gesture usually do not.

The material for this study are two episodes from a business negotiation between two German entrepreneurs. Antpöhler, the owner of a company with approximately one hundred employees that produces cookies, and Destrooper, the owner of a firm that markets his products, have come together to flesh out a new marketing plan: In addition to selling the cookies that Antpöhler's company produces in large quantities and sells to wholesalers, they want to directly market smaller quantities of top-shelf cookies to hotels and restaurants. The idea is that these establishments might sell single units (e.g., a florentine) along with cups of coffee. The advantage of this strategy, besides reaching a new segment of the market, would be that it might work during the summer season, when people in Germany do not tend to eat cookies in large quantities. However, such direct-marketing requires an entirely new negotiation of the terms of trade because it involves a much less advantageous labor-profit ratio on the distributor's side. Destrooper needs to get a larger share of the profit than he usually does, and what is at issue here is: how much.

FOUND OBJECTS

We enter the negotiation after Antpöhler, the manufacturer, and Destrooper, the marketing man, have concluded the strategic planning phase of the negotiation and are en route to the profit-calculation phase. In between these two stages they compare Antpöhler's cookies with ones made by the competitors, which Destrooper has brought along. In a previous publication (Streck, 1996), I have described how one of the cookies produced by the competitor is demonstratively test-eaten by Antpöhler and in the process transformed into a *sample* (Goodman, 1978),



Figure 5.1. Antpöhler inspects competitor cookie.



Figure 5.2. Antpöhler test-eats competitor cookie.

that is, an object that comes to represent the competitor's line of products (Figures 5.1 and 5.2). The cookie becomes a local convention, an index – a material object with inherent material properties, but with additional, locally elaborated senses. Whenever it is used or referred to during the further course of this negotiation – for example, as a tool used in gestures or as a target of pointing gestures and gaze – it is filled, not only with cream, but with situated meanings.

This entirely mundane scene demonstrated how human action and its objects and tools become intertwined: Actions such as sampling, probing, exploring, and talking about not only establish the intrinsic qualities of things, but also inscribe intersubjective qualities on them. At the same time, through the ways in which he dramatizes his mundane acts, the businessman establishes himself as an expert-eater, as someone demonstrably capable of teasing out the qualities of an edible object through its skilled incorporation – as a professional (Goffman, 1959: 30–34). The interlocutor's analogous response confirmed this double transformation – of the agent and his object: After Antpöhler has finished eating the cookie, Destrooper picks up the aluminum bag



Figure 5.3. Destrooper inspects competitor aluminum bag.

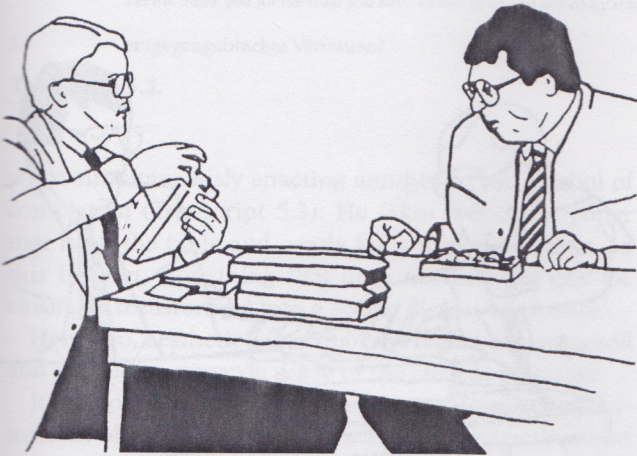


Figure 5.4. Destrooper fondles competitor aluminum bag.

that contained it, subjects it to systematic haptic exploration, or “active touch” (Gibson, 1962), and then solicits Antpöhler’s assessments of the intrinsic and functional properties of the competitor’s bag – which in the process turns into an index of the durability of florentines, both Antpöhler’s and those made by the competition (Figures 5.3 and 5.4).

It is this aluminum bag and the small box that contains it that I now want to focus on. These objects become implicated in another type of collaborative action that, *prima facie*, seems to be of a purely functional kind but at the same time achieves interaction-organizing ends. First Destrooper puts the aluminum bag away. Antpöhler fondles it and picks it up, idly, without any overt purpose. He puts it down and picks it up again, all the while talking about what his company does to guarantee that its cookies remain fresh for at least six months. The bag thus remains *in play* as a generic index to the *topic* of the conversation that was first launched by its exploration. Eventually, the bag is discarded. However, it is put away in a gestural fashion: Antpöhler, who is still holding it, makes a dismissive gesture with it that is coupled with the phrase “no chance” (in line 3 below) in the clause “no chance to get into the

American market.” What the bag contributes to the multimodal utterance is the meaning of “freshness” that is carried over from its prior exploration: In other words, the conveyed meaning is “without the quality that the foil has come to represent – freshness – you have no chance to get into the American market. (Transcript 5.1)”

- 1 A Wenn Sie den Amerikanern zum Beispiel
If you don't guarantee to the Americans for example
- 2 nich garantieren daß die Ware mindestens sechs Monate hält,
that the product stays fresh for at least six months,
- bag discarded
- 3 (.) haben Sie keine Chance (.)
you'll have no chance at all
- 4 D reinzukommen
to get in
()
- 5 A überhaupt in den Markt zu kommen.
to even get in the market.

Transcript 5.1.

In this sequence, then, the meaning that the object has acquired in the course of this interaction is made to *articulate* with the meaning of the concurrent utterance. It is incorporated in a gesture, which is itself but a communicative modulation of an instrumental act: Rather than just putting the bag down, Antpöhler constructs the trajectory of his act so that it acquires the form of a dismissive gesture (a quick downward wave). This is a very economical way of combining multiple resources to generate a single complex action/utterance.

But the object then becomes implicated in yet another transformative act, in which its extrinsic, formal (esthetic) features are extracted. This transformation begins when Antpöhler puts the aluminum bag away. He puts it atop a stack of discarded cookie boxes that Destrooper has arranged on the table. While this stack is made up of “behavioral residue” (Gosling, 2008), it is conscientiously arranged (Figure 5.5). Psychologists tend to think about the ways in which people arrange objects in piles, stacks, rows, and so on in individualistic, dispositional terms. The neatness of a pile betrays the actor’s “conscientiousness” (Gosling, 2008: ch. 2). However, when two or more people collaborate, the making of stacks, piles, and other arrangements can serve as a code, a set of practices that draw on inventories of structural and representational possibilities. Observe the following sequence then, which comes off as a neat pair of pairs. First, Antpöhler puts the aluminum bag on the stack of boxes (Figure 5.6); then, Destrooper rearranges it so that it is flush with the rest of the stack (Figure 5.7); Antpöhler adds another bag (Figure 5.8), and Destrooper aligns it again (Figure 5.9). At the same time, they mark the completion of this phase of their interaction by an exchange of juncture markers, *so* and *gut* (“good”), Transcript 5.2.

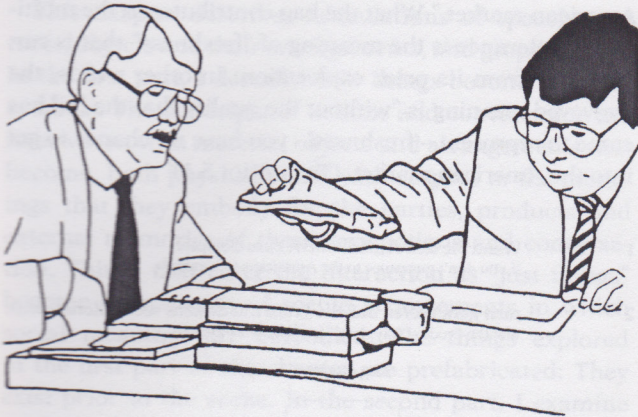


Figure 5.5. Antpöhler discards aluminum bag.



Figure 5.6. Destrooper rearranges aluminum bag.

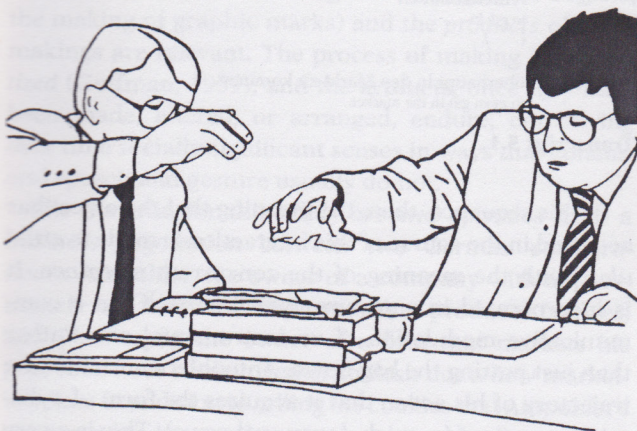


Figure 5.7. Antpöhler discards second aluminum bag.



Figure 5.8. Destrooper rearranges second aluminum bag.

6 D Naja gut, lassen wer's. So!
Allright, let's forget about it. Now!

7 A Gut!
Good!

Transcript 5.2.

This is a scenic symbol for the completion of the activity, the topic, and the phase of the negotiation. The ceremony is interlaced with a speech act sequence that formulates this sense. In this regulatory, ritual-like sequence, certain features are abstracted from the cookie packages that bear no intrinsic relationship at all to the topic of the conversation. Now, the affordances for esthetic actions that the cookie boxes offer are extracted: the square shape, the availability of several of a kind, and the like. These features are selected by the *action* that is performed with them: Simply, Destrooper extracts their squareness by making them flush. We can represent this by a simple diagram (Figure 5.9).

The action-sequence in which the pile is arranged enacts a relationship of parity and cooperation, whereas the enduring arrangement of the boxes in a neatly organized stack is a residue, a monument of interactional closure. Aesthetic features of the boxes and bags are abstracted,

and instrumental (intrinsic) meanings as well as locally established indexical references that the object has previously acquired (reference to their maker, i.e., the competition, to freshness, and so on) are temporarily suppressed. We can represent the entire history of transformations of the aluminum bag by another diagram (Figure 5.10).

Antpöhler now engages in a solemn expression of gratitude to Destrooper for showing trust in his company,

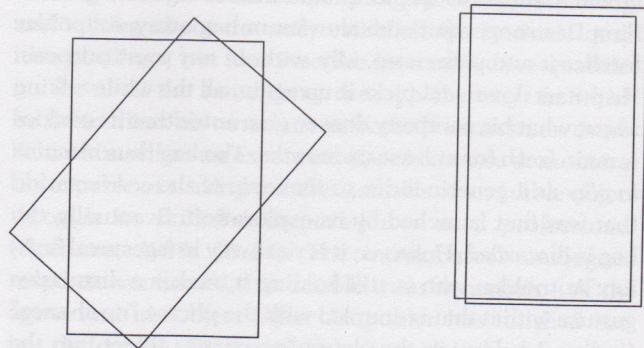


Figure 5.9. Gestalt closure in the arranging of boxes and bags.

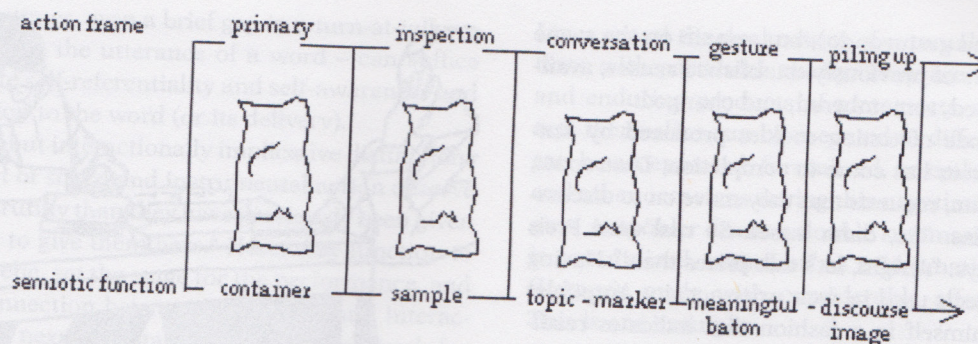


Figure 5.10. Transformations of an aluminum bag.

- 1 A Herr Destrooper.
Mister Destrooper
- 2 A Ich danke Ihnen auch für das uns und unserem Hause
Let me thank you for the trust you have shown in us and our company,
- 3 entgegengebrachte Vertrauen?

Transcript 5.3.

while simultaneously enacting another scenic symbol of completion (Transcript 5.3): He takes a sheet of paper that is on the table and neatly folds it in the middle. In this fashion, something that does not in itself call for closing is transformed into a scenic display of closure.

Here, too, aesthetic features of the object are extracted and applied to convey a sense of the current situation.

It is important to note that in these successive transformations of mundane objects, their primary meanings and intrinsic features are usually retained: Cookies are cookies, and bags and boxes do not cease to be containers. Primary and locally established features and senses can alternate, or articulate one another, or combine to complex predications. Different situationally acquired meanings of the sign can be invoked at different times to anchor referential expressions or structure and give images to different aspects of the situation at hand. We have seen the aluminum bag become a sample, a topic-marker, a gesture tool "full of local meaning," as well as a component of a complex construction in which it participates in part as "just another square." This shifting multiplicity of intrinsic and pre-ordained features, locally acquired senses, aesthetic and symbolic affordances, and conceptual and referential functions is characteristic of all objects that become implicated in collaborative, symbolic action.

INSCRIPTIONS

A family of practices that are often enacted alongside social interaction involves the making of *inscriptions* – writing, diagramming, calculating, and so on. Inscriptions have received a great deal of attention, in particular among ethnographers of scientific practice³

who have argued that "the most powerful explanations [of scientific practice] ... are the ones that take writing and imaging craftsmanship into account" and distinguish them from lay practices in terms of "modifications in the way in which groups of people argue with one another using paper, signs, prints and diagrams" (Latour, 1990: 22). Each established system of inscription – say, alphabetic writing, arithmetic, technical drawing – has its own constitutive and regulative rules (D'Andrade, 1984) that enable and define intelligible expressions that can be formed from the components of the system. But when they are used in social interaction, these rule-systems often give way to local considerations and symbolization needs, yielding expressions that are given local interpretations, rather than interpretations that could be "deduced" from context-free rules of the "system."

During their conversation, the two businessmen propose, reject, counterpropose, and write down numbers – besides other graphic marks that they make.⁴ The stage for these graphic performances is a single sheet of paper that Antpöhler initially places on the table in front of himself, as he readies his body and pen for the making of inscriptions. At one level, the sheet – along with the established cultural practices for making graphic marks – serves primarily *cognitive* functions: As cognitive artifacts⁵, graphic marks facilitate the tasks of calculating and record keeping. At another level, both the particular fashion in which these marks are made and the symbolic structure that is gradually assembled on the sheet serve rhetorical-interactive functions. Furthermore, beyond the marks that they make in pursuing their accounting tasks, the participants also make marks on this sheet of paper that have no functions in solving the instrumental task, but are exclusively occasioned by the process of interaction. The making of these signs is of particular importance to us because it is squarely situated in between several canonical practices, drawing, writing, and social interaction. Finally, an important feature of inscriptions is what Latour has called "immutability" (Latour, 1990): After they have been completed, they do not disappear (as

³ Amann & Knorr-Cetina (1990); Knorr-Cetina (1981); Latour & Woolgar (1986); Lynch (1985); Lynch & Woolgar (1988).

⁴ We only examine Antpöhler's penmanship; that of Destrooper cannot be recovered from the videotape.

⁵ Norman (1993a).

spoken words and gestures do), but remain on the scene as tacit reminders of previously established senses, available to be revisited, remembered, and changed.

After the episode of testing cookies produced by Antpöhler's competitors has come to completion, Destrooper, the marketing man, requests that they move on to discussing profit margins: "So, dann lassen Sie mal zum Preis kommen!" he says, "Alright, let's talk prices then!" Having removed the objects used in their prior activity, Antpöhler now positions himself in a fashion that indicates readiness for writing: A pen in hand, he has a sheet of paper in front of him. In response to Destrooper's request, he says:

- 1 A Ja (- -), ich hatte eingangs schon erwähnt daß unsere Ware
Well, I had initially mentioned already that our product
- 2 per Kilo verkauft wird, (- -) und das Kilo dieser Ware-
is sold by the kilo and a kilo of the product
- 3 das gesamte Florentinersortiment (-) kostet (-)
the entire assortment of florentines costs
- 4 fünfundzwanzig Mark (-) und zwanzig Pfennig (- -) brutto.
twentyfive marks and twenty Pfennige gross.
,l]
- (1: writes "25, 20 brutto")

Transcript 5.4.

As he utters "fünfundzwanzig Mark (-) und zwanzig Pfennig (- -) brutto", Antpöhler writes "25,20 brutto" in the top left corner of the sheet (Figure 5.11). This inscription may serve several purposes: As Antpöhler's external memory, for further calculations, or as a mark that is visible and therefore shared by the two participants. Antpöhler commits an abstract quantity to a material and enduring interaction record and thus preserves it for further cognitive, interactive, and graphic tasks. Inscriptions allow us "to put the world on paper and to think about the world in terms of those representations" (Olson, 1994). The number becomes a material entity that can be manipulated and operated on along with other material entities. Latour writes: "Realms of reality that seem far apart (mechanics, economics, marketing, scientific organization of work) are inches apart, once flattened out onto the same surface. The accumulation of drawings in an optically consistent space is ... the 'universal exchanger' that allows work to be planned, dispatched, realized" (Latour, 1990: 54). Many arithmetic operations (addition, subtraction, calculating percentages, etc.) are greatly facilitated by inscriptions, which can therefore be regarded as "cognitive artifacts" (Norman, 1993a).

It is in this capacity that the inscription that is thus begun is later expanded and used. This instance, however, also constitutes a "non-canonical case." As he demonstrates the financial implications of the demands that Destrooper makes on behalf of the distributor, Antpöhler writes "50%" underneath "25,20," draws a line, and writes "33%" underneath (Transcript 5.5).

The graphic marks are arranged as if in an addition schema. But no figures are "really" added here. Rather,



Figure 5.11. Antpöhler writes numbers.

what Antpöhler demonstrates is this: Given his own production price of 25,20 Deutschmarks and Destrooper's request to receive 33 percent of the sales price, he must add 50 percent to his production price in his calculation of the sales price. The addition schema is used in a demonstrative, "as if" fashion: To add 33 percent "from the top," I have to add 50 percent to my price. The schema, in other words, serves persuasive or rhetorical purposes: It simply visualizes the steps of a calculation. Goffman (1959: 30) has called this type of enactment "dramatic realization."

Small behavioral modulations or "re-keyings" (Goffman, 1974: ch. 2) can mark the difference between "doing" and "staging" an act, that is, turning it into a "performance." The difference is one of focus and type of attention. "Staged" acts involve an element of self-referentiality: The actor demonstrates awareness of the manner in which he or she acts, at the same time working toward drawing the audience's attention to this

- 1 A Wenn ich Ihnen jetzt (-) und Sie signalisieren ja
If I now give you and what you signal is
- 2 dreiunddreißig Prozent (-) von oben dreiunddreißig Drittel
thirtythree percent from the top thirtythree and a third
- 3 wenn ich das richtig in Erinnerung habe
if I remember this correctly
- 4 D [Mhm.
Mhm.
- 5 A das wären fünfzig prozent Aufschlag? (-)
that would be fifty percent added
[]
- 6 D Hm.
Hm.
- 7 A Dann verblieben mir hier
then I would be left here with
2 []
- 8 beziehungsweise (-) Sie hätten ihre dreiunddreißig Prozent
or rather 3 [] 4 []
you would have your thirtythree percent

(1: writes "50%"; 2: draws line; 3: points to D; 4: writes "33%")

Transcript 5.5.

manner. Sometimes, even a brief gap in a turn-at-talk – a minimal delay in the utterance of a word – can suffice to demonstrate self-referentiality and self-awareness and attract attention to the word (or its delivery).

These small but interactionally implicative distinctions in the conduct of social and instrumental action deserve much more scrutiny than they have previously been given and I am able to give them here.⁶ Here, they function to prepare the scene, set the stage for the performance, and establish a connection between inscription and interaction. Once this nexus is established as a framework for the conversation, symbols and actions that might otherwise appear incongruent or unintelligible become coherent, relevant, and meaningful. At the same time, they establish the sheet that Antpöhler has in front of him as a stage on which important symbolic exchanges can take place. Throughout this episode, Antpöhler inscribes numbers on this sheet in a fashion so that the sheet is partitioned into two equal, vertical halves. This partition becomes a mediating structure, an *interface* for the interaction. The social and economic relations between the two parties are spatialized, and this spatialization is given permanence through the arrangement of graphic marks on a sheet of paper.

So far, a graphic interface – an external, visible, and therefore jointly accessible structure – has emerged as a by-product of the participants' instrumental actions. The fashion in which these activities are carried out is adapted to local interactional circumstances, and the marks that result from them and that remain in the interaction space of the encounter are more than the residue of calculations: They embody locally constituted social meanings for the parties. In the context of face-to-face interaction, operations such as taking notes, calculating, and drawing involve more than the pursuit of cognitive or instrumental goals: Inevitably, to the extent to which they are visible to both parties, the actions that constitute them also participate in the interactional and socio-symbolic negotiation of the encounter, and it is not uncommon that the participants deliberately draw on their inherent symbolic potential to achieve purely interactional ends. In the described case, the social-organizational potential of the cognitive-instrumental actions that are carried out stems from the fact that these actions are *makings*, that is, productions of *enduring* material entities that persist in the space of the interaction beyond the activities for which they were made and in which they originally figured. In other words, the social potential is inherent in the activities' *products*.

One of the most ubiquitous and versatile components of inscriptions is the line. In the context of arithmetic operations, (straight) lines indicate summation or the completion of some operation, among other possibilities.

⁶ Goffman (1974) provides numerous important distinctions between different "keys" in which action and interaction can be conducted.

Lines reveal the dual nature of external cognitive operations with particular clarity: They are material, visible, and enduring products of motor acts, and these motor acts themselves can be executed in different ways – they can be accentuated, formalized, or embellished. On several other occasions during this negotiation of profit margins, Antpöhler draws a double summation line. This act is gesturalized, comes off as a "dramatized inscription" (Latour), made with considerable effort and aplomb. This is one example:

- 1 A Wir müssten ihn also auf (-) achtundzwanzig Mark anheben
We would have to raise it to twentyeight marks
- 2 (-) damit Sie (-) eine Spanne von dreiunddreißig Prozent haben.
so that you get a margin of thirtythree percent.
- (1: draws double line)

Transcript 5.6.

The locally conveyed sense of this inscription derives from its simultaneous participation and place within two concurrent activity systems: the calculation and the conversation. While it is made within an appropriate slot in the sequence of actions that together constitute the written calculation, namely after all numbers have been written down, before the end-result is inscribed, the line is also coupled with a spoken word – the (formal) second person-pronoun *Sie* – which bears the main accent of the sentence and is delivered with emphasis: We thus perceive the drawing of the double line as a gesture of emphasis. The gestalt of this graphic mark conveys a sense of parity, equality, fairness. Here it is made within the context of a linguistic act in which the speaker explains what he would need to do to meet the demands of the other. While the graphic act has a place in the activity "calculation" and is gesturalized and metaphorizes parity, its placement in the turn conveys the sense "parity for you."

What happens here can be described as a blending⁷ of two symbol- and activity-systems (or practices): A (behavioral and/or symbolic) unit that belongs to one activity system and is used (or made) in line with the rules and requirements of this system simultaneously fulfills a function in another symbolic realm, which relates not to the instrumental activity, but to the interaction and the social relationship that is negotiated in and through it. A graphic mark belonging to the specific inscription practices that are used for arithmetics (e.g., the summation line) is produced in such a fashion that it and the act of making it also serve as markers within the ongoing dialogue. A component of the system "inscription" (or "arithmetics") is recruited for a secondary job within the activity "gesture," specifically "interactional" or "discourse-organizational gesture."

Typically in cases like this, the instrumental or cognitive system or practice supplies raw materials for an

⁷ Compare Hutchins's (2005) adaptation of Fauconnier's (1997) term.

interactional system (in this case, gesture). It is sufficient that the cognitive-instrumental system is activated (i.e., made relevant in and for the interaction at hand); once it is, its components can make cameo appearances in the realm of social-interactional symbolization. "Blending" two practices means that a meaningful *gestalt* is *projected* from one system onto the other, unrelated one: Whereas the systems or practices are partly fused in the given case (a summation line is a "natural" juncture marker), the systems (arithmetic, gesture) are fundamentally separate and not intrinsically related. This is different, for example, from cases where inscriptions – for example, diagrams – are *interpreted* within another system, for example gestures (Ochs, Gonzales, & Jacoby, 1996): In the latter case, there is an intrinsic relationship between the two uses of the system, and one practice elaborates products of the other.

After Antpöhler has written down a few numbers, as he explicates the problems posed by Destrooper's request and outlines his own counterproposals, occasionally, while he utters a number, he points to a location on his sheet. Sometimes, he utters a number and simultaneously points to one that is actually there on the sheet; at other times, he points to "virtual" numbers. He "pretends to point," if you will. Or, to put it differently, he schematically incorporates components of a currently activated activity system into the visual-gestural dramatization of talk. For example, he may try to make an argument more persuasive by pointing to a number that "might as well have been written."

At other times, Antpöhler writes a number or a word in the air as he utters it. This is the case in Transcript 5.7.

- 1 A und ich gebe Ihnen diese dreiunddreißigndrittel Prozent
 2 Kondition...
 ... and I give you these thirtythree and a third percent commission...
 (1: 'writes' '33 1/3' in the air)

Transcript 5.7.

Although this performance (and others of the same kind) amounts to little more than a gestural ornament, it also seems to betray a cultural belief among professionals who routinely work with inscriptions, namely that what is written down somehow has an enhanced ontological status. For Antpöhler and his counterpart, this practice is so habitual that it even permeates their talk during times when no actual inscriptions are made: The habit asserts itself in gestures of writing.

The most intricate example of such blendings of activity and gestural systems occurs during Antpöhler's utterance of a "big word" – a complex business term, *vertretbarer Kostendeckungsbeitrag*, which literally means "acceptable contribution toward covering the costs" and might be translated as "cost-return-ratio."

- 1 A Bei achtundzwanzig Prozent behalte ich (-) unter Umständen
 At twentyeight percent I potentially keep
 2 einen (-) vertretbaren (-) Kostendeckungsbeitrag (-) und
 an acceptable cost-return ratio and
 3 auch einen vertretbaren Gewinn.
 also acceptable profits.
 (1, 2: draws two long lines in the air.)

Transcript 5.8.

As he utters this phrase, Antpöhler makes a two-part gesture: a sequence of two horizontal long lines drawn in the air. The production of each unit coincides precisely with the uttering of one word. The visual *gestalt* is unequivocal, and so is the activity system from which the gesture is taken: Antpöhler "underlines" the words and thus makes them out as words that are written somewhere. In his enactment, he appears like someone who reads a file and underlines what is important. Thus, he lends the weight of written documents to his words as he speaks them. He enacts an inscription-based rhetoric in his embodiment of speaking. The bodily practice of making graphic annotations on a written text serves as the model for his dramatization of speaking.

Once the repertoires and practices of writing and drawing have been mobilized for socio-symbolic uses, the possibilities for fabricating gestural symbols from them are endless. We understand gestures not only by virtue of their visual forms, but also in terms of their "fit" with a slot within an unfolding action sequence, as well as with the spoken words with which they are coupled. Highly abstract, rudimentary movement components can therefore index a broad, diverse, and polymorphous range of meanings. The same is true for graphic marks that are produced in gestural fashion in the course of an interaction. Made in the way of gestures on a surface, they can function descriptively, rhetorically, and in various other capacities.

We have already encountered instantiations of the most basic of all graphic marks – the straight line. In those instances, the line figured as part of an established practice but was produced in gestural ways so that it simultaneously served purposes of interactional symbolization. In other cases, lines are drawn in the manner of iconic gestures. Several times in the process of explaining the operations of his company (in attempts to demonstrate that his interlocutor's requests are unrealistic), Antpöhler draws a line on his sheet to symbolize "operation" or "production" (in German: *Betrieb*).

- 1 A Wenn ich den Betrieb in eine zweite Schicht fahre (- -)
 If I have to drive the operation in a second shift,
 2 hab ich einen ganz anderen Kostendeckungsbeitrag.
 I have a totally different cost-return ratio.
 (1: draws a long line on the sheet.)

Transcript 5.9.

In the conditional clause (line 1), the verb (*fahren*, "drive") highlights the dynamic character of a business: it is in motion, "driven." The root of the noun (*Trieb*, "drive") matches this semantic profile (*Betrieb* can denote "company" or "enterprise," but also "commotion"). The graphic gesture which Antpöhler makes as he utters *Betrieb* enhances this semantic gestalt: It represents Antpöhler's company as an ongoing operation that is perpetually in motion; it stresses continuity. Only one among the many possible aspects of the basic sign "line" is thus activated: A line could also mark a boundary, for example (and thus symbolize distinction, separation, and so on). By drawing a long line, Antpöhler produces a graphic and thus enduring representation of the continuous production process that is at the heart of his company.

That the significance of the line as a representation of the "operation" is intersubjectively shared among these parties is revealed in an instance in which Destrooper points with his pen to the line on Antpöhler's sheet, as he refers to the production process. This comes about in a two-stage enactment, immediately after Antpöhler concludes one of his proposals. Destrooper initiates a counterproposal with the preface: "Ja halt, dann machn wers doch so" – "Well hold on, then let's do it this way." As he utters this preface, he makes a circular, left-handed gesture with an extended index finger, pointing first to Antpöhler's, then to his own segment of the table. The gesture visualizes a connection and thus suggests coherence and equivalence between the two plans. Then, with his right hand, Destrooper picks up his pen, holds it at one end so that it forms a long baton, moves his hand far into Antpöhler's transaction segment, and points to the line on his sheet, almost touching it with the tip of the pen. It arrives there exactly as he utters the word *Produktion*.

- 1 D Ja: halt, dann mach-was doch so:, dann kann ich
 |l |l |
 Well hold on, then let's do it this way, then I can
- 2 in den Zeiten wo Sie die Produktion nich ausgelastet haben,
 3l | | 4l | |
 during times when you're not running at full capacity
- 3 (-) versorg ich Sie mit äh öh mit Aufträgen.
 provide you with uh uh orders.

(1: makes circular gesture with left hand; 2: lifts right hand; 3: takes pen; 4: points to "production-line" with tip of pen)

Transcript 5.10.

This action demonstrates that the meaning of the line as a representation of "production," "enterprise," "operation" is now shared by both parties.

An inscription comprises both an act (inscribing) and a graphic mark that results from it (e.g., a line); either aspect can be foregrounded in a given context. In the given examples, whereas the drawing of the line is a motor-sign conveying a specific sense, the mark resulting from the act embodies the same meaning, but it retains

this meaning over time. In another segment, in contrast, it is strictly the motor act of drawing a line, which enhances and supports the verbal formulation; the resulting sign is of no immediate relevance (although it might take on relevance if it is revisited later). When he rejects a counterproposal by Destrooper, Antpöhler draws a quick line while he utters the idiomatic phrase, *über die Bühne ziehen*, literally "to drag across the stage," which is a highly figurative way of saying "to get something done," "to carry out a plan," or simply "to do something." Here, the motor enactment corresponds to the literal meaning of "drag"; the line remaining on the sheet has no significance for the interaction.

- 1 A Gut (- -) Sie können sich vorstellen daß wir für diese Monate
 Good you can imagine that during those months
- 2 (-) eigene Aktivitäten (-) im Partnerbereich Detmolt (-)
 we would like to carry out our own activities in the Detmolt area
- 3 äh schon über die Bühne ziehen möchten.
 |l |
 (1: quickly draws a short line)

Transcript 5.11.

A particularly interesting example occurs in the course of a conditional clause in Transcript 5.12 below. Here, the linguistic formulation is congruent with the action of putting something on paper. Antpöhler in this utterance claims that even Destrooper's hypothetical and playful demand to get a new car from Antpöhler could be feasible if they got the appropriate returns "on paper," that is, "on the books." This metonymy is common in the business world. But here it nicely congrues with the local act of drawing a line on paper. As he utters *Umsätze* ("returns"), Antpöhler draws a line. The noun and the gesture are produced simultaneously and jointly participate in the figuration of "return." The linguistic formulation not only congrues with the gestural inscription; it also reflexively exposes it as an act of putting something on paper. The phrase "on paper" connects to the act and the content of the talk. If the term were not reserved for another meaning, we could call this a *double-bind*.

- 1 A Au:ch das ließe sich rechnen.
 Even that might add up.
- 2 Wenn wir die dementsprechenden Umsätze (-) aufs Papier kriegn
 |l |l | | 3l | |
 If we get the appropriate returns on paper.

(1: readies hand for drawing; 2: slowly draws horizontal line; 3: rapidly draws vertical line)

Transcript 5.12.

But Antpöhler subsequently finds himself dissatisfied with the metaphor "on paper," pointing out that the issue is not simply to get the return on the books or on paper, but rather to feed them back into the ongoing cycle of production. Antpöhler constructs a complex, highly metaphorical image – production, product, sales, and new orders are

figured as a “turning wheel” – and supports his evocative account with several gestures, the last of which is a circular motion corresponding to the turning of a wheel.

- 1 A Beziehungsweise nicht nur auf's Papier,
Or rather not only on paper, ₁[]
- 2 sondern in die Produktion, daß die Produktion produziert, (-)
but into the production, ₂[] that the production produces, ₃[]
- 3 daß Sie dann diese Produktion verkaufen (-)
that you then sell the product ₄[]
- 4 daß dann wieder nachgeordert wird und
that new orders come in and ₅[]
- 5 dieses wunderschöne Rad sich dreht.
that this wonderful wheel keeps turning. ₆[]

(1: draws quick “negation line”; 24: small, unspecific gestures; 5: points to line on sheet; 6: makes ‘turning’ gesture)

Transcript 5.13.

Here, then, the act of inscribing a gesture leads to self-correction, both of the verbal formulation and of the visual act: The turning of a wheel is presented as a better image than getting returns “on paper” (and the corresponding drawing of a line).

All of these examples of graphic gestures are iconic and metaphorical signs at the same time. To visualize “production” by a simple line is an abstract, not very descriptive, strategy. But many “iconic” or descriptive gestures are similarly abstract – formal minimization is in the nature of gestural imagery (cf. Arnheim, 1969; Streck, 2008). On the other hand, in some cases, the gestural image is directly – and rather literally – related to the meaning of a word or phrase, but then the phrase is a metaphor (e.g., *über die Bühne ziehen*). Once again we see how situated meaning is fabricated through the combining of a very simple, locally available form (i.e., a line, a circular gesture), the meaning(s) of concurrent or adjacent linguistic signs, and the sequential context of the enactment.

Despite the differences in the ways in which they relate to and combine with the meaning of words spoken in the dialogue, all of the gestural inscriptions that I have examined in this section are affiliated with the *content* of talk. However, gestures can also relate to the *pragmatics* of communication: They can visualize speech acts, direct the interlocutor’s attention, project utterance structures, address turn-taking tasks, and so on. Gestures that serve these functions have been called rhetorical, pragmatic, or interactive gestures (Bavelas et al., 1992; Kendon, 2004: chs. 11, 12; Streck, 2006; 2009: ch. 8). I have examined cases of secondary pragmatic-gestural uses of components of instrumental activity systems above, for example the gesturalization of summation lines. One also finds instances of inscriptions that serve as pragmatic

gestures but, instead of being derived from a locally activated activity system, belong to a broader cultural vocabulary of graphic signs.

For example, as he prefaces one of his proposals, Antpöhler draws an arrow on his sheet of paper; it points to the location where he is about to write down numbers.

- 1 A Der zweite Weg (-) ist eine noch ganz andere Überlegung.
The second way ₁[] is an entirely different thought.
(1: draws arrow)

Transcript 5.14.

The drawing of an arrow focuses attention on a specific region of the sheet, and in this context prepares and indexes an imminent next phase of the shared activity, for example the offering of a *Plan B*. There are many instances throughout this negotiation where minimal graphic marks such as a quick and short diagonal line, two lines crossing one another, or a checkmark – signs that in some cases are actually made, in other cases only simulated above the sheet of paper – serve discourse-organizational purposes. Their uses are not much different from the pragmatic uses of lines that I have previously examined, and I therefore do not pursue them any further.

SEMIOTIC BRICOLAGE

Looking at a single negotiation between two German entrepreneurs, I have examined instances of (the making of) graphic marks that fall somewhere between gestures and signs that belong to some culturally established sign system. I have suggested that these graphic signs represent a *situated hybridization* of symbolic and instrumental and/or representation practices: Units that primarily “belong to” writing simultaneously participate in a figurative, non-canonical fashion in the system “talking-in-interaction.” The results are hybrid acts/marks that serve instrumental and socio-symbolic purposes at the same time. To understand how these acts/marks function, I must take their hybridity or “in-between-ness” seriously, because it is the ways in which components of the two systems are blended – the figurative possibilities of one system once its components are projected onto another – that is at the heart of the logic of these symbolizations.

We have seen that these acts/marks – “real” or “simulated” inscriptions – can support both the content and the rhetorical order of talk: Inscriptions can be the equivalent of iconic or descriptive gestures, but they can also contribute to the social organization of talk. Gesturalizations of instrumental and representational acts that belong to systems like accounting, record keeping, arithmetic, and so on can figure prominently in the dramatic realization of talking-in-interaction.

There appear to be few differences between graphic gestures and gestures made with the naked hands. Rather, varieties of writing and drawing, along with the circumstance that the speaker has a pen in hand and a sheet of paper in front of him, are simply locally available resources out of which symbolic gestures are fashioned. Social interaction, I have said in the beginning, is a vociferous process, always hungry for symbolic material that can be used when a creative symbolization must be achieved. And yet, what distinguishes symbolic inscriptions from "ordinary" gestures is that they leave traces, that they are, in a more literal sense, "makings" or "moldings" – that their products endure: Whatever is made remains on the scene and can potentially be used again, or modified, elaborated, and embellished. Because they remain on the scene after the moment in which they are produced, inscriptions and "monuments" such as piles, stacks, or arrangements of objects can become targets or components of further symbolic acts.

I have not attempted to systematize and classify these phenomena between action, gesture, and inscription, nor to arrange them in a taxonomy. And I doubt that this is possible. What I have found, rather, are numerous instances of *bricolage* (Lévi-Strauss, 1966) in which locally meaningful signs are fashioned from locally available materials, or by extending a sign beyond its canonical realm of application and projecting it onto a different domain. It might very well be that this is the canonical fashion in which symbols are invented in social interaction, and it may very well be representative of the ways in which the human brain symbolizes (Deacon, 1997). No matter whether we study language or gesture or representations that involve material things, we always face the human propensity for incessant symbolization and thus deal, not with dead matter, but with living processes, not with "ergon" but "energeia" (Humboldt, 1988 [1836]).

When we need to symbolize something, humans take whatever material comes their way. It is the *transfer*, the schematic projection, that counts, because it is what we call "making sense." Making sense has a lot to do with making, because sense needs material forms. Among the entities that have forms and that are capable of generating images are words, things, hand shapes, and marks on paper, and one respect in which they differ from one another is how long they remain on the scene as social facts.

ACKNOWLEDGMENTS

Versions of parts of this chapter have previously appeared in *Human Studies* (Streeck, 1996) and *Journal of Pragmatics* (Streeck & Kallmeyer, 2001); permission to republish was granted by the editor-in-chief of *Human Studies* and by Elsevier Science. I wish to thank Werner

Kallmeyer for his contributions and Charles Goodwin for his insightful comments on a prior version of the present chapter.

REFERENCES

- Amann, K., & Knorr-Cetina, K. (1990). The fixation of (visual) evidence. In M. Lynch & S. Woolgar (Eds.), *Representation in Scientific Practice* (pp. 85–121). Cambridge, MA: MIT Press.
- Arnheim, R. (1969). *Visual thinking*. Berkeley: University of California Press.
- Bavelas, J., Chovil, N., Lawrie, D. A., & Wade, A. (1992). Interactive gestures. *Discourse Processes*, 15, 469–489.
- Becvar, L. A., Hollan, J., & Hutchins, E. (2005). Hands as molecules: Representational gestures used for developing theory in a scientific laboratory. *Semiotica*, 156(1), 89–112.
- Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.
- D'Andrade, R. G. (1984). Cultural meaning systems. In R. A. Shweder & R. A. LeVine (Eds.), *Culture Theory. Essays on Mind, Self, and Emotion* (pp. 88–121). Cambridge: Cambridge University Press.
- Deacon, T. Q. (1997). *The symbolic species: The co-evolution of language and the brain*. New York: W.W. Norton.
- Donald, M. (1991). *Origins of the modern mind*. Cambridge, MA: Harvard University Press.
- Drew, P., & Heritage, J. (Eds.). (1992). *Talk at work*. Cambridge: Cambridge University Press.
- Fauconnier, G. (1997). *Mappings in thought and language*. Cambridge: Cambridge University Press.
- Gibson, J. J. (1962). Observations on active touch. *Psychological Review*, 69, 477–491.
- Goffman, E. (1959). *The presentation of self in everyday life*. New York: Doubleday.
- Goffman, E. (1974). *Frame analysis*. New York: Harper & Row.
- Goodman, N. (1978). *Ways of worldmaking*. Indianapolis, IN: Hackett.
- Goodwin, C. (1993). Perception, technology and interaction on a scientific research vessel. Unpublished paper. Revised version: (1995). Seeing in Depth. *Social Studies of Science*, 25, 237–274.
- Gosling, S. (2008). *Snoop. What your stuff says about you*. New York: Basic Books.
- Humboldt, W. V. (1988 [1836]). *On language*. Cambridge: Cambridge University Press.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: MIT Press.
- Hutchins, E. (2005). Material anchors for conceptual blends. *Journal of Pragmatics*, 37, 1555–1577.
- Hutchins, E. (2006). The distributed cognition perspective on human interaction. In N. J. Enfield & S. C. Levinson (Eds.), *Roots of Human Sociality* (pp. 375–398). London: Berg.
- Hutchins, E., & Klausen, T. (1996). Distributed cognition in an airline cockpit. In Y. Engeström & D. Middleton (Eds.), *Cognition and Communication at Work* (pp. 15–34). Cambridge: Cambridge University Press.
- Ingold, T. (2000). *The perception of the environment: Essays on livelihood, dwelling and skill*. London: Routledge.
- Kendon, A. (2004). *Gesture: Visible action as utterance*. Cambridge: Cambridge University Press.
- Knorr-Cetina, K. (1981). *The Manufacture of knowledge*. Oxford: Pergamon Press.

- Latour, B. (1990). Drawing things together. In M. Lynch & S. Woolgar (Eds.), *Representation in Scientific Practice* (pp. 19–67). Cambridge, MA: The MIT Press.
- Latour, B., & Woolgar, S. (1986). *Laboratory life*. Princeton, NJ: Princeton University Press.
- Lave, J., Murtaugh, M., & de la Rocha, O. (1984). The dialectic of arithmetic in grocery shopping. In B. Rogoff & J. Lave (Eds.), *Everyday Cognition. Its Development in Social Context* (pp. 67–94). Cambridge, MA: Harvard University Press.
- Lévi-Strauss, C. (1966). *The Savage mind*. Chicago: University of Chicago Press.
- Lynch, M. (1985). *Art and artifact in laboratory science: A study of shop work and shop talk in a research laboratory*. London: Routledge and Kegan Paul.
- Lynch, M., & Woolgar, S. (Eds.). (1988). *Representation in scientific practice*. Cambridge MA: MIT Press.
- Norman, D. (1993a). *Things that make us smart*. Reading, MA: Addison Wesley.
- Norman, D. A. (1993b). Cognition in the head and in the world: An introduction to the special issue on situated action. *Cognitive Science*, 17, 1–6.
- Ochs, E., Gonzales, P., & Jacoby, S. (1996). "When I come down I'm in the domain state": Grammar and graphic representation in the interpretive activity of physicists. In E. Ochs, E. A. Schegloff, & S. Thompson (Eds.), *Interaction and Grammar* (pp. 328–369). Cambridge: Cambridge University Press.
- Olson, D. (1994). *The World on paper*. Cambridge: Cambridge University Press.
- Resnick, L., Levine, J., & Behrend, S. (1990). *Socially shared cognition*. New York: American Psychological Association.
- Schmandt-Besserat, D. (1996). *How writing came about*. Austin: The University of Texas Press.
- Scribner, S. (1984). Studying working intelligence. In B. Rogoff & J. Lave (Eds.), *Everyday Cognition. Its Development in Social Context* (pp. 9–40). Cambridge, MA: Harvard University Press.
- Streeck, J. (1996). How to do things with things: Objets trouvés and symbolization. *Human Studies*, 19, 365–384.
- Streeck, J. (2006). Gestures: Pragmatic aspects. In K. Brown (Ed.), *Encyclopedia of Language & Linguistics, Second Edition*, volume 5 (pp. 71–76). Oxford: Elsevier.
- Streeck, J. (2008). Depicting by gestures. *Gesture* 8(3), 285–301.
- Streeck, J. (2009). *Gesturecraft. The manu-facture of meaning*. Amsterdam: Benjamins, B.V.
- Streeck, J. & Kallmeyer, W. (2001). Interaction by inscription. *Journal of Pragmatics*, 33(4), 465–490.
- Suchman, L. (1987). *Plans and situated action*. Cambridge: Cambridge University Press.