The emancipation of gestures

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Interactional linguists are interested in ways in which communicative resources emerge from interactional practice. This paper defines a place for the study of gesture within interactional linguistics, conceived as ‘linguistics of time’ (Hopper, 2015). It shows how hand gestures of a certain kind – conceptual gestures – emerge from ‘hands-on’ instrumental actions, are repeated and habitualized, and are taken to other communicative contexts where they enable displaced reference and conceptual representation of experiences.

The data for this study is a video-recording of one work-day of an auto-shop owner (Streeck, 2017). The corpus includes auto-repair sequences in which he spontaneously improvises new gestures in response to situated communication needs, and subsequent narrative sequences during which he re-enacts them as he explains his prior actions. He also makes numerous ‘pre-fabricated’ gestures, gestures that circulate in the society at large and that are acquired by copying other conversationalists. They are ready-made manual concepts. The paper explains the life-cycle of conceptual gestures from spontaneous invention to social sedimentation and thereby sheds light on the ongoing emergence of symbolic forms in corporeal practice and intercorporeal communication.

Keywords: gesture, conceptualization, grammaticalization, interaction, evolution

1. Introduction

Interactional linguists and researchers of grammaticalization have given us a new understanding of language structure as an epiphenomenon of communicative practice: building blocks of communicative understanding – grammatical words and morphemes, constituents and constructions, even phonemes (Hopper, 1994) – have been shown to result from the bodily activity of speaking (Bybee, 1998, 2002). They are sediments of spontaneous discourse, kept alive through repetition and imitation, and brought into paradigmatic orders by an invisible

hand (Keller, 1994). “The linguistic system is emergent; ... it is constantly being restructured and is permanently unfinished” (Hopper, 2015: 7). Hopper (2015) has called this new paradigm, in which he includes conversation analysis, interactional linguistics, and emergent grammar, *linguistics of time*.

Gestures are as fluid and ephemeral as spoken words, yet our cultural techniques and perhaps our sensory dispositions make them appear as even more fleeting and insubstantial: We do not consciously attend to most of each other’s gestures when we talk to one another, we have fewer conscious memories of them, and there are no ‘kinemes’ of body motion that would lend themselves to transcription in the way phonemes do (pace Birdwhistell, who coined the term and claimed otherwise; Birdwhistell, 1970). Consequently, we rarely think of gestures in the way we think of spoken words, as tokens of enduring types. And yet the world is full of ‘recurrent gestures’ (Bressem & Müller, 2014; Müller, 2017), far beyond the small numbers of lexicalized ‘emblems’ that are found in gesture ‘dictionaries’ and the meanings of which can easily be translated into words (gestures such as the middle finger, the peace sign, and the raised fist). Ethnographic researchers since Efron (1942) have documented numerous hand gestures that circulate in speech communities of various types, including Southern Italy (de Jorio, 1832; Kendon, 1995, 2004), France (Calbris, 1990), Jewish and Italian immigrant communities in New York City (Efron, 1942), and townships of South Africa (Brookes, 2004).

Gesture researchers committed to a cognitive science framework (cognitive psychology or cognitive linguistics) either regard gesturing as spontaneous and personal, directly revealing the thought process of the speaker (McNeill, 1992) – the speaker’s ‘thinking for speaking’ (Slobin, 1996) – or they approach them primarily as bodily expressions of ‘conceptual metaphors’ (Lakoff & Johnson, 1980) that are shared within a culture (Nuñez, 2008) or universally (Gallese & Lakoff, 2005), for example ‘understanding is grasping’ (Calbris, 2003; Cienki & Müller, 2008; Wehling, 2017). In either case, gestures are studied for *what* they reveal, not *how* they reveal it or, more broadly, how they make sense. In other words, gestures are treated as if their materiality – the fact that they are made by living human hands – did not matter to how gestures make meaning and as if they had no social history. Nothing comes between speakers and their gestures. But even the seemingly immaterial process of grammaticalization in language has been shown to be driven by material, bodily forces (Bybee, 1998), and recurrent, ‘conventionalized’ gestures obviously have social histories. New members find a pre-fabricated gesture set, acquirable one by one, already at their disposal.

In this paper I therefore propose a different approach. It is informed by insights from grammaticalization research into the life cycles of another human-

made, living symbol system, language.¹ New gestures come into existence at all times, and when these get repeated, either by others or by the same speaker in other contexts, we can also observe how these newly emerged signs can become parts of a shared, if possibly transient, code (LeBaron, 1998; LeBaron & Streeck, 2000). Thus, this paper offers an empirical theory of the genesis of a particular class of gestures, conceptual gestures. These gestures construe, represent, and make sense of something – some entity, experience, action, or other theme – in terms of a meaningful manual action or pose. I show how new conceptual gestures first emerge and are then rescued from immediate oblivion by being repeated, and I examine the subsequent developmental path of newly minted gestures towards social sedimentation as a communally shared “semiotic resource” (Goodwin, 2018).

The empirical support for my theory comes from a day-long recording of one man’s work-place communication. Mr. C, originally from Lebanon, is the owner and hands-on manager of a small auto-repair shop in Texas. During this day he engages in about a thousand different activities and makes several thousand hand gestures.² Some of these gestures are made multiple times during the day, some in a narrow, others in a broad range of contexts. One of the advantages that this video corpus offers is that we can track gestures across contexts, observe what communicative potentials they unfold in each, and how a single gestural form can profile subject matter of different ontological orders, from physical objects to speech acts to propositional attitudes. A special advantage of a corpus that shows hands both at work and engaged in communication is that we can observe how they move back and forth between dealing with matter and dealing with meaning. This, rather than the work-free zone of face-to-face conversation, is the cradle of hand gestures. Gestures that originally index the ‘world at hand’ (Schütz, 1945) may not only represent that world in later conversations but also be used to make sense of unrelated matter by casting it in terms of actions and experiences of hands.

In the following I define conceptual gestures, illustrate with a handful of examples from the auto-shop how hand gestures construe (profile) thematic content, and explain how this mode of gesturing differs from the other basic modes. In the core section of the paper I track a few gestures made by Mr. C as they are

1. I do not suggest that gestures are grammaticalizing or that gesture has grammar, only that there are parallels in the evolution of gesture, presumably an older system, and language.

2. The video recording was made in 1995; all participants described in publications gave their verbal consent to being videotaped for research purposes and for these recordings to be shown and analyzed in public. For a comprehensive portrait of Mr. C as a multimodal communicator see Streeck, 2017.

being abstracted, first from practical manual activities, then from the setting, and finally from the *kind* of context with which they were initially coupled. I contend that this series of abstractions from which ‘ready-made’ conceptual gestures emanate is an example of what ethologists have called ‘emancipation,’ about which Haiman writes in a definition of ritualization:

Phylogenetically instrumental actions are *emancipated* from their primary motivation and free to serve a communicative function instead. ... [A communicative action’s] form is relatively independent of (emancipated from) its original stimulus. (Haiman, 1994, p. 5)

This parallels the emergence of new hand gestures among humans. Once we understand that emancipation is the process by which some gestures ‘become like words’ (Kendon, 1988) in that they are pre-fabricated like them, ready to be ‘rented’ from the community for individual expression (Bakhtin, 1986), we can look at the stages of this development more closely by investigating the interactions during which it takes place.

2. Conceptual gestures

Conceptualizing means profiling or representing something *as* something (Goodman, 1968), construing it or giving it profile (Langacker, 1998), and subsuming it under a category (of which it may be the only member; Lakoff, 1982). While the terms ‘concept’ and ‘conceptualization’ are often reserved for languages, gestures, too, can conceptualize. For example, a motion of the hand to the mouth, the hand held in a prehensile posture, conceptualizes drinking (or the liquid consumed or the container): The gesture evokes a familiar act and enables interlocutors to access their world knowledge about liquids and drinking by selecting and profiling a phase of the motor activity involved. Here, the relationship between signifier and signified is specific and concrete. On the other hand, an open hand, palm facing forward, pushed or positioned against the interlocutor, can profile and embody rejection (Calbris, 2011, pp. 199–202). In this case the physical gesture is about a communicative, not a physical act; it profiles an intangible, immaterial entity. Langacker, who emphasizes the “crucial role of conceptualization in social interaction” (1998, p. 1), writes that conceptualization subsumes

(a) both established and novel conceptions; (b) not only abstract or intellectual “concepts” but also sensory, motor, and emotive experience; (c) conceptions that are not instantaneous but change or unfold through processing time; and (d) full apprehension of the physical, social, cultural, and linguistic context. ... Concep-

tualization is ... the dynamic activity of embodied minds interacting with their environment. (Langacker, 1998, pp. 2–3)

While Langacker writes about language, hand gestures similarly alternate between established habits and situated innovations, and many gestures are indistinct, fleeting, formless micro-movements, so that what Langacker writes about language applies even more to hand gestures, namely that “there is no clear boundary between evoked and encoded meaning, nor is the latter necessarily either independently coherent or separately apprehended” (p. 4).

Conceptualizing is one of the main gestural activities that human hands perform, along with pointing and other ‘environmentally coupled’ practices (Goodwin, 2007), depiction (Streeck, 2008), and performative or institutional gestures such as contractual and greeting hand-shakes and the gesture of swearing an oath. Conceptualizing, arguably, is by far the most ubiquitous manual activity that speakers engage in during conversational interaction. The other modes of gesturing are tied to specific interactional and communicative tasks; conceptualizing is in play whenever people speak.³ Conceptual gestures can give profile to and construe entities of any number of ontological classes, from concrete objects to propositional attitudes, but what interests us here is not their reference, but how they predicate, *how* they profile – and thereby make sense of – their variable referents.⁴ Even though conceptual gesturing and gestural depiction often involve ‘iconic’ gestures, the communicative activities – both their purpose and their behavioral features – differ fundamentally. Gestural conceptualization is largely a background activity by which the speaker makes sense of – construes – concrete or abstract thematic content. For example, ‘capacity’ may be conceptualized by a grip, without any physical grip occurring in the scene talked about (see Extract 3). When, in contrast, a speaker *depicts* a gripping action by a gripping gesture, he or she is prone to glance at their own gesturing hand, thus alerting listeners to the salience of the depiction (Streeck, 2009, Chapters 4–7).

The two ways in which talk is represented gesturally during a single clause in Extract 1 illustrates what I mean by gestural conceptualization. The extract is

3. If one prefers to reserve the term ‘conceptualization’ for language, one can call these gestural acts ‘pre-conceptual’, indicating that they lack certain features of linguistic concepts, for example to be available for meta-cognitive and meta-communicative reflection. But note that the word ‘con-cept’ itself construes conceptualization as a grasping act, an act of taking hold of something (the root meaning of Latin *capere*).

4. The term ‘referent’ is problematic unless we accept that some gestural acts also refer to themselves. For example, the rejection embodies and refers to the act of rejecting of which it is a part. It is not separate from it; Merleau-Ponty (1962).

taken from a conversation between Mr. C and myself in his office.⁵ We talk about why I want to videotape and study him. Mr. C, who is keenly aware of his less-than-full command of English grammar, is about to tell me that he understands my interest in embodied communication because language is the least of his own communication resources. In the turn in question, he is making talk the conversation topic. During a very brief pause before the word ‘talk’, the thumbs and index fingers of both of his hands touch each other a couple of times, generating an ‘opening-closing-opening’ kinetic melody that is analogous to the touching of the lips, the opening and closing of the mouth, during speaking. Then, once he utters the word ‘talk’, he moves his hands back and forth in the sagittal plane, profiling talk as a back and forth between him and myself, the interlocutor, that is, as interaction. Each gesture construes talk differently and highlights a different feature, but both do so by way of kinetic analogies between the gesture and its referent. The two gestures, in Langacker’s (1986) terminology, impose different profiles onto the base, that is, talk.

Extract 1.

Figures 1.1–2. Two ‘talk’ gestures

Mr. C when you tell me about (- • -) ta•:lk,

Conceptual gestures draw on the animate human body in a multitude of ways, including the hand’s own multisensory nature and its ability to translate between different senses (see Streeck, 2017, pp.176–179), as we will see below. By configuring and moving a hand, we create an experience that is kinesthetic, tactile, and visual at the same time, even though maker and observer have different percep-

5. The transcription follows basic Jeffersonian conventions. In addition, a dot (•) in the transcript marks the moment shown in a frame-grab; when there are several images, the series of dots corresponds to the series of frame-grabs. Line-breaks mark breath-group boundaries, as in poetry. Dashes in parentheses represent pauses, measured in tenths of a second; thus, ‘(- - -)’ is equivalent to ‘(0.3)’.

tual access to the gesture. At the surface, a gesture is a purely visual experience for the listener; however, as research in neuroscience has amply demonstrated,⁶ an observer's motor control system actively participates in the perception of bodily actions such as gestures, generating a kind of intercorporeal connectedness that could be described as inter-kinesthesia.

Another set of examples of gestural conceptualization are two different *cranking* gestures that Mr. C repeatedly makes. One (shown in Extract 13) enacts the turning of an ignition key (and thereby 'cranking' the starter), the other profiles the knowing perception of a cranking sound: An extended finger is rotated near Mr. C's ear, while raised eyebrows display recognition. The concept is 'hearing something crank', and the gesture synthesizes two independent profiles, 'hearing'⁷ and 'turning'. Mr. C makes this gesture, for example, as he complains to me that a customer 'misdescribed' to him how her car behaved when he tried to give her a 'phone start'. The gesture profiles the hearing of a sound that should have taken place. But the customer had failed to report the starter's cranking, which would have indicated to Mr. C right away that both battery and starter were working. Without that information, he was unable to diagnose the problem over the phone.

Extract 2.

Figure 2. Gesture profiling informed hearing of a sound

Mr.C When she came to start the car,
the car flooded her.
She cran•king (- -)
She misdescribed to me.

While these gestures conceptualize subject matter –, the following set of seizing gestures illustrates that the same gesture can profile thematic material at one

6. See the discussion in Streeck (2017, Chapter 5).

7. Without the facial display of recognition, the gesture would more likely profile 'listening to' or 'listening for'.

moment and aspects of the interactional process or of the communicative act of which it is a part at the next. By 'seizing' gestures I refer to rapid, effortful hand closings, beginning with an open hand and ending in a fist.⁸ Equally adequate would be labels such as 'grip' or 'grasping' gesture.

Mr. C makes this gesture when he talks about *capacity*, in the given case the capacity (or charge) of a car battery. He explains to the customer the result of a cranking test he has just completed.

Extract 3.

Figure 3. Gesturing 'capacity'

H It's mean the battery
still has good cap●acity

He also makes it when he talks about possession, especially cognitive possession, i.e., the possession of experience, knowledge, and information, here as he reflects on how he 'makes sense with his customers' via various modalities of communication.

8. A hand becomes a fist either in *completing* an action of seizing/grabbing/grasping, or in *preparing* for a different one, punching, when the fist is wielded as a weapon. As gestural poses the two are indistinguishable, but timing and movement dynamic usually disambiguate them. While the punching fist seems to be the source for the widespread emblematic fist of power, in everyday conversation the fist is more frequently the end-state of seizing gestures. To correctly identify recurrent gestures, we must be attentive to their movement dynamics, as well as to how they temporally align with talk.

Extract 4.

Figures 4.1–2. Gesture construing cognitive possession

H If I have good (- - • - -) voca•bulary
and I have good experience

Extract 5.

Figure 5. Gesture profiling possessing information

but (- - -) w•ith this (-) information
I make sense when I speak to the people

At other times, the seizing gesture profiles aspects of the communicative activity or interaction. In Kendon's terms, it contributes *pragmatic* utterance meanings. Gestures of this kind have been called 'pragmatic' (Kendon, 2009; Streeck, 2013), 'discourse management' (Wehling, 2017), and 'interactive' (Bavelas et al., 1992) gestures. This gesture, made in different contexts, especially in combination with different kinds of talk or at different positions of the spoken utterance, can refer to different ontological domains and contribute to the communicative process in different ways, but in each case it construes the phenomenon it is about as something

that can be seized or held firmly in hand. Or it profiles a process, however abstract, as a seizing. Thus, seizing can profile (successful) completion, profiling an action as it achieves its goal. More broadly, the gesture can embody achievement and success. Its specific significance is of course a matter of the context in which it is made.

In Extract 6, Mr. C has been telling an employee to take along a battery charger when he goes to retrieve a car, making pointing gestures with his right hand in the process. Right after he completes his directives and retracts his right hand, he raises his left hand and closes it forcefully (6.1–2). The ‘kinetic melody’ (Luria, 1973) of the gesture is that of effortful, marked – *achieved* – closure.

Extract 6.

Figures 6.1–2. Gesture of completion

Sheets-Johnstone (2012) discusses Luria’s important concept ‘kinetic melody’:

Kinetic melodies are inscribed in the body. They are ‘integral kinaesthetic structures’ (Luria, 1973: 176) and are thus essentially, ... in-the-flesh dynamic patterns of movement that are initiated – and run off. ... They are kept alive by kinesthetic memory; their inscription in the body is ... by way of distinctive movement dynamics. Thus, in normal everyday adult life, a kinetic dynamics unfolds that is at once familiar and yet quintessentially tailored kinetically to the particular situation at hand: A familiar but distinctive kinetic dynamics unfolds in articulatory gestures as we speak, in repetitive downward swoops of our arm as we hammer, in subtle, varying shifts of direction and bendings of our body as we move quickly forward along a crowded sidewalk. The familiarity of these dynamics is grounded in invariants, invariants of speech, of hammering, of weaving a path around obstacles. Their tailoring is grounded in the particular situational vagaries found in the present experience: feeling ill at ease speaking to this particular person, hammering with this new hammer, weaving our way on this icy sidewalk.

(Sheets-Johnstone, 2012, p. 49)

‘Kinetic melody’ is a term associated with an observer’s perspective; what the maker of the gesture experiences and remembers are *kinesthetic* melodies of motor acts. Conceptual gestures do not in the first place conceptualize by making the abstract visible, but by creating a kinesthetic experience in the maker that is analogous to, and derived from, the kinetic melody of an inherently meaningful manual action in the material world, an action such as seizing, lifting, putting down, pushing aside, cutting, and so on (Streeck, 2017, Chapter 5). This means that the body, in making such a gesture, spontaneously organizes itself in a manner that creates an experienced analogy between two types of situations, one physical, one ‘virtual’ (Kendon, 2004).

The seizing gesture in my final example before I turn to the emancipation of conceptual gestures profiles a word-search as catching a fleeting object. The gesture is part of what, in the spirit of Ryle (1949) and Wittgenstein (1953), we can call ‘natural word-searching behavior.’⁹ It unfolds as a sequence of tension, capture, and release. Mr. C has trained a number of younger mechanics, mainly fellow Lebanese men, who went on to open their own shops. When he talks to me about that, he says that, in his experience, those who modeled themselves after him came out better. To complete his turn-construction unit in line 7, he needs a phrase or word like ‘follow my model’ or ‘emulate’. He settles for ‘copy’. When he realizes his imminent word-finding problem, Mr. C’s hands rapidly open up and freeze into a prehensile posture. They are now ready to grab. When the fleeting object appears – the word ‘copy’ – they seize upon it.¹⁰

Extract 7.

Figures 7.1–2. Gesture conceiving completion of a word-search

9. This example illustrates why the term ‘reference’ must be applied with caution when it comes to conceptual gestures. This gesture is part of, not separate from, the word-search that it profiles. We can call it a metonymic sign.

10. Note that the finding and uttering of the word are not two different processes; Ryle, 1949.

1 H Some of the technicians they ha:te me
 (- - - -)
 2 and some of the technicians they l@ve me
 3 more than their family
 4 They build themselves
 5 in my experience
 6 and they do lo:t better
 7 when they uh- (- - -) copy me.

What differs between the gestures in Extracts 3–5, on one hand, and 6, on the other, is how the gestures respectively relate to the context at hand, which component of the moment of social interaction and communicative understanding they pick out, profile, and make sense of.

The gestural behavior performed by Mr. C's hands in this moment organizes and manages a circumstance of discourse in perceivable analogy to a type of circumstance familiar to human hands. We can conceive of it as a pragmatic conceptualization: an occurrence in the activity of speaking is profiled by an abstracted, 'emancipated', yet familiar and meaningful, manual action: waiting for something and catching it. The synchronicity of Mr. C's cognitive, verbal, and gestural bursts speaks against an account of the gesture as an expression of an independently existing conceptual metaphor, the *conduit metaphor*, which is the result of a *comparison* between talk and object-exchange. According to the conduit metaphor (Reddy, 1979; McNeill, 1992), words, utterances, and other symbolic units are physical objects that can be transported, handled, dodged, handed over to others, and so on, like things. Another way of looking at this is that the gesture simply manifests the human animal's *animate form* (Sheets-Johnstone, 2010), to be designed for exploring and manipulating, even making the world by their hands. This disposition has naturally carried over to the symbolic-discursive realm as language and conversation evolved, the transfer having been prepared in millions of years of hominin mimetic culture, which must have been rich in bodily gestures (Donald, 1991). The conduit metaphor that is widespread in human languages may well be a by-product of humans observing each other's gestural behavior (Olson, 1994).

Conceptual gestures can serve many communicative and interactive functions. They are predominantly solitary acts that do not build upon one another, as depictive gestures do. They are also scattershot, meaning that they do not occur with regularity. While a sequence of conceptual gestures may show the speaker's 'train of thought' over time (Efron, 1972), in this corpus they are made far more frequently as singular acts. Overall, this mode of gesturing comprises such heterogeneous practices that it seems preposterous to subsume them all under a single label. But at a deeper level, these practices have a particular way of sense-making in common: They make sense of something by means of a single, indivisible, manual act. To put it more vividly: Conceptual gestures are acts of sense-making

performed by animals endowed with two hands, the ability to make things with them, and a wealth of acquired knowledge and skills that is folded into their kinaesthetic memories (Sheets-Johnstone, 2012), what used to be called ‘muscle sense’. They mobilize this knowledge in the speaker and, by being visible, in the listener as well.

3. The emancipation of conceptual gestures in an auto-shop

The questions that I seek to answer in this paper are: How do conceptual gestures come into existence and how do they become common currency? I casually call recurrent gestures ‘ready-mades’ or ‘pre-fabs’. They are gestures that have been habitualized by individual people or even sedimented as a community’s ‘techniques of the body’ (Mauss, 1935). How do the unit acts that make up this distinct ‘semiotic resource’ (Goodwin, 2018) emerge?

An advantage of studying gestures by following a single person through the various contexts in which he or she communicates in their routine everyday life is that it allows us to witness the interplay of novelty and tradition in their everyday gestures. An auto-shop is a cradle of gestures, and some of these locally born gestures may become local traditions, while others are imported from the community at large. In the following, I exhibit three stages in the emancipation of a few gestures in a single interconnected series of scenes, through three stages, an indexical, an iconic, and a symbolic stage, each constituted by a distinct abstraction. The episode begins when an old customer calls Mr. C, stuck in another town and unable to start her car, and Mr. C gives her a ‘phone start’. Later, she makes it to the shop, in the company of her daughter, who is driving. Mr. C quickly diagnoses the problem as having to do with the carburetor, and when he removes the air-filter, he finds an *inner carburetor bracket* mispositioned. He puts it into its proper place and fixates it with a wire. The customer drives off and Mr. C. explains to me what happened. Throughout, his talk is supported by gestures.

3.1 First abstraction: From action to gesture

Running an auto-repair shop, Mr. C is responsible for the diagnosis of engine problems. This work requires skilled and probing manipulation: unscrewing screws, removing covers, checking connections between cables, hoses, and engine parts. When a customer or younger technician is present during a physical examination and witnesses these exploratory actions, Mr. C typically conducts them in demonstrative, pedagogical fashion. Thus, triadic relationships are formed between two humans, one more knowledgeable than the other, and an object

before them that they are seeking to understand. In such contexts new gestures emerge effortlessly and naturally. In Extracts 8 and 9, Mr. C, having concluded that the problem is with the carburetor, examines it while the owner is looking on.¹¹ He raises the air-filter (visible in the upper right half of Figures 8.1–2) and discovers a misplaced *inner carburetor bracket*, which he picks up, turns around, and puts back in the right position. Then he repeats this action several times. This repetition, not needed to solve the practical problem at hand, marks the beginning transformation of an instrumental action into a communicative one, and repetition itself serves as a communication method.¹²

Extract 8.

Figures 8.1–2. Demonstrative actions

- 1 This (- - -)
- 2 I just pick up this like • this.
- 3 It should go here
- 4 like • this.

Mr. C also makes a hand movement that is uncoupled from the bracket. His hand performs an act of turning or ‘flipping’, reconstructing the bracket’s past, how it had been turned the wrong way after it had been taken out (Extract 9).

11. A more detailed analysis of this episode appears in Streeck (2017, Chapter 4).

12. Of course, ordinary practical actions can also be communicative, but the focus here is on the rise of purely communicative manual acts.

Extract 9.

Figures 9.1–2. Pointing and flipping gesture

Mr. C Th●is here,
they f●lip it.

At this point, the movement is already made remotely, removed from its object. To put it differently, the object is deleted from the action and is from now on implied by the gesture and implicitly understood. This abstraction of the motor action from the material object to which it ‘belongs’ – with which, ‘in real life’, it is coupled – and thus what Leroi-Gourhan (1993) called the ‘liberation’ of the hand from physical labor were key to the evolution of hominin intelligence and sociality. Thus, we can assume that similar abstractions must already have been at the core of early forms of mimetic communication (Donald, 1991). The abstraction produces an elementary indexical gesture of a kind that does not point to, but *illuminates* objects at hand (Streeck, 2009, Chapter 4).

Manual action becomes gesture when the haptic hand and its motor pattern are ‘abs-tract-ed’, ‘dragged away from’ its material object. The Latin verb has it right: ‘trahere’ means *drag*, *acquire*, and *derive*. The gesture derives its (indexical) meaning from the action from which its motor pattern has been acquired. This is the first and essential stage in the emergence of conceptual gestures, the first of three emancipations: The hand is emancipated from the world of things, its motions are liberated from the shackles of labor, and it is free to expend its energy and intelligence in the service of communication while using in communication what is has learned at work.

3.2 Second abstraction: Iconicity and displacement

Mr. C fixates the bracket with an improvised ‘safety lock’; he threads a piece of wire through it that holds it in place. He closes the air-filter and then the hood,

and the customer thanks him and drives away. Mr. C then turns to me to give me a summary of the problem and its causes. The gestures that he makes during this recounting recall the actions that he took and the gestures that he made during the diagnosis. For example, at line 1, he re-enacts his removal of the air-filter, but this re-enactment now refers to *someone else's* performing of that action (whoever tried to help the customer before). And Mr. C re-enacts his own flipping gesture (at line 7), which he had made for the benefit of the customer during the examination of the carburetor, when it had served as an indexical comment on the object at hand. Now it becomes a pre-fabricated iconic device.

Extract 10.

Figures 10.1–2. Gestures re-enacting prior actions

- 1 Mr. C And accidentally she pulled th•at,
 2 and it's missing the safety lock.
 3 And when she put it back together
 4 she don't know how it should go.
 5 JS Right.
 6 Mr. C And she put it different way,
 7 she • flip it,
 8 and she make the choke close.

When actions are re-enacted as gestures, their melodies are retrieved from kinesthetic memory.¹³ Kinesthetic memories enable Mr. C to re-enact, refer to, and elucidate his past actions in narrative mode, away from the objects and setting with which they were initially coupled. As acts of displaced reference (Givon, 2002) they have become, according to Peirce's typology (Peirce, 1995), *iconic* signs.

The transition from indexical to iconic communication marks another key step in the evolution of hominin communication. Hutchins and Johnson describe

13. Ekman & Friesen (1969) distinguish between 'iconically' and 'intrinsically' motivated gestures. Mr. C's action gestures – turn, pull, etc. fall under the latter category. 'Intrinsic' seems to be another word for 'kinesthetic'.

the genesis of iconic gesture-like poses in the interaction of bonobo mother-infant pairs, poses that communicate, for example, the request to be picked up and carried. They observe that “transformations of action yield iconic forms” (Hutchins and Johnson, 2009, p. 537):

Pose gestures are forms. Each exists first as a phase of a fluid trajectory performed by the infant in the collaborative accomplishment of a carry. ... Over time, acts like lean back and reach differentiate from the normal flow of events and are displaced in space and time. They are performed not in the midst of a carry, but in its absence.

It is evident how closely this process resembles actions and gestures of human adults. This suggests that the mechanism in play, the abstractive transformation of practical actions into gestures, is a very old one indeed, and obviously still very much alive. The mechanism is also visible when infants begin to gesture (Andrén, 2017). Perniss and Vigliocco (2014) allude to the importance of kinesthesia in the transition from indexical to iconic communication:

Imagistic, imitative representations of ... actions with objects would be a key component in achieving displaced reference. For example, in attempting to communicate to someone else the intention to go hunting, one could rely on conceptual traces of previous sensori-motor experiences in hunting, using the face, hands, and vocal chords to imitate what can be retrieved of these previous sensori-motor experiences to convey the intention to hunt. In this scenario, iconicity ... evoke(s) some ‘trace’ of a previous experience and ... thereby make(s) the event present in a sense. In this lies a seed of conceptual reference.

(Perniss & Vigliocco, 2014: 5)

3.3 Third abstraction: Generalization across contexts

Mr. C concludes the report by listing the consequences of the misplacement of the inner carburetor bracket: gas is wasted, there is smoke but no power. He embeds each proposition in a hand-over act: The open hand, palm supine, is rotated forward toward the addressee. The first two installments are single-handed, the third one is made with both hands.

Extract 11.

Figures 11.1–3. Hand-over gestures

9 All the car smoke,
 10 wasting gas,
 11 no power.

We have no record of the emancipation history of this gesture, as we do of the previous ones. It certainly did not begin with Mr. C. Rather, Mr. C has acquired it as a pre-fabricated gesture from conversation partners, probably early in his life. The gesture is not abstracted from his own manipulations of objects in the material world. In other words, hand-over gestures are ‘recurrent’ gestures that circulate in the U.S., as well as, apparently, in countless other societies.

Several researchers have studied these gestures, using different labels (e.g., Kendon, 2004; Müller, 2003; Streeck, 2007), converging on the view that they are implicated in the management of turn-taking. We know this not from the shape of the gesture alone, but from its recurrent placement near the end of ‘transferable’ units, including clauses/propositions as well as turns at talk. Anecdotal evidence suggests that hand-over gestures may be among the most frequently made conversational gestures anywhere. How they have become so widely entrenched is an

open and perhaps unanswerable question: They could simply be very old, having accompanied extended face-to-face discourse from the beginning, suggesting that activities that required the sharing of a scarce resource such as food might have been the model in terms of which hominins managed and made sense of the social-organizational tasks of talk that is no longer embedded in corporeal cooperative activities. The frequency of hand-over gestures could also be the result of parallel development, of different speech communities or cultural areas converging on 'best gesture practices' for the management of turn-taking. Or it may be the result of more recent cultural diffusion. But while the history will remain unknown, we recognize in these gestures the same intentional structure that we saw those gestures whose history we have witnessed: The hand's movement replicates the kinetic melody of a practical action in which it is engaged with an object. The object of the action is implied, and context specifies what kind of object it is, the concrete one the hand recently handled, or the utterance, proposition, thought, fact, or opinion that is being transmitted (or the right to speak that is being passed on).

4. Parallels between grammaticalization and the emancipation of gestures

The logic of the process from which conceptual gestures emerge is straightforward and simple. They originate as abstractions from practical actions: They maintain an action's hand-shape or motion pattern or both, but are enacted at a remove from the object, which from now on is implied. Ambiguities are easily resolved because context and conversation topic specify the base upon which the gesture imposes its profile (for example, talk, as in Extract 1). Communication partners can recover it from memory if they have observed the original action and from their common sense knowledge if not.¹⁴ At first, a gesture that has been abstracted from a material action highlights features of the object that has just been handled or the action just performed; it is contiguous with a material, 'hands on' act. The second abstraction, displacement, occurs when such a newly minted gesture is enacted in a different speech situation or after time has passed, in which case it becomes a prefabricated, iconic form that enables displaced reference and narration. The trajectory

14. An 'encyclopedic' conception of semantics is as adequate to gestures as it is to words. Langacker writes: "The encyclopedic approach ... treats lexical items as points of entry into vast conceptual networks. Although the access they afford to these networks is to some degree conventionally established, it is nonetheless flexible, open-ended"; (Langacker, 1998, p.3). This access is even less conventionally established in gestures.

that grammaticalization research and research work on cultural evolution suggest would suggest is that, once the gesture begins to get copied by others (Laland, 2017), it can become an 'agreed-upon', conventional gesture, circulating without anyone needing to be conscious of making it. And when this happens, the contexts in which the gesture is made inevitably become more diverse as the meaning of the gesture loses specificity. It bleaches out (Hopper & Traugott, 1993). The hand-over gestures Mr. C makes when he talks to me are of this kind. Hutchins and Johnson write:

humans are, and ... their ancestors were, prodigious imitators ... The mutual and reciprocal targeting of behavior creates a positive feedback loop. Once a behavior enters the repertoire of one agent, for whatever reason, it is likely to enter the repertoires of others, which makes it even more likely to enter the repertoires of still others, and so on. (Hutchins & Johnson, 2009, p. 526)

At the end of such a 'cline', a habitualized gesture such as an effortful closing of the hand can come to signify the closing of an activity or interaction. In Peirce's terminology, the gesture has become a *symbolic* sign. It is conventionally associated with particular contexts even if its transparency may be lost.

Gesture research does not have the luxury of massive data corpora gathered from numerous people that allow grammaticalization researchers to show how new grammatical features spread in a speech community. But grammaticalization is also detectable in the speech of a single speaker in so far as more and less grammaticized usages of words are part of anyone's speech. The go-to example is the verb *go*, which everyone uses in literal and grammatical, in older and newer, versions, to refer to movement or the imminent future. Another example is the recently re-grammaticalized word *like*, now one of the most frequently heard words in colloquial American English, which is used as a preposition, conjunction, and quotative/discourse marker, each usage enfolding a distinct grammaticalization stage (Streeck, 2002). The same phenomenon can be observed in people's gestures, as the auto-shop corpus shows, which encompasses innovations, situated conventions, and ancient items. These data reveal other processes as well that are known from, or parallel, grammaticalization which suggests that they may be processes or mechanisms that operate more broadly in human symbol systems. This is another reason why it is worthwhile to conduct empirical research on gesture from a perspective, which, like the 'linguistics of time', acknowledges the social history of the medium, rather than taking it as a direct reflection of what is on people's minds. In the remainder of this paper, before I conclude, I briefly highlight three of these mechanisms and processes as they unfold in interactions at the auto-shop: repetition, habitualization, and bleaching.

4.1 Repetition and habitualization

Hand gestures, in contrast to signs in emerging sign languages (Haviland, 2013; Padden, Hwang, Lepic & Seegers, 2014), are not subject to grammaticalization; for grammaticalization to take place the prior existence of words as well as the routine use of these words in fixed sequences is required. Neither condition is met by hand gestures. Yet, grammaticalization gives us a model how to approach the issue of gesture's (ongoing) evolution and, in fact, we can observe in gesture certain phenomena and processes that have previously been observed in spoken languages, suggesting that they are more broadly characteristic of human cultural and symbolic evolution.

Following Merleau-Ponty (1962), Cuffari and Streeck (2017) describe the life-cycle of gestures as a development from spontaneous creation to social sedimentation. Hopper (2011) and others have described the emergence of grammar similarly, and Hopper (2015) points out that grammar begins with a single repetition, a first 'inscription' of a novelty. Repetition occurs in several forms in the emergence of gestures. In Extracts 8 and 9 we have seen how repetition itself serves communication and how it can transform a practical action into a sign. Another form is repetition by others. A newly coined gesture can enfold shared experiences of a cooperating group, as LeBaron has described in his studies of architectural instruction and practice (LeBaron, 1998; LeBaron & Streeck, 2000): Gestures abstracted from situated spatial exploration and imagination became quasi-lexical kinetic signs for complex spatial experiences and features among a network of people involved with the design of a church. In the auto-shop, such sharing of a gesture occurs when Mr. C instructs his older son Ali to go and purchase ribs for a weekend barbecue from the butcher across the street. The issue at this point is what size they should be. This is decided by gestures.

Mr. C depicts the size of the desired type of ribs (12.1), with a two-part gesture: a delimiting gesture of the two index fingers shows the size, cutting motions profile the structure of the ribs. Mr. C contrasts the desired size with a bigger-sized slab by increasing the distance between his hands (12.2). The son repeats his father's gesture with only minor modifications: His hand-shape differs; instead of using his index-fingers, he uses flat hands when he shows the slab's size and repeats his father's cutting motion (12.3). By repeating the gesture, Ali confirms that he understands his father and gives him an opportunity to decide whether his understanding is correct. Father and son both briefly glance at their own hands when they gesture, as is common when humans depict things with their hands in conversation (Streeck, 1993).

Extract 12.

Figures 12.1–4. Gesture repetition: Depiction sequence

- 1 Mr. C Ali, Mumken namel smoking yal weekend?
Ali, perhaps there's going to be a barbecue this weekend?
- 2 Rooh yand el laham honeek ou shoof aza yandon ri•bs.
Go to the butcher over there and see if they have ribs.
- 3 Bas sh•ahf ezgheereh.
But sma•ll pieces.
- 4 Jhiblak shi yashreen pound aza yandon.
Bring about twenty pound if they have it.
- 5 Ali Ayya naw?
What kind?
- 6 Mr. C Mish kteer, ma•e koon kteer kabeer, ey'yes ezgheer.
Not a lot, not too big, the small size.
- 7 Ali Mish lem•atyeen ezgheer.
Not the o•nes they've cut into small pie•ces.
- 8 Mr. C Fe ematyeen ezgheer kil wahdeh hek, lahk.
There are ones that are cut into small pieces, each one like this, no.
- 9 Ribs le halad kil shakfeh, mish hek.
I want ribs where each piece is this much, not like this.

While we cannot know if this is the first time Mr. C depicts ribs in this fashion, familiar cultural depiction techniques can be recognized in his gestures: He shows size by a bimanual delimiting gesture (Sowa, 2006) and marks up the gestured object with a subsequent gesture (Streeck, 2008).

The immediate repetition of a gesture by another speaker as a vehicle for, and display of, intersubjective understanding is one way in which a new gesture can begin a trajectory that results in its sedimentation as a 'ready-made' among

a network of people. The other route is a gesture's habitualization by its originator. Mr. C performs a number of habitual gestures during the day, for example during a telephone conversation with the carburetor customer earlier during the day; he makes the gestures even though the listener cannot see them. Here he is instructing her how to 'push-start' her car, and he gestures several of the required actions – turning the key (Figure 13.1), shifting into second gear, having someone push (Figure 13.2) – and he repeats some of these when he subsequently reports this conversation to me. In other words, certain verbal concepts – 'turn key', 'put gear', 'push' – seem to be habitually and firmly coupled with gestural counterparts.

Extract 13.

Figures 13.1–2. Habitualized gestures: Turning ignition key, shifting gears

- 1 Now to push-a start the ca:r,
- 2 you need to put- second gea:r,
- 3 turn the key to see light on the dash.
- 4 When you notice when you turn your • key to start the car,
- 5 you see light it's on the da:sh.
- 6 That it's mean your ignition is okay.
- 7 You need to see light on the dash,
- 8 push the clutch, in second gear,
- 9 and while the car, somebody • push,
- 10 just take off the clutch,
- 11 and then, in that way it's called jump-a start.

After the call ended, Mr. C turned to me to explain what it was about. He reports:¹⁵

15. See Streeck (2002 and 2017, Chapter 5) for a detailed analysis.

Extract 14.

Figures 14.1–2. Turning key, pushing

- 1 I said you have light, she said yes.
 2 Turn • the key on,
 3 put second gear,
 4 somebody • push,
 5 take off,
 6 maybe start.

These gestures, which are enacted without being visible to the interlocutor during their first enactment (13), are not derived from kinesthetic memories of specific events. Rather, they are *habitualized* and represent *classes* of action, not specific actions that have been performed and experienced. Berger & Luckmann define habitualization:

All human activity is subject to habitualization. Any action that is repeated frequently becomes cast into a pattern, which can then be reproduced with an economy of effort and which, *ipso facto*, is apprehended by its performer *as* that pattern. Habitualization further implies that the action in question may be performed again in the future in the same manner and with the same economical effort. (Berger and Luckmann, 1967, pp.70–71)

Cognitive psychologists may take these gestures as expressions of multimodal concepts and as evidence that concepts are stored in the sensory modalities of the experiences that they conceptualize. Barsalou (Barsalou et al. 2003) calls them ‘perceptual symbols’. In ethnographic perspective, these and Mr. C’s other habitualized gestures are ‘techniques of the body’ (Mauss, 1935), communicative ‘equipment for living’ (Dreyfus, 1991; Ingold, 2011). They are habitualized and routinized, available for infinite iterations.

4.2 Bleaching

When gestures are habitualized and iterated, it is possible that the range of contexts in which they are made increases, resulting in a loss of specificity of the sense that the gesture conveys. The gesture, to put it differently, draws analogies between contexts, collecting them into an emerging category, which becomes increasingly abstract or metaphorical.¹⁶ The following final scenes from the auto-shop illustrate this point. In play in these scenes is a hand gesture that, unlike hand-over gestures, appears to be a personal habit and directly related to the specific world of the shop, while conveying a sense that is similar in generality as the hand-over gestures in Extract 11. This is a *wiping* or *polishing* gesture. This gesture is often and only made when Mr. C instructs a technician to ‘finish everything’ or ‘make sure everything okay’, that is, to complete the job he is working on and not overlook anything. Figure 15.1 shows Mr. C instructing an apprentice how to finish a paint job, making sure that the paint is smooth everywhere.

Figure 15.1 Assessing a paint job

In Extract 15, Mr. C is giving instructions to the welder in his shop, who speaks only a few words of English. He stands next to a Ford, looking at the engine, the welder looking on. Mr. C performs a wiping gesture over the engine (at line 3), when he says ‘make sure everything work’.

16. A debate among grammaticalization researchers concerns the question whether the process that leads to constructions such as *I'm going to* [run] is metaphor – the piecemeal or wholesale mapping between domains (e.g., ‘time is space’) – or analogy, that is, situated, stepwise expansions of the range of usage contexts of a unit, each based on analogies between a prior and a new context. The latter view is more consistent with my observations. The appearance of metonymy and metaphor is an epiphenomenon of numerous situated, analogic expansions of the range of contexts in which a gesture is made. Cf. Heine & Kuteva (2011, pp. 586–7), for a discussion of the issue with respect to language.

Extract 15.

Figure 15.2 ‘Make sure/finish’ gesture

- 1 We need to make sure everything okay
 2 check the head- the hood-release also
 (- - -)
 3 make sure • everything work
 8 because I'm gonna take it to the paint

In Extract 16, Mr. C is standing by an Audi with a young technician who has been unable to figure out why the car will not start. Mr. C has decided that he himself should take over. He performs the wiping gesture as he instructs Alex to ‘leave this’ for him (line 2) and again when he says ‘we may be able to get this done’ (line 6, ‘we’ meaning Mr. C and someone other than this technician). To paraphrase the sense that the gesture conveys: ‘as for you and the job in front of you – it is finished’.

Extract 16.

Figures 16.1–2. ‘Make sure/finish’ gesture

- 1 that- if you like to prepare your tools
 2 and leave • this for me,

3 I'll play a little bit with this
4 and get somebody
5 to help me?
6 we may able • to get this done.

The gesture shares the kinetic melody of actions such as wiping clean and polishing, actions that, in an auto-shop, are often the last ones to be taken before a car is ready to go: acts of cleaning up, wiping away dirt, smoothing a surface. The gesture, however, with its meaning of finishing, can be applied to any job, including even welding. Its semantic profile has bleached out. In semiotic terms, the gesture has become a metonymic sign for 'finishing (a job)'. We cannot establish the connection with certainty, but what is evident is that in this case, the source and target domains of the gesture are much closer to one another than, for example, in the case of hand-over gestures, in whose case the transfer of object-transfer actions to the discourse domain seems more of a leap, and thus more metaphorical, but may in fact be the result of similar chains of analogies.

5. Conclusion

I have argued and tried to provide evidence in this paper that habitualized, 'recurrent', conceptual and, in Peirce's terminology, 'symbolic' conversational gestures – emerge in social interaction and become re-usable through a sequence of steps, which I have referred to as abstractions. The emancipation process begins when manual acts involved in certain material actions are performed without object in hand, becoming gestures that refer to and index qualities of instrumental acts and their objects. The second abstraction takes place when the gesture leaves its context of origin and is repeated in another context, as an iconic sign that makes displaced reference possible. When gestures become habitualized – ready-made communicative practices, available whenever needed – while they retain the 'kinetic melodies' and kinesthetic qualities of the physical actions from which they are drawn, they tend to be made in an expanding range of contexts and as a consequence they lose specificity of meaning. When others repeat the gesture and make it part of their repertoire, this process of bleaching accelerates.

While I have provided empirical examples for the first two stages of gestures' emancipation, the subsequent stages take place at historical time-scales and cannot be studied with methods designed to describe and explain moment-by-moment interaction. However, it is possible to compare the various contexts in which an established gesture is made. These contexts seem to radiate out from prototypical, concrete situations and references (a turning gesture re-enacting a turning action) to abstract and generic ones (a catching gesture marking the completion of a word-search). Because we know from research about human sign

systems as well as experimental research on the possibility of various assumed evolutionary sequences (Galantucci, 2005) that these always evolve from concrete and specific to more abstract reference, never the other way around, we can interpret the radial clustering of contexts in which a given gesture is made as a clue to its semiotic history. If that account is valid, it also speaks to the unity of initial and continuing processes of semiosis by which symbolic systems evolve, such that a gesture made in the present comes into existence in the same way in which gestures first came into existence when this communication mode first evolved.

What I have tried to account for is how the practical and creative activities of human hands not only leave behind tangible, three-dimensional artifacts, but also dynamic haptic artifacts, routinized practices – *techniques of the body* (Mauss, 1935) –, prefabricated gestures the renewed enactment of which releases the kinesiologically knowable meanings that are folded into them. What is so astonishing and strange is that human animals continued to act at all as if they were handling matter when they began to build virtual universes of discourse. As Kendon writes,

the actions of gesture are derived from the uses of the body, mainly the hands, in making things, arranging things, operating things, acting on things or other actors ... [and] teach us that, after all, when humans put their thought in utterances, this is, at bottom, but an aspect of *fabrication*, which is so fundamental a characteristic of our species. (Kendon, 2004, pp.360–1)

In present interaction, we also see pictures of the past. The emergence of new gestures in the activities of modern humans is not different from the way in which hand gestures emerged in the first place. Tomlinson, citing Tomasello (2008), describes early mimetic communication among humans as involving

pointing gestures and rudimentary iconic pantomimes of actions requested or situations needing joint attention, which came to be basic communicative modes as cooperative interaction took hold. These gestures underwent displacement or a ‘drift to the arbitrary’ as they were repeated distanced from specific contexts. (Tomlinson, 2015, p.107)

The persistence of this mechanism – and the ongoing emergence of new gestures from interactional practice – is what I have described in this paper.

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