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Gestures, Languages, and Language Acquisition

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Introduction

One of the most salient features about gestures is that individuals differ in their gesture use. As a result, it is commonly believed that gestures are idiosyncratic and random—and, incidentally, that they therefore cannot be studied in a structured way. Paradoxically, people also 'know' that people in other cultures differ in their gesture use. They thus group individuals on the basis of a certain observed uniformity in gestures, which also allows them to distinguish one group from another. In other words, people notice that there is uniformity within and diversity between cultural and linguistic groups. This fact in turn suggests that there is perceivable systematicity in gestures as well as something that may be called gestural repertoires.

This paper takes this observation as its starting point in order to discuss two ways in which gestures are relevant to language acquisition. First, given that linguistic communities differ in their gestural repertoires, gestures are part of what learners have to acquire with a new language. The differences between repertoires are due to the close relationship between gesture and speech through which gestures reflect language-specific structures, but also to the cultural norms of usage imposed on gestures. Learners have to acquire the linguistically appropriate gestures and the pragmatics associated with their use. A view of language learning that includes the acquisition of gestures raises both practical and theoretical questions concerning what to acquire, target norms, and what it means to be native-like. Second, learners' gestures are interesting in and of themselves. Careful analysis of the ways in which learners' gestures differ from those of native speakers can reveal details about the communicative aspects of language acquisition, but also offer surprising insights into internal processes of acquisition such as the influence of the first language, and the planning and processing difficulties in actual language use.

However, before the issues of gestures and acquisition can be addressed, some background on gestures and gestural repertoires is necessary. The paper is therefore

organized as follows. First, gestures will be defined and their relationship to speech and language in general will be outlined. Second, the gestural repertoires and some elements that contribute to their complexity will be discussed in some detail. Finally, then, the two broad issues relevant to acquisition outlined above will be addressed: the acquisition of gestures and gestures in acquisition.

Gestures and language

In this paper the word 'gesture' will be taken to refer to movements (typically of the arms, hands, or head) that are related to our effort and/or intention to express ourselves (cf. Kendon, 1993; McNeill, 1992). This definition distinguishes gestures from general non-verbal behaviours, such as blushing and blinking, and from self-touching or grooming movements (often called 'self-regulators', cf. Ekman & Friesen, 1969), such as playing with strands of hair, picking on imagined specks of dust, etc. Such general behaviours may communicate something to the observer in the sense that meaning can be attributed to them (e.g., the speaker's embarrassment or nervousness), but they are not part of what the speaker is trying to express or convey. Although speakers are normally no more conscious of the gestures they perform during speech than they are of playing with their hair, their gestures can still be shown to be related to the content of their speech. It is in this sense that gestures are part of the expressive effort.

This definition of 'gesture' still leaves a broad category of behaviours to consider, ranging from movements like the 'OK' sign to movements that imitate real actions (lifting an imagined cup of coffee to your mouth and pretending to drink from it), movements that depict and represent the entities we are talking about (outlining a sphere when talking about the full moon), movements that point to real or imagined things, all the way to simple rhythmic movements that fall on stressed items in speech (cf. McNeill, 2000).

Gestures are closely related to speech and language. This connection is most readily observable in the fact that gestures tend to occur with speech and not in silence. Speakers are generally the ones to gesticulate, not listeners. More specifically, speech and gestures are tightly semantically and temporally co-ordinated. Gestures and speech typically express the same meaning at the same time.

The speaker in Figure 1 performs a two-handed gesture that outlines a rectangular shape in space, iconically depicting the shape of the reception talked about. The reception is represented both in speech and in gesture, and the same meaning is therefore present in both modalities. Moreover, the beginning and end of the gesture coincide closely with the beginning and end of the expression in speech that conveys the same meaning. The square brackets



Figure 1.
la femme qui est [+ dans la
réception +]
'the woman who is in the
reception'

in the transcription mark the total duration of the gesture. The hands start rising and move into position as the speaker hesitates briefly (indicated by the first '+'). The hands then outline the rectangular shape as the speaker says *dans la* 'in the' (non-italics). The hands are maintained in the air in the shape they had during the movement until the word *réception* has been uttered (underlined). Only then do the hands come down to rest. The hands 'wait' for speech to catch up (Kendon, 1980). This co-ordination between gestures and speech is remarkably systematic.

Traditional accounts of gestures have assumed that speakers gesture for the benefit of the addressee in order to make the message more understandable or more vivid. Such theories cannot account for the tight connection illustrated above, however, nor for the fact that people gesture while on the phone or that blind children gesticulate even though they cannot see the addressee (Iverson et al., 2000). Therefore, recent theories instead propose that speakers gesture as a direct result of the expressive effort because gestures and speech share a common conceptual origin. When we imagine what we are going to say, the message consists of words, grammar, and sounds as well as of imagery (e.g., the size and shape of the entity we are going to talk about), and the combination of these things comes out as speech and/or as gesture (e.g., McNeill, 1992; McNeill & Duncan, 2000). These two accounts of why speakers gesture are obviously not mutually exclusive.

Gestural Repertoires

As suggested in the introduction, gestures are subject to individual variation, but also to great uniformity within groups. Simplifying this paradox, it is fair to say that individuals differ with respect to *how many* gestures they are likely to perform, whereas speakers are remarkably consistent as a group with regard to *when* and *how* they gesture.

The speech in Figures 2 and 3 expresses the same meaning (the handing over of a medical prescription to a chemist) in different ways. In both cases, however, the speakers perform a gesture related to the handing over of the paper rather than to anything else in the utterance, and the giving-gestures are very similar. There is thus similarity with regard to what content is expressed in gesture and in the way in which this content is expressed.

Such uniformity in gesture use becomes particularly clear when you observe many speakers of the same language, such that within a linguistic group this uniformity can be said to define their gestural repertoire. By the same token,



Figure 2.
*så [hon visar de till] eh då
 en tjej i disken*
 'so she shows it [=a
 prescription] to uh then a
 girl at the counter'

when you compare speakers of different languages, you also find subtle differences in gesture use across languages, such that speakers of different languages can be said to have different gestural repertoires.

Stating that different linguistic or cultural communities have different gestural repertoires may seem trivial. This is, after all, already part of popular convictions. However, the sources of the characteristics of given repertoires are rarely considered. The repertoires reflect of differences in cultural conventions and norms of gesture usage, but they are also influenced by the very structure of the actual language spoken in a specific culture.

Gestural Repertoires and Culture

In a pioneering study, David Efron compared the gestures made by 'Eastern European Jews' (Poland and Lithuania) and 'Southern Italians' (Naples and Sicily) (Efron, 1941). His detailed analysis revealed that the two groups had very different repertoires. Moreover, by comparing the gestures of Jewish and Italian immigrants in New York with those of their children, he showed that the second generation generally behaved gesturally like the surrounding English-speaking majority and not like their parents. Only if the children had chosen to stay within a close-knit community of 'Europeans' and to separate themselves from the majority did they have the repertoires of their parents. Importantly, Efron's work showed that the gestural differences were cultural in origin, not biological—a popular explanation at the time.

Cultural conventions and norms govern several aspects of gestural repertoires. Attitudes to 'appropriate usage' of gesture are clearly cultural. People can generally formulate a norm for gesture use within their own culture, typically in terms of frequency and size of gestures, but they often underestimate the actual gesture use. They also often have opinions about norms in other cultures. Interestingly enough, the general attitude towards gestures is surprisingly similar across cultures and times for similar settings and formality levels (Efron, 1941; Schmitt, 1991). In Western Europe, it is generally deemed vulgar, primitive, and uneducated to gesture, whilst control of body movements expresses culture, education, and good manners. There is of course some variation in gesture use within cultures depending on whether the setting is private or public and on the level of formality. For instance, public speakers like priests, actors, politicians, and teachers often behave according to the



Figure 3.
*å där lämnar hon in
 receptes*
 'and there she hands in
 the prescription'

rules of rhetoric, which allow at least the use of stylized gesture (Graf, 1991).

The forms gestures take are also governed by cultural norms. The most obvious reflection of this are the different sets of conventionalized, codified gestures found in many languages, often referred to as 'emblems' (Efron, 1941; Ekman & Friesen, 1969) or 'quotable gestures' (Kendon, 1986). Such gestures, like the thumbs-up or the nose-point, have standards of well-formedness, and their forms and their meanings are occasionally even set down in gesture dictionaries (see Andrea & de Boer, 1979; Calbris & Montredon, 1986; Diadori, 1990, for Dutch, French, and Italian gestures, respectively, to mention but a few). They can function like words or idiomatic expressions and can be performed with or without accompanying speech. Surveys have shown how these gestures change shape or meaning across the European continent, and also how the sizes of the sets differ across cultures (Morris et al., 1979).

There are also culture-specific rules for the non-codified, less conventional gestures that we perform more spontaneously while speaking. The conventions and rules for spontaneous gestures are less open to conscious inspection by speakers of a given language, however, because these gestures are so frequent and performed with great automaticity. For instance, we may think that pointing, nodding, shaking our heads, or counting on our fingers is similar across all cultures or even universal gestures, since we perform them so automatically, but in fact they are not. In pointing, for instance, there are culturally determined rules for what or whom you can point at (people or things), which body part you use (index finger, left or right hand, lip), what hand shape you can use to point (extended index finger but not middle finger, thumb, elbow, etc.), which in turn can depend on what you are pointing at, etc. (Kita, in press). Pointing is in fact highly complex. Similarly, we are rarely aware of in which parts of space we tend to gesture, nor that our gestures are of a certain size. Yet this aspect of gestural repertoires is also culturally determined even if little studied. We all have preconceived ideas about how big Italian gestures are as compared to Scandinavian ones. In fact, these differences have rarely been studied under comparable circumstances allowing reliable conclusions to be drawn (for an exception, see Müller, 1994). Italians standing up in the street cannot be compared to Swedes sitting down indoors.

On the whole, despite popular beliefs, we in fact know relatively little about the differences in gestural repertoires for most cultural and linguistic communities.

Even with regard to the emblems found in dictionaries, we know little about how these gestures are actually used in conversation (cf. Kendon, 1995). It is generally true that the less conventional and codified the gesture, the less we know about it. Moreover, the question *why* a particular culture should have a particular gestural repertoire has almost never been addressed. An interesting exception is a recent investigation of gestural behaviour in Naples, where an attempt is made to explain gestural characteristics by referring to factors like the living conditions in the city and the public aspects of everyday life (Kendon, 2000).

Gestural Repertoires and Language

Thus far, we have only considered culturally determined differences. However, a linguistic community is also gesturally consistent because the language affects the gestures. As already seen, gestures and speech express the same meaning at the same time. Very recent research findings suggest that, insofar as languages differ in how meaning is expressed or packaged linguistically, so the form and distribution of gestures also differ in subtle ways across languages (McNeill & Duncan, 2000; van Hoof, 2000; Özyürek & Kita, 1999; Stam, 1998). In other words, the structure of the language itself influences the timing and the shape of the gestures.

Spanish:

las abejas [salieron] del panal 'the bees exited the hive'

English:

the dog [runs out]

(examples from van Hoof, 2000)

Say you want to express the direction of a movement. In Spanish you do it with a main verb, *salir*, 'exit'. In English, in contrast, the direction is not expressed in a verb at all but rather in a preposition-like particle, *out*. The verb *run* expresses only the manner of movement (*run* rather than, e.g., *skip* or *jump*); it says nothing about the direction. These different ways of packaging direction information—in a main verb or in a satellite element like the particle—has been used to group languages typologically into verb-framed (e.g., Spanish) or satellite-framed (e.g., English) languages (Talmy, 1985). It has been suggested that these language-specific ways of packaging information may influence the way a language allows speakers to think about things in order to express them, a phenomenon captured by the term *thinking for speaking* (Slobin, 1996). Moreover, the distinction in speech is reflected in a difference in the gestural pattern. In Spanish, the gesture for the direction will tend to coincide with the verb *salieron*. In English, on the

other hand, the gesture for the direction tends to cover both the verb and the particle, *run out*. Strictly speaking, the gesture might have been expected to fall only on the particle *out* since this is the only lexical unit that expresses the direction. However, the particle and the verb form a tight syntactic unit in English (nothing can come between the verb and the particle), and this is reflected in the gesture covering both elements.

The preceding examples do not pretend to be an exhaustive list of the factors that determine gestural repertoires. But a sufficient number of aspects have been listed to suggest that gestural repertoires are shaped by *complex* interactions between cultural and linguistic factors, where conventionalized, explicit aspects interact with less conscious and more automatized ones. Moreover, at a micro-level of analysis, i.e., at the individual level or in real life, repertoires are of course further modified by the general context, the setting, the formality level, the relationship between the interlocutors, the individual's propensity to gesture, his or her mood, etc.

Gestures and (Second) Language Acquisition

The Acquisition of Gestures...

The existence of language- and culture-specific gestural repertoires has potential ramifications for (second) language acquisition. In communicatively-oriented approaches to language acquisition, it is generally agreed that learners have to acquire not just grammar and vocabulary, but also appropriateness in actual language use, in order to be communicatively competent (Canale, 1983) in a new language. Such appropriateness could be argued to include gestural behaviour. Learning when and how to gesture can be said to be part of what learners of a new language have to do.

Gestural repertoires represent a major challenge to language learners because, by and large, they have to establish on their own what to learn—i.e., the forms and meanings of gestures, and the appropriate rules of usage. It is not easy to know what to attend to in gestural behaviour, given that we do not normally attend consciously to gestures and that so many aspects of the repertoire are automatized. Furthermore, it will be difficult to extract information about repertoires from native speakers, since to most of them gestures will not be open to conscious inspection. The only exception to this may be codified gestures or emblems, as they can sometimes be found in dictionaries, native speakers talk about them, and they are more consciously performed. However, most aspects of the repertoire will not be codified. Moreover, the foremost difficulty of all acquisition, namely, to apply formal knowledge in actual use, will be the same for gesture as for speech. Learning to respond by head nods or head shakes/

rosses, using the appropriate part of gesture space, etc., is likely to be difficult given the automaticity of these movements. In fact, we know very little about how successful learners actually are in the acquisition of gestures either in comprehension or in production, how acquisition progresses, etc., as there are almost no studies of this.

Gestural repertoires are obviously also a challenge to teachers, who are faced with questions of what to teach as well as what teaching and assessment methods to use. First, deciding what parts of a gestural repertoire to teach (e.g., attitudes, emblems, the use of space) is not straightforward. A selection has to be made, the basis of which could be an estimate of what gestures are most specific to a culture, most frequent, most useful to learners, etc. In order to single out some aspects of the repertoires, however, one also has to know what the native repertoire is. This is clearly a major obstacle since the native baseline in many cases is not known. Related to this problem is the issue of how gesture acquisition in comprehension and production should be measured and assessed. Only a small range of test batteries exist (e.g., Jungheim, 1995), and only for specific languages. Many more such tests will have to be devised, bearing in mind the problem of establishing a native norm.

In view of all the practical problems listed above, you may wonder why learners (and teachers) should bother with gestural repertoires at all. The answer is: because gestures are everywhere and they have great interpersonal effects in any human interaction. This being the case, command of the gestural repertoire of a language is fundamental to the individual learners' communicative efficiency and cultural fluency (Poyatos, 1983) as well as to the general integration of a learner in the surrounding culture. To researchers (and to teachers), the study of the acquisition of gestures also holds theoretical interest in that it suggests a different and much broader view of what it means to be native-like or bilingual.

... and Gestures in Acquisition

Gestures are not only part of what has to be learned, however. Learners' gestures can also offer valuable insights into the very processes of acquisition. Learners' gestures differ from those of native speakers in terms of both quantity and quality, and they change as learners develop skills in a new language. These differences are informative with regard to how learners deal with communicative difficulties in actual language use. They can also reveal aspects of speaker-internal problems of acquisition such as whether learners are still influenced by the first language, or if they are having planning and processing difficulties. Interestingly, just as in spoken-language acquisition, some behaviours appear to be similar across all learners at a specific proficiency level independently of their source and target languages, whilst other behaviours relate to the specific languages being learned.



Figure 4.
[medikament] ah
medicin
'medikament ah
medication'



Figure 5.
pappret (...) som euh [hade] [han] euh si hade
han euh skri skrivit euh en moment euh avant
'the paper(...) that uh had he uh yes had he
uh wri written uh a moment uh before'



Figure 6.
elle veut ehm [+++
le] lire
'she wants to uhm
(silence) read it'

Trivially, all learners perform more gestures in their new language than in their first language, independently of the source and target languages involved. Part of the reason for this is that learners can use gestures to solve problems. Gestures serve as communication strategies, as compensation for words and grammar, and to manage fluency-related problems (Gullberg, 1998). Language learners use gestures to elicit lexical help from the native speaker. Rather than just ask overtly for help, they will typically hesitate in speech, then try a word borrowed from their first language, and at the same time gesturally represent the concept they are looking for. For instance, the learner in Figure 4 is looking for the word for 'medication' in Swedish. As she doesn't know it, she instead tries the word *medikament*, borrowed from her native French, and outlines the shape of a pill. The native speaker responds to this indirect request by providing the lexical item, *medicin* 'medication'. Learners also use gestures in cases of grammatical problems. The learner in Figure 5 is having problems with tense and temporality. She is attempting to express that an event happened at an anterior point in the past, i.e., to use the pluperfect, but her grammatical means of achieving this are unstable. As support, she performs two pointing gestures to indicate two different points on a time axis in front of her. The axis is oriented from left to right, with present immediately in front of the speaker, past to the left, and future to the right. With the expressions for pluperfect, she indicates first one point in the past section of the axis (*hade*, 'had'), and then another one further to the left, i.e., further into the past (*han*, 'he'). These gestures allow time to be exactly established even in the absence of adequate temporal expressions in speech. Finally, the fluency problems created by the linguistic shortcomings can also be managed gesturally. Learners can use gestures to signal that they are looking for words or thinking. A frequent gesture for this type of activity involves

circling movements of the wrist, as seen in Figure 6. These gestures serve to hold the floor: they indicate that the learner is not ready to abandon his or her turn although he or she may be silent for a moment.

Another general increase in gesture use that does not seem to depend on the first or the second language concerns the difficulties of producing sustained discourse. When constructing stretches of discourse, beginners typically track the entities talked about in space by pointing to them (Gullberg, 1998, forthcoming). They appear to be externalizing what they are talking about. This behaviour is not related to lexical or fluency difficulties, but rather to subtle problems in grammar, specifically with pronominal systems. This pointing is reduced or disappears when the learners start using pronouns appropriately. The reasons for this externalization are not clear. Learners may point to what they are talking about as a means of making the message clearer to the addressee. It is also possible that the externalization of entities is related to general planning difficulties in the new language. Pointing to what is talked about may be a way of reducing the cognitive load that comes from keeping words, grammar, and relationships between entities in mind simultaneously. If you can keep things 'in hand' instead of in mind, you may have more cognitive capacity to plan the next utterance. However, this is an area that needs much more investigation.

Learners' gestures can also reveal influences of the first language on the second, a well-known topic in studies of acquisition. There are obvious ways in which the gestural repertoire of the first language influences gestures in the second, such as in the use of gesture space. Going from big to small gesture space (Italian to Swedish) or from small to big (Swedish to Italian) can be equally problematic. However, some qualitative developmental changes seem clearly to depend on the linguistic systems involved. Coming back to the direction of movement, native Spanish speakers align the gesture for direction with the verb *salir*. Native speakers of English align it with *run out*, i.e., both verb and particle.

the bees [went] outside

(example from van Hoof, 2000)

In the example above, a Spanish-speaker learning English is producing correct speech. The gesture, however, is not like that of an English-speaker. The gesture aligns with the verb, as it would in Spanish, but stops short of the particle, where it should have been in English performance (van Hoof, 2000). In other words, the speech is English, but the gesture is Spanish. Gestures can thus reveal influences from the first language even where a learner appears to be fluent in the new language. Because gestures reflect very subtle differences in how languages package meaning, learners' gestures may reveal that the

packaging of the first language is still present underlyingly. Put differently, gestures seem to offer us the opportunity to spy in which language the learner is still 'thinking for speaking'.

Final Remarks

The preceding sections have outlined some ways in which gestures are relevant to issues of diversity in language and language learning. As should be clear by now, this is a field of research where much empirical work remains to be done, both descriptive and experimental. We need to deepen our understanding of the relationship between gestures and speech and between gestures and thought in general. We must also seek to uncover the language- and culture-specific repertoires in much more detail and for many more languages. This means studying the forms of gestures and the ways in which gestures function in a wide array of settings and contexts. Moreover, we need to investigate if and how learners can acquire gestural repertoires, and to tackle pedagogical and methodological challenges like teaching and assessment methods. Finally, we are only beginning to discover ways in which gestures can function as a window into learners' minds and into processes of acquisition. Learners' gestures seem to promise insights into communicative as well as cognitive issues. Much, then, remains to be done in this exciting field of inquiry. What is already certain at this point, however, is that gestures are essential both to communication and to language use. Given that gestures reflect culture, language, and thought, finding out more about them should be of fundamental importance to all language users, learners and native speakers alike.

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Immigrant Minority Languages in Multicultural Europe

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Introduction

In this text we will present the rationale, method, and first outcomes of the Multilingual Cities Project ('MCP' henceforth), carried out in six major multicultural cities in six different European Union member states. The project is carried out under the auspices of the European Cultural Foundation, established in Amsterdam, and co-ordinated by a research team at Babylon, Center for Studies of Multilingualism in the Multicultural Society, established at Tilburg University, the Netherlands.

The aims of the MCP are to gather, analyse, and compare multiple data on the status of immigrant minority ('IM' henceforth) languages at home and at school. The project is carried out in six cities, in which Germanic and/or Romance languages have a dominant status in private and public life. From north to south these cities are Gothenburg, Hamburg, The Hague, Brussels, Lyons, and Madrid. Apart from Scandinavian countries, there is no European tradition of collecting home-language statistics on multicultural (school) population groups. Our method of carrying out home-language surveys amongst primary-school children in each of these cities partly derives from experiences outside Europe with nation-wide or at least large-scale population surveys in which, commonly, single questions on home language use were asked. In contrast to such questionnaires, our survey is based on multiple rather than single home-language questions and on crossnationally equivalent questions. With this approach, we aim at describing and comparing multiple language profiles of major IM communities in each of the cities under consideration. For each language community, the language profile will consist of five dimensions, based on (1) reported language repertoire, (2) language proficiency, (3) language choice, (4) language dominance, and (5) language preference. From this data base, we will construct a (pseudo)longitudinal profile and a language-vitality index for each language community. Our ultimate goal is to put these data in both crosslinguistic and crossnational perspectives.

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