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**Gesture-based customer interactions: Deaf and hearing Mumbaikars' multimodal and metrolingual practices**  
Annelies Kusters

## **Abstract**

The article furthers the study of urban multilingual (ie, metrolingual) practices, in particular the study of customer interactions, by a focus on the use of gestures in these practices. The article focuses on fluent deaf signers and hearing non-signers in Mumbai who use gestures to communicate with each other, often combined with mouthing, speaking and/or writing in different languages. The data was gathered through linguistic ethnography in markets, shops, food joints and public transport in Mumbai. Within gesture-based interactions, people with sensorial asymmetries (ie deaf vs hearing) engaged in multiple ways of combining and switching between, the visual-gestural modality and certain features of the auditory-oral modality. Interlocutors thus orient towards the ongoing interaction and negotiate the constraints and possibilities imposed not only by different modalities but also by different sensorial access to these modalities.

**Keywords** multimodality, deaf, gesture, sign, markets, senses

## Introduction

*In the centre of Mumbai, at a road stall that sells clothes, Sujit asks for the price of a shirt by first calling the vendor by waving (Figure 1a), then touching the shirt (Figure 1b) and gesturing COST (FIGURE 1c). The vendor responds "Five fifty. Paanch sau pachaas [Five hundred and fifty]. Five fifty". Sujit rises his hand as if to ask "FIVE?" (Figure 1d), and then this vendor and his colleague (standing on his left side, behind the clothes rack) simultaneously gesture and speak. The vendor on the right gestures "FIVE FIVE ZERO", simultaneously saying "five five zero"; and his colleague gestures "FIVE HALF", simultaneously saying "five fifty". Simultaneously, Sujit mirrors FIVE (Figures 1e, 1f, 1g). (see 00:00:20 in Making of Ishaare <https://vimeo.com/142241532>)*

*Figure 1: Sujit and two shirt vendors*

In this excerpt, the price of a shirt is initially offered in two different languages, ie English and Hindi, which are the most widespread languages in India; the vendor probably assuming that one of those will surely be understood. When Sujit, a deaf man, does not respond verbally and raises his hand, the vendor and his colleague quickly change their approach and gesture the information, while also speaking. In so doing, they are thus simultaneously offering four different tracks of the same information: both communicating simultaneously in two different modalities (ie speech and gesture) and both communicating the same information in different ways. Within this example, and other examples discussed in this article, gesturing gets an important role within customer interactions. The vendors' quick reformulation of the price and their ease at doing so suggests gesturing is not merely a linguistic strategy they use with deaf people. Indeed, authors writing on multilingual practices in urban contexts, such as Pennycook and Otsuji (2015) and Blackledge and Creese (this issue) invoke examples such as customers who want to buy eggs or chicken meat and therefore mimic chickens; customers pointing in counters, at body parts and at posters, and using their hands to communicate numbers.

Pennycook and Otsuji (2015) used the term "metrolingualism" to point at everyday multilingualism in the city and more specifically the intertwinement of language practices with everyday activities in which people are engaged (such as buying, selling, serving), and the spatial environment in which they do so. Researchers interested in multimodality have highlighted many examples of the communicative functions of modifying eye gaze, body posture, pointing and quotable gestures (such as Clark, 2003; Goodwin 2010, 2013; Mondada, 2014, 2016). Yet they have done so typically in monolingual contexts rather than focusing on metrolingual practices where speakers make use of broad and diverging semiotic repertoires to communicate (see Kusters, Spotti, Swanwick, & Tapio, this issue). On the other hand, researchers focusing on multilingual encounters and in particular customer interactions (such as French, 2001, Pennycook & Otsuji, 2015) generally rely on audio-taped rather than video-recorded data, and have generally paid scant attention to the role of gestures (for an exception see Blackledge & Creese, this issue), even though it has been

argued that gesture takes a particularly important and prominent role when people do not master a shared spoken language (see Gullberg, 1998). Thus, multimodality studies and the study of urban multilingualism have largely developed separately even though in practice, they are inseparable especially when studying customer interactions in the city: people do make use of pointing, gestures, object handling, change their body posture, and they often use different spoken languages. By paying attention to the use of multimodal and multilingual semiotic resources in customer interactions, this paper offers a more nuanced understanding of interactions that are both multilingual and multimodal.

Importantly, in this study, these interactions happen between people with what I call sensorial asymmetries (ie being deaf or hearing). As a direct or indirect result of these asymmetries, interlocutors experience differences in access to semiotic resources; and show differences with respect to receptive and productive capacities and abilities. This article portrays what happens when non-speaking deaf and non-signing hearing people cooperatively deploy semiotic repertoires. By focusing on these interactions, I shed light on how people necessarily make use of other semiotic resources than speech (or in addition to speech), since the use of spoken language is either not possible, or does not suffice. The six deaf main participants in this study have no access to auditory channels of information; they do not speak within customer interactions; and as fluent signers they are well-versed in producing and processing gestures adapted to the context and to their non-signing interlocutor. For the deaf customers and deaf vendors in this study, gesture-based interactions are deeply ingrained within their habitus; but hearing interlocutors in the examples given below are also apt at understanding and producing gestures. In the deaf-hearing customer interactions covered in this article, speech mostly has a non-primary role, which does not mean that speech is absent. Central to these interactions is that people deploy the visual-gestural and auditory-oral modalities simultaneously or sequentially; often respond in a modality different from the modality used by their interlocutor; and switch between modalities.

## **Modes and modalities**

I have mentioned that researchers focusing on multimodality look at the interplay of different modes or modalities. There are several (not necessarily overlapping) definitions of “modes” and “modalities” in circulation, and several other terms covering similar content, such as Goodwin’s (2013) “semiotic fields”. For example, according to Norris (2004), a multimodality scholar in the Mediated Discourse Analysis strand, “modes” (rather than “modalities”, see below) are semiotic resources such as speech, gestures, posture, head movements, dress and so on. Norris (2011) states that the hierarchical structures of modes during interactions cannot be assumed, indeed gesture can be equal, subordinate or superordinate to other modes, which means that spoken language is not always vital to the (inter)action as a whole (Norris, 2011, also see Kendon, 2004).

While I am interested in the interplay between body posture, head movements, object handling and so on, this article mostly focuses on the interplay between (features of) spoken languages and gestures. Therefore, I adopt the meaning of the concept “modality” as used in studies of sign languages (eg. by Fuselier-Souza, 2006), in this context the term “modality” is used to distinguish between the visual-gestural modality (signs and gestures), the

auditory-oral modality (speech), and the written modality (written version of spoken language). These different modalities constitute “language” and as such, sign language researchers have generally paid more attention to them, and their interplay, than to other modes (see Kusters, Spotti, Swanwick, & Tapio, this issue). This approach of sign linguists is in line with Kendon’s (2014), a prominent gesture studies scholar who regards gesture as part of language (together with speech), and contrasts with that of Norris and other multimodality scholars who equate language to speech and recognise an infinite number of other different modes (Norris, 2004, 2011).

The “visual-gestural modality” includes both gesture and sign. The distinction between gesture and sign has been constructed within theoretical sign linguistics in the second half of the twentieth century (Kendon 2004, 2008, 2014). Indian Sign Language has incorporated a number of conventional (‘quotable’, see Kendon, 2004) gestures (such as WATER, BOTTLE, TOILET). Deaf participants in the study on which this article is based argued that in comparison with gesture, Indian Sign Language has a more complex grammar, a broader lexicon, a generally more compact signing space and higher pace, and is used mostly between deaf people, while gesture is something “everyone does” (whether or not partnered with a spoken language component), and allows interlocutors to adapt to the other’s sensorial experiences and semiotic repertoires. Indeed, in deaf-hearing gesture-based interactions, hearing people replace speaking by gestures, or complement speaking with more gesturing than they generally would do, and deaf people adapt their signing to hearing interlocutors who do not know Indian Sign Language, by adapting the size and pace of signing, increasing the use of enactments and iconic gestures (choosing more iconic signs or gestures rather than less iconic ones, for the sake of transparency).

The visual-gestural modality and the auditory-oral modality are used *simultaneously* for example when people *voice* and sign/gesture simultaneously (such as the vendors in the opening excerpt). Mouthings, which are mouth patterns which can be (partially) derived from a spoken language, are also used. Mouthings have usually (in sign linguistics) been analysed as part of the visual-gestural modality, however this article shows that the distinction between the visual-gestural and auditorial-oral modality is not clear-cut in deaf-hearing gesture-based interactions where limited speaking and mouthing both are in use, and the two often get very similar functions. Thus, in this context, Hessmann and Ebbinghaus’ (2001) perspective that mouthings and signing are two different tracks to an utterance (rather than that mouthing is a phonological component of signing), is useful (even though this distinction might not always work in sign language research, as Tapio 2013 argues). I thus analyse mouthings as features of the auditory-oral modality even though they are not accessed auditorially but visually. Speech or mouth patterns can be partially accessed visually by lipreading if a person is able to lipread words in a particular language. Lipreading however is a trial-and-error practice of guessing. Interlocutors thus (have to) co-produce spaces of communication in which the visual-gestural modality is of particularly high import. To indicate this combination of mouthing and speaking/lipreading (and writing, see Kusters, forthcoming, b) with gesture and simultaneously highlighting the persistent presence of gesture, I write “gesture-based interactions”, rather than “gestural interactions”, a term used by Hoffmann-Dilloway (2011) who writes about gestures between deaf baristas and hearing customers in a restaurant chain in Nepal.

A consequence of the lack of focus on gesture within metrolingual practices is a lack

of understanding the role of *switching* between modalities within such practices. Many authors in studies of everyday multilingualism or metrolingualism (eg. Pennycook & Otsuji, 2015) have focused on combinations of, or (code-)switching between spoken languages or written languages, but not so much on remodalisation and chaining, concepts that flag up the intricate relationships between different modalities. Tapio (2014) brings together these concepts from different fields of study). By *remodalisation* is meant shifting from one mode into another mode (Scollon, 2008), such as in the example of the shirt vendor who started to gesture. “*Chaining*” happens when different modalities or resources are connected through a sequence of signing a concept and then fingerspelling it (the use of fingerspelled signs for each letter of a word); or pointing at a written word and then signing/saying it, for example in order to highlight equivalence (Bagga-Gupta, 1999; Humphries & MacDougall, 1999).

## Methodology

Mumbai, the location of the study, is the most culturally and linguistically diverse city of India, and many goods and services are sold over counters and do not have price tags and thus people need to communicate to obtain all kind of goods and information. In South-Asia, people are, in Canagarajah’s (2009) words, “radically other-centred” and have an orientation toward interacting with people using different languages and are open to unexpectedness and deviations of “norms”. Equal or advanced proficiency in the languages used is not expected, and the significance of using what is regarded as “correct” grammar is reduced (Canagarajah, 2009).

In order to investigate deaf-hearing metrolingual practices and strategies in this context, linguistic ethnography was undertaken in public and semi-public spaces such as street markets, indoors shops, food joints, coffee houses, tea places, and public/private transport in Mumbai. The interactions of six deaf research participants (including one deaf-blind) with hearing strangers and acquaintances were video-recorded. Deaf people were either the ones buying/ordering or the ones selling/serving, which are contexts where people “have to” interact with each other if they want the transaction to be successful. The six participants, and the contexts in which they were recorded by the research team were:

1. Reena: deaf Marathi woman in her forties: grocery shopping in (street) markets and shops; transport; food joints
2. Pradip: deaf-blind Bengali man in his thirties: idem
3. Sujit: deaf Marathi man in his thirties and research assistant in the project: transportation of research team; medical shops; leisure time; restaurants; clothes shopping
4. Mahesh: deaf Gujarati man in his fifties: mobile retail businessman who sells boxes of pens to small-scale stationery shops
5. Komal and Sanjay: deaf Gujarati couple in their forties who run an accessory shop called Harsh with mostly schoolgirls as customers
6. Durga and his team: deaf Odia man in his thirties, who is the manager of branch of Café Coffee Day (an upmarket café chain) with 4 other deaf staff

A total of 298 gesture-based interactions were recorded, lasting between 4 seconds and 13 minutes, and averaging 2:09 minutes. While there are many deaf people who can and do use speech to various extents (whether or not in combination or alternation with signs/gestures), the six case participants were deaf people with accumulated skill and

experience in metrolingual practices, who did not (or only very sparingly) use their voice in customer interactions. Some of them produced mouthings, while others didn't. Because of the need to limit the scope of the article, it covers gesture-based interactions where the interlocutors (either strangers or acquaintances) are willing and cooperative. This is not a trivial point given that I learned countless stories about discrimination of deaf people by shopkeepers in Mumbai: deaf people were being ignored, not served, made to wait forever, or hushed away. Also, this article only focuses on the visual-gestural and auditory-oral modality, and not on the modality of writing, which is often intertwined with the two former ones, and covered in another publication (Kusters, forthcoming, b). Furthermore, the interactions featuring Pradip (the deaf-blind man, case 2), differ significantly from the ones described in this article and are analysed elsewhere (Kusters, forthcoming, a, b).

Data analysis focused on the use and overlap of different modalities: in transcriptions in ELAN, each tier represented a particular interlocutor's use of a particular modality. Mouthings were represented on a separate tier than speech or gestures. In this article, gesture-based interactions are presented in narratives, supported by figures and internet links to the video clips. Representations of gestures other than pointing are glossed in small caps (eg COST) in the narrative and in the figures. Using a hyphen in a gloss (eg. HOW-MUCH) means that it is one gesture that is used, but two words are used to pin down its meaning. When referring to pointing or object handling, I use parenthesis in the figures (not in the narratives).

The research focused not only on how gesture-based interactions work, but also on how they were experienced and conceived of. To that end, immediately after gesture-based interactions, 50 short impromptu video-recorded interviews were conducted with the 6 deaf participants, as well as 80 short video-recorded interviews with their hearing interlocutors (each of a few minutes in duration). In addition, longer ethnographic interviews with the six deaf participants, and six discussions in deaf clubs were organised. A documentary film called *Ishaare: Gestures and Signs in Mumbai* was created, which is subtitled in English and can be watched online (<https://vimeo.com/142245339>). Some of the examples offered in this article are included in the film. For a detailed account of the project methodology, including the production of the film and its role within the methodology, see Kusters, Sahasrabudhe and Gopalakrishnan (2016). In the next sections, I explain how gesture-based interactions work.

## Use of the visual-gestural modality

*Mahesh arrives at a stationery shop he is not familiar with. He puts his bag (containing boxes of pens) on the counter, which is facing the street. The vendor, who sits behind the counter, looks questioning, and Mahesh explains that he is a retail seller of pens: he gestures PEN and simultaneously mouths "pen pen", then gestures GIVE, taps on his bag (Figure 2a) and gestures PEN again. At the point that Mahesh repeats PEN, the vendor says "pen" (Figure 2b). Then, Mahesh gestures GIVE ["sell"] again (Figure 2c), adds WAIT, COME ["hold on, come and see"] (Figure 2d) and starts to zip open his bag at the same time that the vendor stands up. Mahesh takes a box out of his bag, puts it on the counter and then looks up at the vendor (Figure 2e), who looks at the box, takes a pen and scrutinises it. Mahesh gestures PRESS-TOP ["open it by pressing the top"] and simultaneously mouths something indiscernible, but the vendor did not see it since he was looking at the pen*

(Figure 2f). He shortly moves his eyes upward when Mahesh finished gesturing, but Mahesh does not repeat himself, until he sees that the vendor tries to screw the pen open. He gestures: *NO* (Figure 2g), *PRESS-TOP* (Figure 2h), *NO*, *PRESS-TOP* (now gesturing it close to the pen, so the vendor sees it), and tries to take the pen, but the vendor does not let go and Mahesh repeats *PRESS-TOP*. This time the man has seen it. Without looking at Mahesh, he does a very small nod, takes a piece of paper and tests the pen, simultaneously saying something to another man, possibly a customer, who is standing next to Mahesh. The vendor then puts the pen back in the box. Mahesh takes two other boxes with pens out of his bag, offering them to the vendor (one in each hand), who takes the box Mahesh holds in his left hand (Figure 2i), and opens it. He takes a pen in his left hand, looks up at Mahesh, taps it with his right hand and gestures *COST* (Figure 2j) with the same hand. Mahesh reacts by gesturing *CALCULATOR CALCULATOR* (Figure 2k), locating the thing while gesturing this, and then points towards it (Figure 2l). The vendor understands without looking what Mahesh points at, and hands it over. Mahesh types the price and shows it to the vendor (Figure 2m) who looks shortly, (still holding and screwing the pen), nods as if to show acceptance, and then nods towards the bag (Figure 2n) to indicate that Mahesh has to show more. (for the video see <https://www.dropbox.com/s/mspnvx7q6o4an77/Mahesh.mp4?dl=0>)

Figure 2: Mahesh and vendor in stationery shop

This example illustrates that in gesture-based interactions, a lot of communication can happen through showing and handing over objects (boxes of pens, pens, calculator), tapping objects (bag, pen), pointing (calculator), head movements (nods to show understanding about the screwing mechanism, nods in approval of the price, nods to point toward the bag) and facial expressions (questioning face).

In the beginning, Mahesh not only gestures but also mouths “pen” and something indiscernible, and the vendor says “pen”; but in the remainder of this excerpt there are no mouthings or speech. This suggests that when Mahesh does not respond to this semiotic resource, the other person “drops it off” from the “tray of semiotic resources”<sup>1</sup>. In other gesture-based interactions recorded within the project, the famous and versatile Indian “head wobble” (or “bobble” or “wiggle”) is adapted to communicate different meanings including “yes”, “good”, “I understand”, “I don’t care”, “thank you”, and “I understand”. These observations correspond with Thirumalai’s (2003, no page number) statement that “brevity of speech and less oral expression are considered a virtue [in India] (...) [and this is] found in a correspondingly natural manner in gestural communication as well.”

Like head wobbles, *pointing* can be very economical and still very clear and effective, and was thus regarded as a basic strategy understood by everyone. Yet, pointing to an object is “a complex, interactional, temporal, multimodal achievement requiring high coordination” between the interlocutors (Mondada, 2014, p. 96, also see Goodwin, 2003). When pointing to objects that are out of reach (for example, displayed behind counters, under the glass top of counters, or in fridges with glass doors), hearing people often accompany points with words (Mondada 2014). In deaf-hearing gesture-based interactions, points are often accompanied by iconic gestures (such as the *CALCULATOR* example), gestures delineating the shape of the object, or (pointing) gestures further specifying the location and as such

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<sup>1</sup> Thanks to Elina Tapio for suggesting this apt formulation.



guiding the interlocutor, such as NEXT, UP, DOWN. The accompanying gesture is produced either simultaneously (one hand pointing, other hand signing, see Hjulstad, 2016) or sequentially. Pointing is used in deaf-hearing gesture-based interactions in multiple other ways, too: people point at an object (such as on their own clothes) to indicate they want a particular object (such as nail polish) in this same color. People point out orders at documents such as menu cards and price lists (which implies shared literacies).

In addition, a few widespread quotable gestures are used: PEN, GIVE, WAIT, NO, COST. Such gestures are known by a wide range of people (though there are inter-individual differences in comprehension and production) and are often conventionalized throughout an area and different in another area (for example, MARRIAGE, TEA and CHAPATI possess iconic features based on actions that differ in regions in India), or more than one conventionalised gesture (such as for MARRIAGE) might be widely circulated in the same area. Gestures are often used to specify size/shape (depiction) (examples will be given later), or to show how something is used or acted upon (enactment/pantomime), such as the PRESS-TOP gesture and the CALCULATOR gesture. Researchers have suggested that since many gestures “draw upon the same patterns of action and motor skills that are used in dealing with real objects, (...) they are direct manifestations of bodily or manipulatory knowledge” (Kendon, 2004, p. 82). People were able to understand and produce conventionalized gestures or enactments that were directly related to their business, visualising objects and actions they were familiar with. Examples are gestures/signs that are based on routinized motions made when doing something, such as milking the cows (*Ishaare* 00:23:50) or squeezing a lemon (*Ishaare* 00:02:36).

In the interactions studied in this research, gestures often got specific meanings in specific contexts. For example, drivers of autorickshaws (a cheap form of private transport) understand deaf people approaching them with gestures of landmarks in the vicinity such as BOAT (ferry), TRAIN (the nearest train station), SHOE (referring to a statue of a shoe in Kamala Nehru park), BEACH (a nearby beach); often in combination with pointing in the direction of the place (most of these examples are included in *Ishaare*). In Café Coffee Day (the coffee café with deaf baristas), particular questions that the deaf baristas often ask include: ONE? (when the customer points in the menu), OTHER? [“something else?”], HERE GO? [“Having it here or take away?”], UP OUT? [“Sitting upstairs or outside?”]. Thus in particular contexts, spatial repertoires exist (Pennycook & Otsuji, 2015), which means that communication is more or less predictable, which heightens its pace and success rates, and reduces its duration.

People also showed objects, by tapping them, pointing at them or holding them (such as Mahesh showing his pens), calculators, pictures, samples, drawings or weights in combination with pointing and gesturing. For example, Sujit ordered face cream in a medical shop and the shopkeeper, understanding Sujit asked something to smear on his face, took out face wash and face cream, expecting that “Certainly one product of the two will be the right one” (*Ishaare* 00:06:59). Similarly, in a restaurant, Sujit took a salt shaker when communicating to a waiter that the food was too salty; but also to indicate that the lime soda should be salted (*Ishaare* 00:08:42) or should not be salted (*Ishaare* 00:09:16). At street stalls, interlocutors showed weights to order/ask the correct weight of goods wanted, or they showed money to indicate the exact price. Indeed, “objects’ availability, and the access to and control of objects, can influence the ability to participate, or how participants

negotiate and coordinate their use of or orientation to objects“ (Neville, Haddington, Heinemann, & Rauniomaa, 2014, p. 14). While objects are everywhere around us when interacting (bodies, clothes, counters, cash tills, tables, pens, papers, products for sale), they are “made relevant through participants’ pointing, referencing, naming and touching” (Neville, Haddington, Heinemann, & Rauniomaa, 2014, p. 15). Examples are Mahesh taking boxes, Mahesh asking for the calculator, and the vendor nodding towards the bag. Research on objects has showed similar practices but often with a simultaneous spoken component (Streeck, Goodwin, & Lebaron, 2011; Neville, Haddington, Heinemann, & Rauniomaa, 2014). The simultaneous spoken component is often absent in my study; instead people gesture either sequentially or simultaneously to object handling. In the latter case, people gesture with the hand holding the object, or hold the object in one hand and gesture with the other hand. I give examples of these in the next excerpt.

*In Harsh, the accessory shop run by Komal and Sanjay, a teenage girl looks in a box on the counter with small hair clips. She selects a clip and holding it, she asks HOW-MUCH? (Figure 3a). Komal gestures FIVE TWO (Figure 3b and 3c) and then points at the clips on the counter (Figure 3d). The girl responds: FIVE and then draws a 2 and a 0 (Figure 3e) in the air with her finger and simultaneously says a sentence in what seems to be Hindi, which was inaudible for the transcriber. She thought it meant five pieces for ₹20. Simultaneously, Komal repeats FIVE TWO (Figure 3e). The girl then shortly looks questioningly at her friend standing next to her and raises her hand as if she wants to ask Komal for clarification or repetition, but then Komal takes two clips and puts them on her left hand. Her husband Sanjay (standing next to her) then interrupts, signing to her that he thinks it’s ₹5 for one. Komal tells him she was told it’s ₹5 for two, then looks at the girl again, points at the two clips she is holding up in her left hand palm and gestures TWO COST FIVE (Figure 3f, 3g, 3h), indicating it costs ₹5 for two clips. The girl repeats TWO FIVE, simultaneously saying in Hindi “do paanch” [two five] (Figure 3h) and Komal nods. (see Ishaare 00:48:08)*

*Figure 3: Customer and Komal interacting*

In figure 3a, the girl has one clip in each hand, and gestures “how much” with her right hand, holding a clip between thumb and three other fingers. And Komal remedies the misunderstanding about the price by moving two samples of the indicated object to her left hand palm, in order to make clear that she meant two items rather than that “two” referred to the price. This is an example of gesturing with one hand while holding an object in/on the other hand.

The fact that the girl was confused about the number is not unusual. Number gestures were expressed in multiple ways, such as communicating the number 50 by gesturing TEN TEN TEN TEN TEN (with both hands), FIVE ZERO, FIVE, or by writing 5 0 with a finger in the air, on a surface, with pen on paper or typing it on a calculator. Meaning of number gestures depends on context: in a vegetable stall, fifteen is likely to mean ₹15 or ₹150, in a clothes shop ₹150 or ₹1,500, in a mobile phone shop ₹15,000. In this shop it was clear that 2 related to a hair clip could mean ₹20 but not ₹200. Still, several examples of misunderstandings were

recorded such as Sujit buying a pomegranate, which he does not buy on a regular basis, and thinking that SEVEN meant ₹7 rather than ₹70. People also have to interpret whether a number gesture refers to size, weight, amount, price or time, and/or combinations of these: here, the girl thought TWO referred to price rather than amount.

Another crucial element in gesture-based conversations is repetition; either repetition of the own utterance, or of the other's utterance. Utterances in gestures are often repeated at least twice (such as Mahesh repeating PEN, GIVE and PRESS-TOP several times, and gesturing CALCULATOR CALCULATOR). They repeat themselves again if the other has not registered it or misunderstood it, either in the same way or in a different way, such as Mahesh moving the PRESS-TOP gesture to the field of vision of the seller in figure 1h, and Komal first repeating FIVE TWO in the same way, before putting the clips on her hand to rephrase her utterance. Komal does not speak or mouthe to solve the misunderstanding; instead she stays within the same (visual-gestural) modality, rephrasing her utterance by making use of object handling. Deaf and hearing interlocutors also mirror each other's gestures, when they do or do not understand: such as Sujit gesturing FIVE in figure 1f, and the girl mirroring Komal several times.

## **Mouthing, speaking, lipreading**

*Reena is at an indoors market to buy fresh herbs and vegetables. She takes a bundle of coriander in her right hand, looks at the seller, and when the seller looks her in the eye she points at the bundle with her left hand (Figure 4a), and gestures COST (Figure 4b), twice. The seller responds in Hindi: "Paanch rupai" (five rupees). Reena lipreads it and asks for confirmation by gesturing FIVE and simultaneously mouthing "Paanch rupai" (Figure 4c). The seller nods. Reena takes two bundles. A few moments later, holding the two bunches of coriander in her right hand, Reena points with her left hand in a direction next to the seller (Figure 4d). The seller looks in that direction. Reena mouths in Hindi "Kadi patta, kadi patta" [curry leaves, curry leaves], simultaneously gesturing RUB referring to how curry leaves produce a strong fragrant smell when rubbed between the fingers (Figure 4e); however the seller does not see it since he is still looking in the direction in which Reena pointed (Figure 4e). Reena then gestures STALK to specify she's asking for curry leaves' stalks (Figure 4f), along with repeating the mouthing "Kadi patta, kadi patta" and then points at the location again, now with an outstretched arm (Figure 4g). The seller understands her without looking in the direction in which she points, and merely nods to indicate that he will help her in a minute, since he was simultaneously attending to another customer (the other man in the figure). <https://www.dropbox.com/s/1jmvti5ph6t0pxi/Reena.mp4?dl=0>*

*Figure 4: Reena and market seller*

Here we have examples of both the deaf and hearing person mouthing or speaking, thus essentially offering information that can only be accessed through lipreading (Reena does not hear the seller's voice since she is deaf, and the seller does not hear Reena's voice since she is only mouthing and not speaking). People often mouthed/spoke key words to specify a gesture that might be too general to readily understand, such as STALK or RUB, in this example. Thus, when deaf people mouthe it benefits hearing people who often can lipread key words,

and several hearing shopkeepers acknowledged this: “They can tell right, that they want chili, or ginger, by their lips”. Similarly, the data shows many examples of autorickshaw drivers understanding the name of a nearby suburb through lipreading a deaf person.

Futhermore, in this excerpt, Reena approaches the vendor in gesture, but the vendor responds in speech, which Reena is able to lipread (perhaps because she knows the usual price of coriander) and she double checks if she has understood him correctly by repeating him in the visual-gestural modality: Reena gestures FIVE (thus responding to the man). Simultaneously she mouths “paanch rupai” (thus mirroring the man’s utterance, but without voice). The other way around also happens: hearing people translating deaf people’s gesturing in speech, such as the stationery vendor saying “pen” in response to Mahesh’ gestures.

In the recordings of gesture-based interactions, there were many examples of short utterances that were only spoken or mouthed, but embedded within a longer gesture-based interaction. In Café Coffee Day for example, Durga said some regulars just mouthed their fixed order (which often was just one word, such as “cappuccino”). Similarly Mahesh can guess that a speaking and non-gesturing hearing person asks for the price or says they already have these pens. Guessing what a person says often works, but also can lead to misunderstandings. For example, Sujit negotiated the price of a T-shirt at the abovementioned clothes stall, gesturing to reduce the price. The man nodded and said: “How many piece?” Sujit, thinking that he asked “How much do you want to give?” gestures two [₹ 200]. The man points at the T-shirt he holds in his hand, and at another one, while saying: “Two piece? This and this?”. Sujit then remedied the misunderstanding. Deaf people can mis-guess by lipreading people who speak full sentences without gestural component. In most instances, speaking or mouthing alone is not enough.

Mouthing a word can mean that one copies (mirrors) the mouth movements of someone else, without knowing the word. An example is Durga’s mouthing “*Anda*” [egg] in Café Coffee Day: in India, vegetarians usually do not eat eggs, and some cakes contain eggs, so Durga offers this information voluntarily when someone orders a piece of cake containing eggs. The combination with the gesture for EGG (by showing how it is held between the thumb, index finger and middle finger, see figure 5) and mouthing the Hindi word “*anda*” was a strategy employed by Durga who did not know Hindi, since he grew up in Orissa where he learnt Oriya. Similarly, Sujit grew up in a school for the deaf in Chennai where he was taught English but not Hindi and Marathi. When buying vegetables on the streets in Mumbai however, most sellers speak Marathi, thus Sujit learned a number of Marathi mouthings (such as “*pau*”; which means 250 grams) as what he called “a series of pictures in the mind”.

*Figure 5: Durga gesturing EGG and mouthing “anda”*

## **Remodalisation and chaining**

*A hearing female customer in Café Coffee Day asks the deaf barista who stands behind the counter: “(inaudible) ... water? Like normal water?” (Figure 6a). The barista lifts his head and leans forward to indicate that he does not understand it. When the deaf barista gestures CANNOT-HEAR (Figure 6b) and subsequently points at the menu (to indicate that she can point in the menu); the woman repeats: “Water? Water?”. Simultaneously, the man who*

accompanies her starts gesturing, he gestures CUP (Figure 6c), WATER (Figure 6d) and then mouths “water” (Figure 6e). When the man is mouthing, the woman starts gesturing: WATER (Figure 6e), simultaneously mouthing “cup”. When the barista responds by gesturing CUP (Figure 6f), she responds “Pani, haan” [“Water, yes”], while nodding. <https://www.dropbox.com/s/4rrugpx7xzafvzh/CCD.mp4?dl=0>

Figure 6: Barista with two customers in Café Coffee Day.

Sometimes hearing people simultaneously or sequentially relayed information or requests in two different modalities (ie chaining), a practice reported with regard to hearing-hearing interactions too (Kendon 2004). The man is chaining by first using the sidely conventionalised gesture WATER, and then mouthing “water” (rather than simultaneously gesturing and mouthing). In other instances mouthing and gesturing complemented each other such as gesturing WATER and mouthing “cup” (in the woman’s instance). Sometimes more information is present in speech than in gesture (saying “Pani, haan” and nodding) without this affecting the conversation. Also note there is not only a switch in modality (the woman first speaks, then gestures) but also a switch in languages: the woman switches into Hindi when confirming, perhaps out of habit (many Café Coffee Day customers used both Hindi and English in combination with gestures) or perhaps of thinking the deaf person could understand Hindi better than English, offering the concept “water” now in a third different way (first English, then gesture, then Hindi). So, altogether, “water” is offered in English, Hindi, in two different gestures ie WATER and CUP, with or without mouthing. Remodalisation and chaining often happens through combining gesture with writing, too (Kusters, forthcoming, b).

In some cases of hearing people mouthing/speaking, words were clearly articulated for the benefit of the lipreading deaf person, thus adjusting mouth movements to suit the visual orientation of the interlocutor: the woman first speaks at a normal tone and pace, and produces a full sentence. When the barista does not understand her, she leans to the barista, saying just one word “water” and articulating more clearly (Figure 6b). Lipreading is essentially educated guesswork, thus when hearing people’s speech or mouthing were clearly articulated and not accompanied by clear and sufficient gestures, the deaf person often asked for repetition, such as the barista in this example. Deaf participants had various lipreading skills, typically could lipread one language (such as Hindi or English) better than the other, and two of the six participants could not lipread. Participants experienced lipreading key words as much easier than lipreading sentences. Thus sometimes deaf people could lipread without gestures (such as Reena understanding “paanch rupai”) but when gestures were offered (without spoken words or mouthings, or in sequence or simultaneously with spoken words or mouthings), utterances were often more successfully understood (such as the “water” example). Sometimes the combination of lipreading with gesture is experienced as helpful, other times only the gesture is understood, and not the spoken component.

## The role of acquaintance

Upon meeting an *unacquainted* customer or vendor, deaf participants usually did not communicate immediately that they were deaf. When seeing that their interlocutor is not speaking and is using their hands; many hearing people tailor their responses accordingly, such as by gesturing without speech (such as the man communicating with the barista above), or complementing speech with gesture (such as the shirt vendors communicating with Sujit), mostly without seeming surprised, frowning or otherwise giving the impression that they are “adapting”. When the hearing interlocutor speaks repeatedly (such as the woman communicating with the barista), sometimes it suffices for the deaf person to look questioningly, or repeat their earlier utterance in gestures (such as Reena repeating “paanch rupai”) rather than to gesture NOT-HEARING-SPEAKING or CANNOT-HEAR (such as the deaf barista in the example above). For deaf vendors and baristas it happened more often than for deaf customers that they communicated their deafness (almost) immediately, and that they took initiative to tell new customers how to communicate (eg, by pointing, gesturing or writing). Café Coffee Day staff pointed at a paper at the wall next to the counter saying “BE SEEN TO BE HEARD” (see figure 7) and indicated to customers that they can point in the menu. Komal (in Harsh, the accessory shop) tells new customers they can sign or write (see Kusters, forthcoming, b, on writing). In Harsh and Café Coffee Day, upon learning that people are deaf, a typical hearing customer’s strategy is to ask for a hearing person; which would then be resisted by the deaf person who instead explained how to communicate.

*Figure 7: Paper in Café Coffee Day: “Be seen to be heard”*

Canagarajah (2009: 17) writes about language competence as a form of social practice, encompassing the ability to come up with diverse interaction strategies: “Meeting different speakers from multilingual backgrounds, one always has to learn a lot — and rapidly — as one decides which receptive and productive resources to adopt for a context. Furthermore, the lessons learnt in one encounter will help to constantly reconstruct the schema to monitor future communications of similar or different participants and contexts.” Deaf and hearing people emphasised that after getting acquainted, the time and effort communication required diminished: they know what they can expect and a certain schema is in place.

Acquaintance also means that people become practiced in gesturing with each other: it happens that hearing people start to use signs or gestures provided by the deaf person, such as what Durga called “our coffee language”: hearing customers learned signs for different types of coffee that were created by the deaf staff to communicate amongst themselves. The reverse also happened: deaf people use a particular gesture that a hearing person had used before, thus echoing their language use in order to align with them. Some gestures become more or less sedimented after regular use within a particular context, and become thus part of a spatial repertoire, such as the abovementioned “coffee language”, and terminology for particular pens or refills sold by Mahesh.

Acquaintance also means knowing what the other person is more likely to order, based on previous interactions, so that communication becomes more condensed. For example, a grocery seller I frequented knew I wanted mushrooms, if I just produced a gesture referring to their small size, very similar to the gesture that Durga uses for EGG in figure 5.

## Conclusion

In my experience, customer interactions are among the most common examples given by the general public and some educators (teachers and parents) of deaf children when arguing why deaf people should be able to speak intelligibly: “How will they go to the shops otherwise?”. Obviously, this assumption is unwarranted. Two young male Café Coffee Day customers said: “We speak in English or Hindi or anything. Anything suitable to them. But they understand each and every languages” (*Ishaare* 00:44:15). Of course these boys do not mean that deaf people are omniscient. My interpretation of this utterance is: people know and use features of different named languages and this is the case not only for hearing customers, but for deaf baristas too. Thus while this article’s starting point is that gestures get a primary role in deaf-hearing customer interactions, they are by no means the only resource in play, since deaf participants in the study also mouthe and lipread (words) in spoken languages. Also importance is the knowledge of procedural and contextual knowledge in particular locations and the connected (learned) ability to do educated guesswork. People can communicate very economically (by wobbling their head or pointing, for example); but they also often at once offer the same message in different, simultaneous ways.

Central to this article is the focus on people with sensorial asymmetries, having sensorial-related unequal access to semiotic resources. The contexts are shaped into ones where the visual-gestural modality takes high significance, because of one of the interlocutors being deaf (rather than the difference in spoken language backgrounds such as in Blackledge and Creese’s article, this issue). Partially because of these differences in access to modalities, and partially because different modalities have different constraints and affordances (Kress and Van Leeuwen 2001), people engage in prompt and rapid switching (remodalisation and chaining) between modalities within gesture-based interactions. Mondada (2016, p. 341) writes that “some ecologies and types of activities might favor verbal resources along with gestures and body movements, whereas other ecologies and activities might favor distinctive and specific embodied resources over talk”. And as a result, the “mobilization of multimodal resources (...) dynamically adjusts to as well as reshapes the context” (Mondada 2014:97). The weight gesture carries varies from interaction to interaction: sometimes almost no mouthings happen (such as in the example of Mahesh and the stationery vendor); other times several modalities take high intensity (Norris, 2004), such as when gesture is intricately intertwined with speaking, mouthing or writing key terms (Kusters, forthcoming b) and thus is part of “modal aggregates” (Norris, 2004) where different modes are nonredundant and interlinked without one of them taking absolute primacy.

People translate utterances in other modalities, to enable understanding by remodalisation, but also to check understanding by repeating (translating or mirroring) the other. I gave examples of deaf and hearing people not immediately understanding the other: the girls asking Komal for the price of the clips, the barista initially not understanding the woman wanted water, or Sujit not understanding the man asked how many T-shirts he wanted. Hearing vendors or customers often do not maintain sustained or repeated eye contact, such as the stationery shop vendor not always looking at Mahesh when he gestures, and the market seller not looking at Reena when she gestures. Lack of understanding, or missed gestures, are usually solved by or within the visual-gestural modality, by

remodalisation, chaining or by repeating or rephrasing the gesture in the same way or a different way. This does not mean that the auditory-oral modality's significance or role was discarded. The auditory-oral modality does have a visual component: there were examples of both deaf and hearing people lipreading key terms within particular contexts; and deaf people memorized mouth patterns (Durga's "anda" and Sujit's "pau") of languages they didn't know, to be able to use them strategically in customer interactions. Here, people make use of features of the auditory-oral modality in a visual way (using speech and mouthing in very similar ways): they do not ditch the auditory-oral modality as an useless one even though its affordances are severely limited within these communicative interactions. In short: interlocutors thus orient towards the ongoing interaction and negotiate the constraints and possibilities imposed not only by different modalities but also by different sensorial access to these modalities.

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