

# *TYPES OF GESTURES*

Isabella Poggi  
Università Roma Tre  
[poggi@uniroma3.it](mailto:poggi@uniroma3.it)

## **1. Silent and talking hands**

Hands are a very important instrument for communication: with hands we make gestures, that can substitute and accompany speech while bearing a relevant semantic contribution, but we also do other types of things, that are not necessarily communicative.

In this work I deal with two issues, gesture definition and gesture typology: how to define a gesture as communicative, and how to distinguish different types of gestures. I will do so on the basis of my model of communication, which is based on the notions of goal and belief (Castelfranchi & Parisi 1980; Poggi & Magno Caldognetto 1997; Poggi forth.).

## **2. A goal and belief model of communication**

We can say (Poggi & Magno Caldognetto 1997; Poggi & Pelachaud 2000) that a process of communication holds when

- a System S (Sender) has the goal for a System A (Addressee) to come to have some belief B,
- in order to this goal, S produces a signal s which S believes is linked, in the minds of both S and A, to belief B (as its Meaning M).  
where
- the signal s is any physical stimulus produced by S by means of his/her body or of some artificial tool (the signal Productive Modality PM), and perceivable by A through some sensory system (Receptive Modality RM),
- the signal s is linked to its Meaning M through a Communication System CS, that is, a system of rules to link signals to meanings.

In this definition, the Sender's **goal** of communicating is a necessary condition for communication to hold; but this goal may come from **different sources**, and be represented at **different levels of awareness**.

DIFFERENT SOURCES:

The Sender's goal of communicating may be an **internal** goal of the **individual** (e.g., I have the goal to write a paper because I want some readers to know about my research studies);  
but it may also stem from **biological** needs (a seagull raises and flies high to warn a predator is in sight);  
or from **social** functions (a priest wears a clergyman to let people know of his social role).

#### DIFFERENT LEVELS OF AWARENESS:

The goal that induces us to communicate can be **conscious**, i.e., not only represented in the individual's mind but also meta-represented: I not only want to communicate something, but I also know I want. (for example, in almost all verbal communication).

But we can also communicate out of an **unconscious** goal of communicating (I am angry at a friend of mine and consciously do not want to show my anger, but while talking to him I do not gaze at him, or pull a long face all the time)

The goal of communicating may be **tacit**, that is, not under aware attention, due to a function of cognitive economy: to prevent attention overload (for instance, in the signals provided by raising eyebrows or by moving hands downward – see Ekman & Friesen's batons).

### 3. Defining gesture

I define as **gesture** any movement performed by hands, arms or shoulder.

We use gestures to do things, to touch objects, people or oneself, and finally to communicate.

I define a gesture as a **communicative gesture** when a particular form and movement of hands is used for the goal of communicating some meaning, that is, to have some other person get some belief.

A communicative gesture is thus a signal-meaning pair:

the signal is a particular form and movement of hands or arms;

the meaning is a belief mentally represented either as a mental image or in a propositional format;

the signal and the meaning are linked to each other in the mind of some people.

Hands can do three kinds of things: just rest, without doing anything; move to do some non communicative action; or, finally, communicate.

Thus we can distinguish

1. resting position
2. action gestures
3. communicative gestures.

How to assess whether a gesture is either a communicative or an action gesture, that is, if it is ruled by a goal of communicating or simply by the goal of doing an instrumental action, is an empirical issue, to assess case by case, on the basis of its context of use.

#### **4. Parameters to classify gestures**

All scholars of gestures have acknowledged that different kinds of gestures exist.

Here I propose a typology in terms of a small set parameters, criteria of classification each allowing a small number of possible values. Each gesture assumes a specific value with respect to all the parameters; and this allows a more flexible classification than a static typology does.

Like for the definition, also a classification of a gesture cannot be provided in an abstract way, but case for case, by considering all the aspects of the context in which it occurs; thus even the same gesture, produced in different situations, can receive different classifications.

The parameters I consider relevant to classify gestures are the following:

1. Semantic content: Information on the World, on the Sender's Mind, on the Sender's Identity;
2. Goal source: individual, biological or social;
3. Level of awareness: conscious, unconscious or tacit;
4. Cognitive construction: codified (natural or cultural) vs. creative (natural or cultural)
5. Gesture – Meaning relationship: motivated (natural or iconic) vs. arbitrary
6. Relationship to other signals: autonomous vs. co-verbal

##### **4.1. Semantic content**

As for all other communicative signals, according to Poggi (1996; forth.) the semantic contents of our communicative acts may concern:

Information on the World (abstract and concrete objects, persons, animals, events);

Information on the Sender's mind (our mental states, beliefs, goals and emotions); and

Information on the Sender's Identity (sex, age, culture, personality, image and self-image).

Thus, any gesture can be classified as to the kind of meaning it bears.

#### 4.1.1. Gestures that inform about the World

Among gestures that provide Information on the World, the meanings we may convey can fill in the slot of either **arguments** or **predicates**, within the propositional content of a communicative act.

Among the gestures used by hearing Italians, some mention persons (“indian” or “communist”), animals (“horse”), objects (“scissors” or “cigarette”); other gestures convey actions (“cut”, “smoke”, “walk”), properties (“thin”, “stubborn” or “stupid”), relations (“link between two”), times (“yesterday”), quantifiers (“two”).

#### 4.1.2. Gestures that inform about the Sender's Mind

Other gestures are **Gestural Mind Markers** (Poggi, Pelachaud & Magno Caldognetto, 2003), that is, hand movements devoted to convey Information about the Sender's Mind, that is, they inform about the Sender's beliefs, goals and emotions referred to what s/he is talking about

##### **Gestural Belief Markers**

Some gestures provide information about the degree of **certainty** of the beliefs we are mentioning: the *palm up open hand* (Müller, 2005) means that what we are saying is obvious, self-evident, while *showing empty hands while lowering forearms* means we are quite uncertain about something.

Some provide **metacognitive** information, i.e. they inform about the source of what we are saying: from our long-term memory (e.g., *snap thumb and middle finger* = “I am trying to remember”); or else they may inform of the mental state we are in (e.g., *leaning chin on fist* – Rodin's “Thinker” posture = I am in concentration).

##### **Gestural Goal Markers**

Some gestures express a **performative**, that is, the goal of a single sentence: *raising the flat hand or the index finger near the shoulder* is like saying: “attention please”; the Italian *mano a borsa* (*purse hand*) (Poggi 1983) means “I ask you a question”.

Other gestures distinguish **topic and comment** in a sentence, thus marking what we want to stress vs. what we take for granted: (see the up and down movement of batons in general, or specific gestures such as Kendon's (1995) *finger bunch-open hand sequence*).

**Metadiscursive** gestures inform about our discourse plan and the logical relations among sentences in a discourse. (e.g., *bending index and middle fingers of both hands* = “quotes” to distance oneself from what one is saying; in Italy, *fist rotating on wrist with curved thumb and index finger* to state a link of cause-effect or proximity between two things).

Also locating discourse characters or topics in the space and then pointing at them, thus meaning “now I come back to this” is a metadiscursive gesture.

Finally, some gestures are used to manage the **turn-taking** system in conversation (e.g., *raising a hand* to ask for speaking turn).

**Gestural Emotion Markers** inform about the Speaker's **emotion** (e.g., *raising fists* to express elation, *pulling one's hair* to express despair).

**Table 1**

GESTURAL MIND MARKERS		
BELIEFS	Degree of certainty	<i>Palm up open hand</i> = this is evident <i>Forearms down</i> <i>with empty hands</i> = I am uncertain
	Meta-cognitive Information	<i>Index on nose</i> = I am concentrating <b>Snap fingers</b> = I'm trying to remember
GOALS	Performative	<i>Raised index finger</i> = attention
	Sentence plan	<i>Hand up</i> = this is the topic <i>Hand down</i> = this is the comment
	Discourse plan	<i>Count on fingers</i> = n.1... n.2... <i>Bent index</i> <i>and middle fingers</i> =I don't really mean that <i>Rotating fist with</i> <i>Curved thumb and index</i> = there is a link
	Conversation plan	<i>Hand raised</i> = I want to speak
EMOTIONS		<i>Fists raised</i> =I am exulting <i>Pulling hair</i> = I am in despair

#### 4.1.3. Gestures that inform about the Sender's Identity

Some gestures provide information on the Sender's **Identity**.

They may show the Sender's identification with a social, political or ideological group (see the nazi salute *extended arm with flat hand*, or the communist one, *raised arm with closed fist*).

Other gestures, instead, do not inform about a social choice, but rather aim at projecting a particular image of the Sender (e.g., *putting the open hand on one's heart* to give the impression of a noble and fair person).

#### 4.2. Goal source

A second parameter is where does it come from the communicative goal that governs a particular gesture. As all other communicative signals, also gestures can have individual, biological or social communicative goals.

If I *point to the left* in giving directions to a passer by, my communicative goal is an **internal individual goal**;

a gesture expressing a primary emotion, like *opening arms* in surprise or *shaking fists up* in joy is ruled by a **biological goal**;

*putting one's hand over one's mouth* while coughing is a polite gesture stemming from a **social goal**, one on behalf of the commonality.

#### 4.3. Level of awareness

For some gestures our goal of communicating is a **conscious** goal, that is, one under the focus of our attention: typically this holds for those that in different typologies are called "symbolic gestures": those that are closest to verbal language, ones even translatable in words or sentences.

The gestures called batons, instead, are typically governed by a **tacit** goal of communicating.

Finally, some gestures, for example an aggressive gesture to someone toward whom we consciously try to inhibit our aggressive goals, are governed by an **unconscious** goal of communicating.

#### 4.4. Cognitive construction

A relevant parameter to distinguish gestures is their **cognitive construction**: whether and how a gesture is represented in the Sender's mind.

Some, that I call **codified gestures** are steadily represented in the Sender's mind as lexical items of a gestural lexicon, that is, as rules of correspondence stored in our long-term memory that link a particular gesture to a particular meaning: as stable gesture-meaning pairs.

Other times we must use our hands to convey meanings to which no ready-made gestural expression corresponds in our minds, so we have to "create" a new gesture, to invent one on the spot. In this case what is performed is a **creative gesture**. The gestures that we invent to illustrate our speech more vividly, produced by imitating objects, actions or events (**iconic** gestures), but also the gestures we use to point at things or persons (**deictic** gestures) are of the creative kind.

Also for creative gestures something is codified in our mind: but what is codified is not a specific signal-meaning pair but a small set of generative inference rules that state, for example, that to refer to an object one can imitate its shape or its movements, or the action one performs with it.

In terms of this parameter, the kinds of gestures distinguished in literature that are typically opposed to each other are on the one side Efron's (1941) emblems, on the other side McNeill's (1992) iconics.

#### 4.4.1. Natural and cultural codified gestures

**Codified gestures** can be codified either on a **natural** (biological) or on a **cultural** basis, so we can distinguish natural from cultural gestures.

A natural codified gesture is *raising our hand or index finger* to ask for speaking turn.

A cultural codified (Neapolitan) gesture is the so-called "Wittgenstein gesture": *sliding hand palm down from under chin to forward* to mean "I couldn't care less".

#### 4.4.2. Natural and cultural creative gestures: deictic and iconic gestures

Creative gestures may be either deictic or iconic.

A **deictic** gesture is a gesture that points at some place: it aims at requesting the Addressee's attention on that place in order to refer either to the place itself or to an object, person, concrete or abstract event located in or linked to that place.

A **creative iconic** gesture is a creative gesture that imitates some perceivable aspects held by or linked to the meaning it conveys.

Both deictic and iconic gestures mention some concrete or abstract entity or event, and do so by selecting a particular feature of that entity or event.

If the referent is present in the surrounding context, its most salient feature is its present location, so one simply indicates in what direction can the Addressee find that referent (deictic gesture).

But if the referent is not there, one has to create an **iconic** signal for it (Zomparelli & Poggi, 1987; Poggi & Magno Caldognetto, 1995), that imitates the referent by selecting one or more of its visually perceivable features, and by representing them with hands.

Both deictics and iconics are creative gestures.

Deictics are natural, biologically determined gestures: every child, whether hearing or deaf, at the right age starts pointing (Camaioni, Volterra & Bates, 1976; Perucchini & Camaioni, 1999; Caselli et al., 1994; Kita, 2003).

Iconics are cultural. As I create a new gesture to mention some referent, and I imitate its form or location, or the movement I can do with it, these are culturally conventional features.

So, also creative gestures can be generated on the basis of either natural or cultural rules.

#### 4.5. Gesture-meaning relationship

Another important parameter to distinguish gestures is the gesture – meaning relationship. Gestures, as well as all communicative signals, can be either **motivated** or **arbitrary**.

A gesture is **motivated** when its meaning can be in some way inferred from the signal even by someone who has never seen it before; that is, when the meaning is linked to the signal in some non-random way.

A gesture is **arbitrary** when there is no motivated relationship between its signal and its meaning.

A motivated gesture can be either **iconic** or **natural**.

An **iconic** gesture is one linked to its meaning by a relation of **similarity**, in that some perceptual part or aspect of the signal resembles (imitates, mimes, is similar to) some perceivable parts or aspects linked to the meaning. *Drawing the outline of a cello in the air* to mean "cello", or *moving one's hand as a snake* to mean "snake", are iconic gestures.

A **natural** gesture is one linked to its meaning by **mechanical determinism**. For example, the gesture of *shaking fists up that expresses joy or triumph for succeeding in something* is not an iconic gesture, since it does not "imitate" joy, but is determined by the physiological activation produced by the emotion of joy, that necessarily causes outward or upward movements (Anolli, 2002). A gesture is natural when its perceptual motor aspects are the same as those produced by a biological event linked to the meaning of the signal itself.

A gesture is **arbitrary** when between the signal and its meaning there is no relationship – either of similarity, or of mechanical determinism or of any other kind – that allows one to understand the meaning from the signal even without knowing it in advance.

There is a link between the parameter of cognitive construction and that of signal-meaning relationship: an arbitrary gesture must be necessarily codified, while a creative gesture must necessarily be motivated to be understood. On the other hand, both arbitrary and iconic gestures can be codified. For example, among the codified gestures of the Hearing Italians there are some iconic gestures (e.g., *index and middle finger up back an forth in front of one's mouth*, to mean “smoke”), and some arbitrary gestures (like *open and close hand* to say “hello”).

#### 4.6. Relationship to other signals

Finally, gestures differ as to the relationship a gesture holds to other signals that are or can be produced at the same time in the verbal modality. From this point of view, we can distinguish **autonomous** vs. **coverbal** gestures. An autonomous gesture is one that may or may not be produced during speech, while a coverbal gesture is quite awkward if produced in absence of speech. Coverbal gestures must necessarily be produced along with cooccurrent speech, while the autonomous ones in some cases cooccur with speech, but sometimes completely substitute for words. On the basis of this criterion, of course, the only kinds of gestures that are really necessarily co-verbal are those called batons (Ekman & Friesen, 1969) or beats (McNeill, 1992), that are used to segment the sentence and mark topic and comment in sentence and discourse: given their syntactic and textual function, they cannot be used, by definition, in absence of speech. All other kinds of gestures are autonomous, at least in principle: if I imagine a situation in which acoustic communication is ruled out, for example in the last recommendations through the glass window when leaving by train, I can make different kinds of gestures (and they are autonomous in fact): I can point at places (deictic), mime actions or objects (iconic), make gestures translatable in word (symbolic); but I will not use gestures that scan my sentences (batons), since I am not uttering sentences.

#### 5. Classifying gestures

Let us overview the parameters proposed above for the classification of gesture, and see how specific gestures can be classified thereof (Table 2).

1. **Semantic content.** All gestures can be distinguished as for their bearing information on the World, on the Speaker's Mind or on the Speaker's Identity.
2. **Goal source.** Gestures differ for the source of their communicative goal, that may be an internal goal of the individual or else an external biological or social goal.
3. **Level of awareness.** The communicative goal of the gesture may be conscious, unconscious, or tacit.
4. **Cognitive construction.** A gesture can be distinguished as to whether and how it is represented in the Sender's mind. We have a codified gesture when a gesture-meaning pair is steadily represented in the Sender's long-term memory like a lexical item of a gestural lexicon. A

creative gesture instead is one invented on the spot when a such pair is not represented in memory, and it is created on the basis of a small set of inference rules, that select the most distinctive features of the referent to represent and mime by hands.

5. **Gesture-meaning relationship.** A gesture can be either motivated or arbitrary and, if motivated, either natural or iconic. It is motivated when its meaning can be inferred from the signal, due to similarity or mechanical determinism; it is arbitrary, instead, when there is no motivated relationship between its signal and its meaning.
6. **Relationship to other signals.** As to its relation to signals in the verbal modality, a gesture may be either autonomous or coverbal. A gesture is autonomous if it can be produced also without co-occurrent speech, while it is co-verbal if it can be produced only in presence of concomitant speech.

**Table 2**

PARAMETER	1. Semantic Content			2. Goal source			3. Awareness			4. Cognitive Construction				5. Gesture – meaning relationship		6. Relation to verbal signal		
	W	M	I	Int.	biol	Soc.	cons c	Un- con	tacit	codified		creative		motivated		arbit.	Aut on.	co- verb
										nat.	cult.	nat.	cult.	nat.	Icon			
1. While talking in their office A, addressing B, makes the gesture of <i>right hand, with index and middle finger extended and palm to himself, moving back and forth in front of his mouth</i> . It is a proposal to get out and have a break, since A means: “I want to smoke a cigarette”.	X			X			X				X				X		X	
2. A and B are in a wood for animal-watching. A wants to let B know he has a squirrel in sight, but he does not want to speak aloud not to disturb animals: so he <i>pretends eating a nut from his hands</i> , and then <i>depicts a long curve tail</i> .	X			X			X					X		X		X		
3. A tells B an interesting information and when B asks about its source A replies by <i>pointing at a book</i> on the table, thus meaning “I read it in that book”.	X			X			X					X		X			X	
4. B tells A an information that he finds quite interesting and relevant, but A, who has a different opinion, makes the “Wittgenstein gesture” (Monk, 1990) of <i>sliding his hand palm down under his chin</i> , by meaning “I don’t care at all, I couldn’t care less”.		X		X			X				X				X	X		

5. Student A is taking an oral exam. Teacher B asks her a question; A does not know the answer but pretends she does, and starts speaking trying to appear free-and-easy, but she often <i>touches her hair</i> , thus revealing embarrassment.		X		X				X		X						X	X		
6. Athlete A wins the race and <i>shakes his fists up</i> , meaning: "I am exulting for my achievement".		X		X			X			X				X				X	
7. A feels hatred and envy toward B, who often behaved incorrectly with him. One day A is talking with some acquaintances of both A and B, and they tell him that he was fired from his work. A knows it is impolite and mean to look gloating for another person's misfortune, but instinctively he cannot refrain from <i>shaking fists</i> and showing his joy.		X			X			X		X				X				X	
8. In a psychological experiment on the detection of lies (Ekman, 1985), a girl is subject to an interview by the University staff. The interviewer is very provocative and aggressive, and she cannot answer to his insulting manners, but unawares she keeps her hand on her knee in the shape of the <i>extended middle finger</i> , thus unconsciously communicating "Fuck you".		X		X				X			X						X	X	
9. While talking, A moves his <i>hands up and down</i> in correspondence with the different parts of his sentence. At the moment his hands are going down, he means "this is the comment of my sentence".		X		X					X		X						X		X
10. A politician while concluding his discourse <i>puts his right hand flat onto his breast</i> , to mean: "We, the noble ones", trying to project a positive image of himself and his party.				X	X			X			X						X	X	
11. A, young girl from a British educated family, at lunch <i>keeps her arms close to her sides</i> , thus meaning: "I sit down properly".				X			X			X							X	X	