# Image and Time in the Theory of Gestures

As I indicated in the first chapter of my volume *Meaning and Motoricity*, in the subsection "The Visual and the Motor", as well as in the section "Visual Thinking" in the sixth chapter of that volume, towards the end of the nineteenth century there emerged a psychological position according to which it is the whole body, the entire motor system, including facial expressions and bodily gestures, that underlies not just emotions, but also abstract thought. Meaning, both emotional and cognitive, should be conceived of as primordially grounded, and ultimately embodied, in the motor dimension. This psychological perspective was definitely conducive to inspiring the late-nineteenth-century and early-twentiethcentury interest in the language of gestures, an interest that is today once more vivid.

One can speak about gestures, and about languages of gestures, in at least four, partly of course overlapping, senses. First, as referring to the natural language of deaf-mutes, today forming the basis of a great number of officially recognized sign languages, such as ASL (American Sign Language), or DGS (Deutsche Gebärdensprache). Secondly, in the sense of the hypothesis – an hypothesis to which observations on the language of deaf-mutes, too, might lead – that the original language of humankind was a language of gestures preceding vocal language. Thirdly, the past few decades have witnessed the emergence of increasingly extended research on the interplay of talk and spontaneous gesture. And fourthly, we are acquainted with various cultures of handed-down, conventional gestures, such as that of the Neapolitans, or of North American Indians, or say of the language of gestures of the Cistercians.

My first attempt to come to terms with the issue of gestures was in a paper I wrote in 2002.<sup>1</sup> I there relied in particular on a formulation by the neurologist Macdonald Critchley, going back to 1939, according to which there is a "'natural sign-language' of the deaf and dumb [which] is largely unfamiliar to outsiders and indeed many are unaware of its very existence. ... Even very young deafmutes communicate freely with each other and the presence of this natural sign-language at an age prior to their receiving systematic instruction points to an 'instinctive' or at least a primitive type of symbolization."<sup>2</sup> I took over from

<sup>&</sup>lt;sup>1</sup> Kristóf Nyíri, "Pictorial Meaning and Mobile Communication", in Kristóf Nyíri, ed., *Mobile Communication: Essays on Cognition and Community*, Vienna: Passagen Verlag, 2003, pp. 157–184.

<sup>&</sup>lt;sup>2</sup> Macdonald Critchley, "Kinesics; Gestural and Mimic Language: An Aspect of Non-Verbal Communication" (a paper based in part on Critchley's 1939 book *The Language of Gesture*,

Critchley some photos, too, illustrating universal gestures of deaf-mutes on the one hand (Figure 1), and culturally specific, conventional gestures on the other (Figure 2). Also, I referred at some length to William Stokoe, who at the time was perhaps the best-known representative of the position arguing for a priority of the language of gestures. In his last book, *Language in Hand*, published in 2001, Stokoe summarized his earlier arguments. One of his fascinating theses was that not only the *semantics* of verbal languages (the word meanings they carry), but also their *syntax*, in particular the subject–predicate structure, is prefigured in gestures. Handshapes (motionless, or with small, repeated motions) function as names, *moving* handshapes function as verbs. Together, they amount to *sentences*.<sup>3</sup>

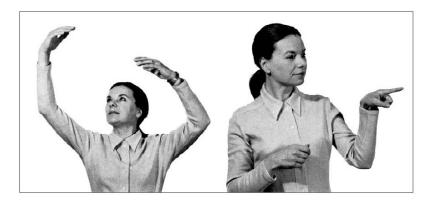


Figure 1: The natural gesture language of the deaf and dumb. Sign on the left indicates "heaven", on the right "over there". (After Critchley)



Figure 2: Italian gesturesApprovalContentmentExcellent!I insist<br/>(After Critchley)

London: Arnold, 1939), in his collection *Aphasiology and Other Aspects of Language*, London: Edward Arnold, 1970, pp. 305 f. – Among the earlier studies Critchley specifically refers to in his "Kinesics..." paper is David Efron, *Gesture and Environment*, New York: King's Crown, 1941. Efron's book has in the meantime become one of the classics of the topic (new ed. 1972: *Gesture, Race and Culture*, The Hague: Mouton).

<sup>3</sup> William C. Stokoe, *Language in Hand: Why Sign Came Before Speech*, Washington, D.C.: Gallaudet University Press, 2001, pp. xiii and 12 f.

Now a minimally complete history of the theory of gestures – a history of which I will, here too, provide an only very rudimentary sketch – should clearly begin with Plato's Cratylus, referring to the lines: "Suppose that we had no voice or tongue, and wanted to communicate with one another, should we not, like the deaf and dumb, make signs with the hands and head and the rest of the body? ... We should imitate the nature of the thing; the elevation of our hands to heaven would mean lightness and upwardness; heaviness and downwardness would be expressed by letting them drop to the ground."<sup>4</sup> Next I assume I would have to quote Quintilian as saying: "though the peoples and nations of the earth speak a multitude of tongues, they share in common the universal language of the hands"<sup>5</sup> – then taking a leap to the 17th century, making a detour round George Dalgarno,<sup>6</sup> but pausing briefly to recall the understandable interest Leibniz had in the language of gestures as a possible universal sign language.<sup>7</sup> By contrast, a more detailed narrative should be allotted to the 18th century. Not perhaps because of Vico, whose Scienza nuove, first published in 1725,<sup>8</sup> for a long time "went virtually unnoticed outside of Naples"<sup>9</sup>, due not least to what has been called "the obscurity of his message"<sup>10</sup> – the message, in the case of our present topic, amounting to just two passages (repeated twice with slight variations) in the course of the entire book: "Mutes make themselves understood by gestures

<sup>&</sup>lt;sup>4</sup> Cratylus, 422e–423a, transl. by Benjamin Jowett.

<sup>&</sup>lt;sup>5</sup> Quintilian, *Institutio oratoria*, XI, 3, 87, transl. H. E. Butler.

<sup>&</sup>lt;sup>6</sup> Author of *Didascalocophus*, or the Deaf and Dumb Man's Tutor, Oxford: 1680.

<sup>&</sup>lt;sup>7</sup> Cf. e.g. Garrick Mallery, "Sign Language among North American Indians Compared with that among Other Peoples and Deaf-Mutes", First Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1879–1880, Washington: Government Printing Office, 1881, pp. 288, 349 f. and 360; Karl Sittl, *Die Gebärden der Griecher und Römer*, Leipzig: Teubner, 1890, p. 5; Wilhelm Wundt, *Völkerpsychologie: Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythus und Sitte*, vol. I: *Die Sprache*, 2., rev. ed., Leipzig: Engelmann, 1904, p. 151. The chapter of Wundt's work discussing gestures has been published in an English translation: Wilhelm Wundt, *The Language of Gestures*, The Hague: Mouton, 1973, the reference to Leibniz here find on p. 70.

<sup>&</sup>lt;sup>8</sup> The third edition – the final one in Vico's lifetime – being published in 1744. This is the edition that served as the basis of the first ever English translation: Giambattista Vico, *The New Science*, Ithaca, N.Y.: Cornell University Press, 1948.

<sup>&</sup>lt;sup>9</sup> Marcel Danesi, *Vico, Metaphor, and the Origin of Language*, Bloomington: Indiana University Press, 1993, p. viii.

<sup>&</sup>lt;sup>10</sup> Bertrand Russell, *The Wisdom of the West: A Historical Survey of Western Philosophy in Its Social and Political Setting*, Garden City, N.Y.: Doubleday, 1959, p. 207. It should be pointed out however that the text of *Wisdom of the West* was actually drafted by the editor Paul Foulkes, on the basis of Russell's *A History of Western Philosophy*. Russell read it in proof, cf. Carl Spadoni, "Who Wrote Bertrand Russell's *Wisdom of the West*?", *Papers of the Bibliographical Society of America*, vol. 80, no. 3 (1986). The *History of Western Philosophy* makes no reference to Vico.

or objects that have natural relations with the ideas they wish to signify", and: "Since it has been demonstrated that the first gentile nations were all mute in their beginnings, they must have expressed themselves by gestures or by physical objects having natural relations with their ideas".<sup>11</sup> Nor has Rousseau contributed that much to the theory of gestures. Corballis is of course right when he finds the passage "Words would seem to have been necessary to establish the use of words"<sup>12</sup> an important formulation of the paradox bedevilling any theory that wants to explain the emergence of language without having recourse to the significance of gestures. But the conclusion Rousseau draws from this paradox in his *Origin of Languages*, namely that "Although the language of gesture and spoken language are equally natural, still the first is easier and depends less upon conventions",<sup>13</sup> is a rather pale one, and at any rate the essay was never published by him.

It was the philosopher Condillac and the educationalist de l'Épée whose work made the 18th century into a turning point in the history of the theory of gestures. Condillac's Essai sur l'origine des connaissances humaines, published in 1746, with a first English translation (An Essay on the Origin of Human Knowledge) appearing in 1756, formulates a detailed hypothesis on how a language of gestures could have preceded vocal language.<sup>14</sup> A brief parallel argument was put forward by Thomas Reid in 1764, in his Inquiry into the Human Mind. As Reid wrote, "if mankind had not a natural language, they could never have invented an artificial one... For all artificial language supposes some compact or agreement to affix a certain meaning to certain signs... but there can be no compact or agreement without signs, nor without language; and therefore there must be a natural language before any artificial language can be invented". The elements of the "natural language of mankind", Reid continued, are "modulations of the voice, gestures, and features", adding: "Where speech is natural, it will be an exercise, not of the voice and lungs only, but of all the muscles of the body; like that of dumb people and savages".<sup>15</sup>

<sup>&</sup>lt;sup>11</sup> *The New Science*, §§ 225 and 434 (Engl. transl. pp. 68 and 127), see also §§ 401 and 431 (Engl. transl. pp. 114 and 125).

<sup>&</sup>lt;sup>12</sup> This is the translation Corballis himself gives of the wording "la parole paraît avoir été fort nécessaire, pour établir l'usage de la parole", in Rousseau's *Discours sur l'origine et les fon-dements de l'inégalité parmi les hommes* (1754), see Michael C. Corballis, *From Hand to Mouth: The Origins of Language*, Princeton, NJ: Princeton University Press, 2002, p. 42. The translation by G. D. H. Cole, as also the recent one by Johnston, seems to miss the essential point.

<sup>&</sup>lt;sup>13</sup> Jean-Jacques Rousseau, *Essay on the Origin of Languages*, transl. by John H. Moran, New York: F. Ungar, 1966, p. 6.

<sup>&</sup>lt;sup>14</sup> Corballis provides an appreciative description of Condillac's main argument in his *From Hand to Mouth*, pp. 64, 102 f. and 126 f.

<sup>&</sup>lt;sup>15</sup> Thomas Reid, *Inquiry into the Human Mind: On the Principles of Common Sense* (1764), 3rd ed., London: Cadell–Longman, 1769, pp. 73–75.

Dumb people... The Abbé de l'Épée from the 1750s onward became the founder, specifically, of a unique teaching method for deaf children, based on their own common-spontaneous gestural language, "a natural sign language", as l'Épée saw it in his 1776 book *L'institution des sourds et muets*.<sup>16</sup> In the book l'Épée referred specifically to gestures signalling the passage of time – the past, the present, and the future. For instance, he found that "the pupils he encounter-ed signified that an action or event was past by throwing the hand back beside the shoulder once or repeatedly".<sup>17</sup> A similar gesture with a similar meaning one encounters today say in DGS, the recognized German sign language. I will come back to this topic in the final section of the present chapter.

L'Épée and his school – one should here name, in particular, his immediate successor, the Abbé Sicard – soon gained wide influence both in Europe (most importantly perhaps in Germany) and in North America.<sup>18</sup> Still, in the 19th century, which I have now arrived at with my rudimentary narrative, the position that the language of gestures historically precedes vocal language, and that the former might take on a new pedagogical role, was far from having become a majority one. To be sure, in 1832 there appeared, and soon became rather widely known, the work Gesture in Naples and Gesture in Classical Antiquity by Andrea de Jorio, in which the author argues, if not for the priority, but at least for the unique expressive value, and a continuity throughout the centuries, of the south Italian gesture language.<sup>19</sup> In 1838 there was published the wide-ranging and deep study Ueber die Taubstummen und ihre Bildung by Eduard Schmalz,<sup>2</sup> in 1853 the book Ueber Taubstumme, Taubstummen-Bildung und Taubstummen-Anstalten by Otto Friedrich Kruse,<sup>21</sup> and in 1865 Tylor's seminal work Researches into the Early History of Mankind, referring to Sicard as well as both to Schmalz and Kruse, and in great detail to "the Berlin Deaf-and-Dumb Institu-

<sup>&</sup>lt;sup>16</sup> Charles Michel de l'Épée, *L'institution des sourds et muets, par la voie des signes méthodiques*, Paris: Nyon l'ainé, 1776, p. 126: "la langue naturelle des signes", see also the expression "Signes naturels" on the title page of the book.

<sup>&</sup>lt;sup>17</sup> William C. Stokoe, "Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf" (1960), reprinted in the *Journal of Deaf Studies and Deaf Education*, vol. 10, no. 1 (2005), pp. 3–37, the quoted passage on p. 5.

<sup>&</sup>lt;sup>18</sup> Roch-Ambroise Sicard wrote the important book *Cours d'Instruction d'un sourd-muet de naissance* (Paris: Le Clere, 1803). On l'Épée, Sicard, and their impact in America see the classic 1960 paper by Stokoe, referred to in the previous note.

<sup>&</sup>lt;sup>19</sup> La mimica degli antichi investigata nel gestire napoletano. The English translation, with an excellent introduction by the translator Adam Kendon, has been recently published: Andrea de Jorio, *Gesture in Naples and Gesture in Classical Antiquity*, Bloomington: Indiana University Press, 2002.

<sup>&</sup>lt;sup>20</sup> Eduard Schmalz, *Ueber die Taubstummen und ihre Bildung*, Dresden und Leipzig: Arnoldische Buchhandlung, 1838.

<sup>&</sup>lt;sup>21</sup> Otto Friedrich Kruse, Über Taubstumme, Taubstummen-Bildung und Taubstummen-Anstalten: Nebst Notizen aus meinem Reisetagebuche, Schleswig: Bruhn, 1853.

tion"<sup>22</sup>, discussing in the first three chapters "the gesture-language", and in the next two the topics of "gesture-language and word-language" and "picture-writing and word-writing".

Let me here quote at some length from Tylor. This is how he introduces the issue:

The mother-tongue (so to speak) of the deaf-and-dumb is the language of signs. The evidence of the best observers tends to prove that they are capable of developing the gesture-language out of their own minds without the aid of speaking men. Indeed, the deaf-mutes in general surpass the rest of the world in their power of using and understanding signs, and for this simple reason, that though the gesture-language is the common property of all mankind, it is seldom cultivated and developed to so high a degree by those who have the use of speech, as by those who cannot speak, and must therefore have recourse to other means of communication.<sup>23</sup>

Tylor then cites Schmalz as pointing out that there are "many signs which we indeed do not use in ordinary life, but which the deaf-and-dumb child uses, having no means of communicating with others but by signs. These signs consist principally in drawing in the air the shape of objects to be suggested to the mind, indicating their character, imitating the movement of the body in an action to be described, or the use of a thing, its origin, or any other of its notable peculiarities."<sup>24</sup> Tylor entirely endorses the view that the basis of deaf-mute communication is pantomimic. Also, he assumes, even if the formulation he uses is a restrained one, that there is no thinking without communication, "without some means of outward expression" - while of course the deaf-mute can very well think without speech in the sense of "articulate sounds".<sup>25</sup> Tylor's unequivocal, radical, even if not explicitly stated conclusion: we clearly encounter thinking built up solely by movements and images of movements. A second obvious conclusion however, that of the historical priority of the language of gestures, is one Tylor clearly abstains from. "The idea that the Gesture-Language represents a distinct separate stage of human utterance, through which man passed before he came to speak, has no support from facts", he writes.<sup>26</sup>

The fundamental argument for this obvious conclusion – the argument foreshadowed by Rousseau's paradox quoted above with a reference to Corballis – was memorably formulated by the American political figure Amos Kendall in his speech at the inauguration of the College for the Deaf and Dumb in Wash-

<sup>&</sup>lt;sup>22</sup> Edward B. Tylor, *Researches into the Early History of Mankind and the Development of Civilization* (1865), Boston: Estes & Lauriat, 1878, p. 20.

<sup>&</sup>lt;sup>23</sup> *Ibid.*, pp. 17 f.

 <sup>&</sup>lt;sup>24</sup> *Ibid.*, p. 18. Tylor is here translating a passage from p. 267 of the book by Schmalz.
<sup>25</sup> *Ibid.*, p. 14.

<sup>&</sup>lt;sup>26</sup> *Ibid.*, p. 15. Tylor returned to the topic of gesture-languages in his book *Anthropology: An Introduction to the Study of Man and Civilization*, London: Macmillan and Co., 1881.

ington DC, in 1864. "We read", said Kendall, "that Adam named the beasts and birds. But how could he give them names without first pointing them out by other means? How could a particular name be fixed upon a particular animal among so many species without some sign indicating to what animal it should thereafter be applied?"<sup>27</sup> In the course of human phylogeny, Kendall indicated, it was the language of gestures, and not verbal language, which introduced conceptual order into the episodic imagery of pre-linguistic thought. The reference to Adam, five years after the publication of Darwin's *The Origin of Species*, I rather take to be an ironical one.

#### Darwin on the Expression of Emotions

Darwin himself markedly contributed to the theory of bodily and facial gestures with his 1872 book *The Expression of the Emotions in Man and Animals*. The book's main proposition: gestures have an evolutionary basis, they originate in concrete bodily reactions to events in the surrounding environment, to danger, threat, and so on. Let me here focus on gestures of affirmation and negation. In an introductory passage of his book, in the first chapter, Darwin cites with approval the observation that "[a] man ... who vehemently rejects a proposition, will almost certainly shut his eyes or turn away his face; but if he accepts the proposition, he will nod his head in affirmation and open his eyes widely. The man acts in this latter case as if he clearly saw the thing, and in the former case as if he did not or would not see it."

In the chapter dealing with disdain, contempt, disgust, and affirmation and negation, Darwin quotes Tylor's *Researches into the Early History of Mankind* to explain how the gesture "snapping one's fingers", indicating contempt, becomes intelligible once "we notice that the same sign made quite gently, as if rolling some tiny object away between the finger and thumb, or the sign of flipping it away with the thumb-nail and forefinger, are usual and well-understood deaf-and-dumb gestures, denoting anything tiny, insignificant, contemptible". It seems, Tylor concludes, "as though we had exaggerated and conventionalized a perfectly natural action, so as to lose sight of its original meaning". Some passages later Darwin offers an interim summary. "We have now seen that scorn, disdain, contempt, and disgust are expressed in many different ways, by movements of the features, and by various gestures; and that these are the same throughout the world. They all consist of actions representing the rejection or exclusion of some real object which we dislike or abhor...". A few pages further there follows the section "*Signs of affirmation or approval, and of negation or* 

<sup>&</sup>lt;sup>27</sup> I am quoting after David F. Armstrong – Sherman E. Wilcox, *The Gestural Origin of Language*, New York: Oxford University Press, 2007, p. 8.

*disapproval: nodding and shaking the head.*" He was "curious to ascertain", Darwin here writes,

how far the common signs used by us in affirmation and negation were general throughout the world. These signs are indeed to a certain extent expressive of our feelings, as we give a vertical nod of approval with a smile to our children, when we approve of their conduct; and shake our heads laterally with a frown, when we disapprove. With infants, the first act of denial consists in refusing food; and I repeatedly noticed with my own infants, that they did so by withdrawing their heads laterally from the breast, or from anything offered them in a spoon. In accepting food and taking it into their mouths, they incline their heads forwards. ... It deserves notice that in accepting or taking food, there is only a single movement forward, and a single nod implies an affirmation. On the other hand, in refusing food, especially if it be pressed on them, children frequently move their heads several times from side to side, as we do in shaking our heads in negation. Moreover, in the case of refusal, the head is not rarely thrown backwards, or the mouth is closed, so that these movements might likewise come to serve as signs of negation.

Three remarks. First, that Darwin's explanatory pattern, the tracing back of an emotion to the actual behaviour on which it is based, unmistakably anticipates the James–Lange theory of emotions. As the classic summary formula given by James runs: "the bodily changes follow directly the perception of the existing fact, and ... our feeling of the same changes IS the emotion".<sup>28</sup> Secondly, that I am here mainly concerned with preparing the ground for what I will attempt to claim when I come to the topic gestures of time in the last section of the present chapter: natural gestures allow us to infer that what they embody is the experiencing of something real. Thirdly, that obviously there are numerous different patterns of behaviour from which gestures of affirmation and negation can emerge, patterns linked to each other by family resemblances. Garrick Mallery, in his fundamental, very extensive study "Sign Language among North American Indians Compared with that among Other Peoples and Deaf-Mutes", published in 1881,<sup>29</sup> provides a wide variety of illustrations; similarly Karl Sittl, in his 1890 book Die Gebärden der Griecher und Römer.<sup>30</sup> Nor are the corresponding signs in today's gesture languages of the deaf restricted to a mere nodding or shaking of the head.

 <sup>&</sup>lt;sup>28</sup> William James, *The Principles of Psychology* (1890), London: Macmillan & Co., 1901, vol. II, p. 449. A source of inspiration for James here is Carl Georg Lange, *Über Gemüthsbewegungen: Eine Psycho-physiologische Studie*, Leipzig: Verlag Theodor Thomas, 1887.
<sup>29</sup> Cf. note 7 above.

<sup>&</sup>lt;sup>30</sup> Cf. note 7 above, see esp. p. 82 in Sittl's book.

#### From Wundt to Corballis

I have now, with this rudimentary history of the theory of gestures, at long last arrived at the 20th and 21st centuries. Volume I of Wilhelm Wundt's Völkerpsychologie, published in 1900, contains an absolutely brilliant discussion of the subject. For Wundt, gesture language has "an originality and naturalness such as speech neither possesses today nor has ever had in any forms hitherto uncovered by linguistics"; he highlights the merits of the view according to which "gestural communication is the original means of communication. This would mean that gesture, as the natural aid of communication, preceded spoken language";<sup>31</sup> but points out, too, that "systems of signs that have arisen in spatially separate environments and under doubtlessly independent circumstances are, for the most part, very similar or indeed closely related; this, then, enables communication without great difficulty between persons maing use of gestures. Such is the much-lauded universality of gestural communication."<sup>32</sup> Wundt can conceive of a mental makeup where "all powers of consciousness are concentrated on thought in terms of gestural images only".<sup>33</sup> And it is not only concrete, but also symbolic gestures that "will reach back in the earliest, if not the beginning stages of the system. The over-all character of the symbolic gesture ... consists of transmitting the concept to be communicated from one field of perception to another"<sup>34</sup>. The basic idea of today's conceptual metaphor theory, including this theory's attention to visual metaphors, is clearly there in Wundt's work. The issue of gesture languages was very much present in Ogden and Richards' classic 1923 volume, The Meaning of Meaning. "Words, whenever they cannot directly ally themselves with and support themselves upon gestures", they wrote, "are at present a very imperfect means of communication."<sup>35</sup> A magnificent attempt at a synthesis of the theories of meaning, motoricity and gestures is Merleau-Ponty's *Phénoménologie de la perception*, published in 1945. Let me just quote two passages from this work. The first, on emotion and gesture: "Faced with an angry or threatening gesture, I have no need, in order to understand it, to recall the feelings which I myself experienced when I used these gestures on my own account. ... I do not see anger or a threatening attitude as a

<sup>&</sup>lt;sup>31</sup> Wundt, *The Language of Gestures* (cf. note 7 above), p. 56.

<sup>&</sup>lt;sup>32</sup> *Ibid.*, p. 58 f.

<sup>&</sup>lt;sup>33</sup> *Ibid.*, p. 60.

<sup>&</sup>lt;sup>34</sup> *Ibid.*, p. 74, and let me here quote the second part of the passage in the original German, too: "Der allgemeine Charakter der symbolischen Gebärde besteht … darin, daß sie die auszudrückenden Vorstellungen aus einem Anschauungsgebiet in ein anderes überträgt". – Wundt's work on gestures was extensively discussed by George Herbert Mead, see his *Mind, Self and Society*, Chicago: The University of Chicago Press, 1934 (a posthumous volume based on lecture notes; Mead himself published two papers on Wundt early in the century).

<sup>&</sup>lt;sup>35</sup> C. K. Ogden – I. A. Richards, *The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism*, London: Routledge & Kegan Paul, 1923, ch. I.

psychic fact hidden behind the gesture, I read anger in it. The gesture *does not make me think* of anger, it is anger itself."<sup>36</sup> The second, a version of the argument we have already encountered in the formulations of Rousseau and Kendall:

was not the communication of the elements of language between the "first man to speak" and the second necessarily of an entirely different kind from communication through gesture? This is what is commonly expressed by saying that gesture or emotional pantomime are "natural signs", and the word a "conventional sign". But conventions are a late form of relationship between men; they presuppose an earlier means of communication, and language must be put back into this current of intercourse.<sup>37</sup>

A new interest in the language of gestures emerges in the humanities from the 1960s onward. The literature is vast, and I can certainly not attempt to give a survey of it here.<sup>38</sup> Outstanding is the book *From Hand to Mouth: The Origins of Language* by Michael Corballis, published in 2002. Corballis unambiguously sides with the thesis that "human language evolved first as a system of manual gestures", with "communicative gestures emerg[ing] from actions on the physical world and … then adapted and conventionalized".<sup>39</sup> Referring to Merlin

<sup>&</sup>lt;sup>36</sup> Maurice Merleau-Ponty, *Phenomenology of Perception*, London: Routledge & Kegan Paul, 1962, p. 184.

<sup>&</sup>lt;sup>37</sup> *Ibid.*, p. 187. The English edition has "natural convention" instead of "conventional sign" ("signe conventionnel") – clearly a slip of the typewriter.

<sup>&</sup>lt;sup>38</sup> But let me at least mention some of the most notable ones, before coming (or coming back to, cf. notes 12 and 14 above) to Corballis. To Stokoe's 1960 paper and 2001 book I have referred to in notes 17 and 3 above, to the Armstrong–Wilcox book in note 27, an essential item belonging to this cluster is David F. Armstrong - William C. Stokoe - Sherman E. Wilcox, Gesture and the Nature of Language, Cambridge: Cambridge University Press, 1995. Adam Kendon, author of the introduction to the English translation of de Jorio's book (cf. note 19 above), has published the two seminal essays, "Some Relationships between Body Motion and Speech" (in A. Siegman and B. Pope, eds., Studies in Dyadic Communication, New York: Pergamon, 1972, pp. 177-210) and "Gesticulation and Speech: Two Aspects of the Process of Utterance" (in Mary Ritchie Key, ed., The Relationship of Verbal and Nonverbal Communication, The Hague: Mouton, 1980). A crucially important paper, singled out by Corballis, too, is Gordon G. Hewes, "Primate Communication and the Gestural Origin of Language", Current Anthropology, vol. 14, no. 1–2 (February–April 1973), pp. 5–24. Two influential books by David McNeill, on the interdependence of vocal language and spontaneous gesturing, are Hand and Mind: What Gestures Reveal about Thought (Chicago: The University of Chicago Press, 1996) and Gesture and Thought (Chicago: The University of Chicago Press, 2005). An important collection is Alan Cienki - Cornelia Müller, eds., Metaphor and Gesture (Amsterdam: John Benjamins, 2008). Jürgen Streeck's Gesturecraft: The Manu-facture of Meaning (Amsterdam: John Benjamins, 2009) is an inspiring book on "gestural understanding" as the "perhaps most ancient mode of human communication", and on "gesture as conceptual action", but eventually appears to yield to the lure of Goodman's subjectivism. <sup>39</sup> Corballis, *op. cit.*, pp. 32 and 52.

Donald's notion of a "mimetic stage" in human evolution,<sup>40</sup> Corballis writes: "The actions involved in making or using tools could have come to represent the tools themselves, or perhaps the hands and arms were used to depict the actual shapes of things." Gestures were primordially iconic, but tended to condense into symbols. Today, too, "[s]tudies of deaf children inventing their own homesign ... suggest that signs are initially coined for their resemblances to what they represent but are later adapted to a more arbitrary form. ... it is the early gestures", runs the answer Corballis offers to Rousseau's challenge, "that provide the basis for reference, identifying the objects and actions to which names must be attached".<sup>41</sup> How were, Corballis earlier in his book asks, "links formed between those arbitrary sounds we call words and the stuff of the real world -areal world made available to us largely through vision and touch, rather than through sound? It seems almost inevitable that those links involved gesture."42 Now Corballis on the one hand assumes that "early gestural language would have included vocal elements, although dominated by gesture", but on the other hand takes vocal language itself as made up of "articulatory gestures", of "gestures of the mouth". "It has been suggested", writes Corballis, "that spoken words might themselves be better understood as gestures, rather than as collections of phonemes. Some phonemes, at least, have little acoustic reality at all and may even be an artificial product of literacy. ... It may be more appropriate to think of speech, not in terms of combinations of those phantom entities called phonemes, but rather as combinations of sound 'gestures' that we can make by the deployment of six independent 'articulators' in the vocal tract. These are the lips, the blade of the tongue, the body of the tongue, the root of the tongue, the velum (or soft palate), and the larvnx."<sup>43</sup>

### The "Mouth-Gesture" Theory

The idea that vocal language might have imitative traits, and not just in the case of those very few words which in fact mimic voices and sounds, but quite generally, and for functional reasons, is generally dismissed with ridicule, keeps however returning ever since Plato formulated it in his *Cratylus*. The point Plato wants to make is perhaps best brought out by the passage where he suggests that "the letter rho" – that is, the Greek consonant "r" – appears to be "an excellent instrument for the expression of motion", and is "frequently use[d] … for this purpose". Among the examples Plato mentions are the words *rein* (to stream) and *roe* (current). His explanation is "that the tongue [is] most agitated and least

<sup>&</sup>lt;sup>40</sup> Cf. Merlin Donald, Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition, Cambridge, MA: 1991.

<sup>&</sup>lt;sup>41</sup> Corballis, *op. cit.*, pp. 99, 112 and 109.

<sup>&</sup>lt;sup>42</sup> *Ibid.*, p. 43.

<sup>&</sup>lt;sup>43</sup> *Ibid.*, pp. 109, 99, 153 and 118 f..

at rest in the pronunciation of this letter, which [is] therefore used in order to express motion".<sup>44</sup> Lazarus Geiger, in his book on the origins on language, published in 1869, defended Plato precisely by focussing on this aspect of his argument. Geiger argued that "language is an imitation by movement, a mimicking with the organs of speech".<sup>45</sup> Geiger's work must have come too late to influence Friedrich Nietzsche, whose (posthumously published) essay "Die dionysische Weltanschauung" was written in 1870. Nietzsche here experiments with what might be regarded as a version of the mouth-gesture theory. "The most intimate and frequent fusion of a kind of gestural symbolism with sound", he writes, "is called *language*. In the tone and cadence of a word, by the strength and rhythm of its sound, the essence of a thing is symbolized, by the gesture of the mouth the accompanying representation is shown, the image, the appearance of its essence."<sup>46</sup> In 1881 it was no less a person than Darwin's comrade-in-arms and rival Alfred Russel Wallace who took the side of a mouth-gesture theory of the origin of language. In a review of Tylor's Anthropology<sup>47</sup> Wallace calls attention to "the wide and far-reaching character" of "imitative words", giving the examples of such words as "sticky, flicker, flutter, hurry, flurry, stumble, hobble, wobble. Here we have", Wallace writes, "not only sound, but motion and quality, represented by the arrangement of letters and syllables". The words "slide, glide, and wave imply slow and continuous motion, the movement of the lips while pronouncing the latter word being a perfect double undulation". In other cases, Wallace continues, "the motion of the breath gives an indication of meaning; in and out, up and down, elevate and depress, are pronounced with an inspiration and expiration respectively, the former being necessarily accompanied with a raising, the latter with a depression, of the head".<sup>48</sup> Wallace returned to this topic in his more extensive 1895 paper "The Expressiveness of Speech, Or, Mouth-Gesture as a Factor in the Origin of Language". As he here puts it by

 <sup>&</sup>lt;sup>44</sup> Cratylus, 426c–e, transl. by Benjamin Jowett. This is a passage Critchley pauses to discuss with obvious pleasure in his paper "A Survey of Our Conceptions as to the Origins of Language", see pp. 100 f. in Aphasiology and Other Aspects of Language (cf. note 2 above).
<sup>45</sup> Lazarus Geiger, Der Ursprung der Sprache, Stuttgart: J. G. Cotta, 1869, p. 180.

<sup>&</sup>lt;sup>46</sup> "The Dionysiac World View", in Raymond Geuss and Ronald Speirs, eds., *The Birth of Tragedy and Other Writings*, transl. by Ronald Speirs, Cambridge: Cambridge University Press, 1999, p. 137. The translation has "gestural language" for *Geberdensymbolik*, I have changed this to "gestural symbolism". Nietzsche's term for "the gesture of the mouth" is *Mundgeberde*. On Nietzsche's views on language see Sybille Krämer, "Sprache, Stimme, Schrift: Zur impliziten Bildlichkeit sprachlicher Medien", in Arnulf Deppermann and Angelika Linke, eds., *Sprache intermedial: Stimme und Schrift, Bild und Ton*, Berlin: de Gruyter, 2010, cf. esp. pp. 21–23; an earlier important paper is Hans-Martin Gauger, "Nietzsche: Zur Genealogie der Sprache", in Joachim Gessinger and Wolfert von Rahden, eds., *Theorien vom Ursprung der Sprache*, vol. 1, Berlin: de Gruyter, 1988, pp. 585–606; informative is the book by Rudolf Fietz, *Medienphilosophie: Musik, Sprache und Schrift bei Friedrich Nietzsche*, Würzburg: Verlag Königshausen & Neumann, 1992.

<sup>&</sup>lt;sup>47</sup> Cf. note 26 above.

<sup>&</sup>lt;sup>48</sup> Alfred Russel Wallace, "Tylor's 'Anthropology'", *Nature*, 14 July 1881, pp. 243 f.

way of introduction, "a considerable number of the most familiar words are so constructed as to proclaim their meaning more or less distinctly, sometimes by means of imitative sounds, but also, in a large number of cases, by the shape or the movements of the various parts of the mouth used in pronouncing them, and by peculiarities in breathing or in vocalisation, which may express a meaning quite independent of mere sound-imitation". Though "to us words are for the most part mere conventions", Wallace stresses, "they were not so to primitive man. He had, as it were, to struggle hard to make himself understood, and would, therefore, make use of every possible indication of meaning afforded by the positions and motions of mouth, lips, or breath, in pronouncing each word". Among the many illuminating examples Wallace here presents is, once more, the "up"/"down" one. As he writes: "in *down* we have a quick downward movement of the lower jaw, which is very characteristic, since the word cannot be spoken without it; while in *up* the quick movement is upward, after having opened the mouth as slowly as we please".<sup>49</sup>

Mead, in his discussion of Wundt, paid particular attention to "vocal gestures".<sup>50</sup> In the 1920s Ernst Cassirer, too, tended to accept the principle of *Lautnachahmung*, "vocal imitation".<sup>51</sup> Merleau-Ponty in his turn stressed that "spoken language is significant not only through the medium of individual words, but also through that of accent, intonation, gesture and facial expression".<sup>52</sup> *Gestural meaning*, he wrote, "is immanent in speech". And: "The spoken word is a genuine gesture, and it contains its meaning in the same way as the gesture con-

<sup>51</sup> Cf. "Der Begriff der symbolischen Form im Aufbau der Geisteswissenschaften", in *Vorträge der Bibliothek Warburg*, 1921–1922, Leipzig: B. G. Teubner 1923, pp. 11–39. – Especially Geiger and Cassirer might have provided the historical context in which the Hungarian playwright and critic Béla Balázs could write, in his 1924 film theory book *Der sichtbare Mensch*: "Linguistic research has found that the origins of language lie in expressive movement – that is, that man when he began to speak moved his tongue and lips to no greater extent than the other muscles of his face and body – just as an infant does today. Originally the purpose was not the making of sounds. The movement of tongue and lips was at first the same spontaneous gesturing as every other expressive movement of the body. That the former produced sounds was a secondary adventitious phenomenon, which was only later used for practical purposes. The immediately visible message was thus turned into an immediately audible message. In the course of this process, as in every translation, a great deal was lost. It is the expressive movement, the gesture, that is the aboriginal mother-tongue of the human race." (English translation by Edith Bone, here quoted from Daniel Talbot, ed., *Film: An Anthology*, New York: Simon and Schuster, 1959, p. 283.)

<sup>&</sup>lt;sup>49</sup> Alfred Russel Wallace, "The Expressiveness of Speech, Or, Mouth-Gesture as a Factor in the Origin of Language", *Fortnightly Review*, 1 October 1895, pp. 528, 530 and 531.

<sup>&</sup>lt;sup>50</sup> As he wrote: "The vocal gesture ... has an importance which no other gesture has. We cannot see ourselves when our face assumes a certain expression. If we hear ourselves speak we are more apt to pay attention" (*Mind, Self and Society* [cf. note 34 above], p. 65).

<sup>&</sup>lt;sup>52</sup> *Phenomenology of Perception* (cf. note 36 above), p. 151, I have inserted "spoken language" for "the spoken word" in the English edition. The French original has: "la parole signifie non seulement par les mots, mais encore par l'accent, le ton, les gestes et la physionomie".

tains its. This is what makes communication possible."<sup>53</sup> In a paper published in 1980 the Hungarian linguist Iván Fónagy used the expressions "oral mimicry" and "preconscious oral gesturing", discussing instances of a "displacement of the tongue position backwards (in anger and sadness), forwards (in joy and tenderness)... In such cases the tongue performs a *deictic* function: it represents the arm (or the whole body) which may point forwards and upwards – outward oriented gesture, approach towards the outside world – or backwards and downwards – inward oriented, negative...".<sup>54</sup>

Corballis returned to the topic of sound-gestures in a co-authored review paper published in 2006.<sup>55</sup> The paper gathers "evidence that the transition from primarily manual to primarily vocal language was a gradual process, and is best understood if it is supposed that speech itself a gestural system rather than an acoustic system, an idea captured by the motor theory of speech perception and articulatory phonology". The authors cite research suggesting that "nonvocal facial gestures may … be transitional between visual gesture and speech", an idea "supported by the increasing recognition that gestures of the face, and more particularly of the mouth, are components of [deaf-mute] sign languages, and are distinct from *mouthing*, where the signer silently produces the spoken word simultaneously with the sign that has the same meaning." The authors sketch "an evolutionary scenario in which mouth movements gradually assume[d] dominance over hand movements, and were eventually accompanied by voicing and movements of the tongue and vocal tract. Thus", they suggest, "speech was born."<sup>56</sup>

## **Meaning and Motoricity**

Gestures, then, play a primordial role in communication, and indeed in the constitution of meanings that will, or will not, be communicated. But the gestural is just a particularly conspicuous form of the motor; it is the latter that makes up the ultimate basis of meaning. As formulated so memorably by Titchener, in his *Lectures on the Experimental Psychology of the Thought-Processes* (1909), a work that had the problem visual/motor at its centre:

Meaning is originally, kinaesthesis; the organism faces the situation by some bodily attitude, and the characteristic sensations which the attitude involves give

<sup>&</sup>lt;sup>53</sup> *Phenomenology of Perception*, pp. 179 and 183.

<sup>&</sup>lt;sup>54</sup> Iván Fónagy, "Preverbal Communication and Linguistic Evolution", in Mary Ritchie Key, ed., *The Relationship of Verbal and Nonverbal Communication*, The Hague: Mouton, 1980, p. 172.

<sup>&</sup>lt;sup>55</sup> Maurizio Gentilucci – Michael C. Corballis, "From Manual Gesture to Speech: A Gradual Transition", *Neuroscience and Biobehavioral Reviews* 30 (2006), pp. 949–960.

<sup>&</sup>lt;sup>56</sup> Gentilucci – Corballis, pp. 949 and 953 f.

meaning to the process that stands at the conscious focus, are psychologically the meaning of that process. ... We are animals, locomotor organisms; the motor attitude ... is therefore of constant occurrence in our experience... There would be nothing surprising in the discovery that, for minds of a certain constitution, all non-verbal conscious meaning is carried by kinaesthetic sensation or kinaesthetic image. And words themselves, let us remember, were at first motor attitudes, gestures, kinaesthetic contexts...<sup>57</sup>

Titchener is a relatively late representative of the intellectual tradition I have referred to by way of introducing the present chapter.<sup>58</sup> Some main links in the interconnections of that tradition I have attempted to map in a diagram (Figure 1: "The visual and the motor. A network of influences in intellectual history") in the previous chapter above. In the narrative accompanying that diagram I have referred, among other lines of descent, to the Vischer–Lipps–Titchener concatenation – to the emergence of the notion of empathy, the concept that one cannot experience visual patterns without feeling the forces those patterns embody. Alluding to the intimate connection between architectonic image and bodily-motor reaction, Vischer in a seminal passage wrote: "Walls that have become crooked with age offend our basic sense of physical stability."<sup>59</sup> Not incidentally, Vischer attached special philosophical importance to the language of gestures, and he provided some illuminating examples:

To suggest something unfurled or magnificent, for instance, we open our arms wide; to indicate greatness and majesty, we raise them high; to show something contemplated, doubtful, or untrue, we shake our head and hands. – Our internal vacillation and struggle thus express themselves externally in analogous movement of our muscles and limbs. Every sensitive person is in this way guided by impressions, and it is the hand in particular – that most noble medium of practical instinct – that is magnetically swept along with such movement, whereby the interlocutor receives a rough description of what is represented. Nothing is more natural, then, than that this hand that traces designs in the air should also seek to set down its images in a more permanent presentation with a solid material.<sup>60</sup>

<sup>&</sup>lt;sup>57</sup> Edward Bradford Titchener, *Lectures on the Experimental Psychology of the Thought-Processes* (cf. note 26 in the first chapter of my volume *Meaning and Motoricity*), pp. 176 f. <sup>58</sup> I believe it is Darwin who stands at the beginning of this tradition (cf. the subsection "The Darwin Effect", in chapter 1 above in the present volume). The idea of the priority of the motor necessarily questions that of the priority of the word, and would have been inconceivable in principle before Darwin's appearance.

<sup>&</sup>lt;sup>59</sup> Robert Vischer, "Über das optische Formgefühl" (cf. note 7 in chapter 6 of my volume *Meaning and Motoricity*), here quoted from the English translation: "On the Optical Sense of Form: A Contribution to Aesthetics", in *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893*, Santa Monica, CA: The Getty Center for the History of Art and the Humanities, 1994, introduced and translated by Harry Francis Mallgrave and Eleftherios Ikonomou, p. 98.

<sup>&</sup>lt;sup>60</sup> *Ibid.*, p. 115.

There is also a link leading from Lipps to the British architect Geoffrey Scott.<sup>61</sup> A favourite example of Lipps was the doric column. Its "vigorous pulling itself together and rising" he described as "exhilarating" because it reminded him of what he feels when he himself pulls himself together and straightens up; reminded him of his own "inner vitality".<sup>62</sup> In his classic 1914 book Scott speaks of the feeling of liberty, of the possibility of unimpeded forward movement, but also of the feeling of forces in equilibrium, that perfect architecture gives rise to. There is a "translation into architectural language of our pleasure in ... physical movements".<sup>63</sup> Scott is another precursor, like Wundt was, of conceptual metaphor theory. If one talks about the "springing of arches" or the "soaring of spires", these phrases, he writes, might be regarded as "mere metaphors of speech"; however, "a metaphor, when it is so obvious as to be universally employed and immediately understood, presupposes a true and reliable experience to which it can refer. Such metaphors are wholly different from literary conceits." When we speak of a tower as "standing" or "leaning" or "rising", then those words are "the simplest and most direct description we can give of our impression". The "universal metaphor of the body", as Scott puts it, is "a language profoundly felt and universally understood".<sup>64</sup> Yet another forerunner of conceptual metaphor theory, one however soon recognized as such also by one of its creators, Mark Johnson,<sup>65</sup> is I. A. Richards. As Richards has put it in his *The Philosophy of Rhetoric*: "The traditional theory ... made metaphor seem to be a verbal matter, a shifting and displacement of words, whereas fundamentally it is a borrowing between and intercourse of *thoughts*, a transaction between contexts. Thought is metaphoric, and proceeds by comparison, and the metaphors of language derive therefrom."66 But it is significant that for Richards thought in general, and visual thinking in particular, has always had a markedly motor basis. In 1924 he wrote of the "combination of the various muscular images whereby we feel, or imaginatively construct the tensions, weights, stresses, etc. of physical objects", adding that "two visual images which are incompatible with one another may be each accompanied by muscular images (feelings of stress, tension, etc.) which are perfectly compatible and unite to form a coherent whole free from conflict".<sup>67</sup> It is the motor dimension that is the primary carrier of meaningful thought.

<sup>&</sup>lt;sup>61</sup> Cf. Geoffrey Scott, *The Architecture of Humanism: A Study in the History of Taste*, Boston: Houghton Mifflin, 1914, p. 213.

<sup>&</sup>lt;sup>62</sup> Theodor Lipps, *Raumästhetik und geometrisch-optische Täuschungen*, Leipzig: Barth, 1897, p. 7.

<sup>&</sup>lt;sup>63</sup> *Ibid.*, p. 43.

<sup>&</sup>lt;sup>64</sup> *Ibid.*, pp. 215 f.

<sup>&</sup>lt;sup>65</sup> Mark Johnson, ed., *Philosophical Perspectives on Metaphor*, Minneapolis: University of Minnesota Press, 1981.

 <sup>&</sup>lt;sup>66</sup> I. A. Richards, *The Philosophy of Rhetoric*, London: Oxford University Press, 1936, p. 94.
<sup>67</sup> I. A. Richards, *Principles of Literary Criticism* (1924, 2nd ed. 1926), London: Routledge, 2001, p. 148.

#### **Gestures of Time**

The emergence of the language of gestures must have had a very close influence on the unfolding of our idea of time. Gestures are movements, the meanings conveyed by them are created visibly in time. As I tried to express it in my paper "Time and Communication", published in 2006,<sup>68</sup> gestures necessarily create the experience both of "before" and "after", as well as the experience of time consisting of *extended intervals*, the latter experience leading, say, to the Stoics' idea of the "broad" present,<sup>69</sup> or to James' elaboration of the notion of "the *specious* present".<sup>70</sup> The emergence of miming, of the imitative re-enacting of events – I here referred to Merlin Donalds well-known theory<sup>71</sup> – must too have generated a rudimentary consciousness of the difference between the present and the past, between what was in fact lived through, and what was only remembered.<sup>72</sup>

The temporal character of gestures received special attention by Wundt. "Gestural communication", he wrote, "reports events exactly in the order in which they happen. ... the time sequence in gestures is a replication of the temporal passage of the events themselves. It is ... already compelled to this order because individual gestures in their most important forms are themselves mimes of sequential events. Thus, the principle of temporal graphicness transfers only a quality of individual gestures to their context."<sup>73</sup> Wundt of course came to speak about those gestures, too, which not just mirror the passage of time, but specifically refer to it. The language of gestures, he stressed, tends "to present concepts concretely as far as possible by showing in the particular manner of movement if an event lies in the near or far past, if it will happen in the near or far future".<sup>74</sup> As he then further wrote, "the indications of the temporal forms of past, present

<sup>&</sup>lt;sup>68</sup> Kristóf Nyíri, "Time and Communication", in F. Stadler and M. Stöltzner, eds., *Time and History / Zeit und Geschichte*, Frankfurt/M.: ontos verlag, 2006, pp. 301–316.

<sup>&</sup>lt;sup>69</sup> Richard Sorabji, *Time, Creation and the Continuum: Theories in Antiquity and the Early Middle Ages*, Ithaca, NY: Cornell University Press, p. 25.

<sup>&</sup>lt;sup>70</sup> William James, *The Principles of Psychology* (1890), London: Macmillan & Co., 1901, vol. I, pp. 608 f.

<sup>&</sup>lt;sup>71</sup> Merlin Donald in his *Origins of the Modern Mind* (cf. note 39 above) speaks of miming as "the most basic level of human representation", p. 16.

<sup>&</sup>lt;sup>72</sup> Nyíri, "Time and Communication", pp. 305 f.

<sup>&</sup>lt;sup>73</sup> Wundt, *The Language of Gestures* (cf. note 7 above), p. 125. In the original the last sentence of this passage runs: "So überträgt das Prinzip der zeitlichen Anschaulichkeit nur eine Eigenschaft der einzelnen Gebärden auf deren Zusammenhang." I have slightly changed the English translation which has "temporal vividness" for "zeitliche Anschaulichkeit", and "only one quality" for "nur eine Eigenschaft".

<sup>&</sup>lt;sup>74</sup> *Ibid.*, pp. 105 f. The German original: "die Gebärdensprache … pflegt den Begriff, so weit es nur immer geschehen kann, konkret zu gestalten, indem sie durch die besondere Art der Bewegungen andeutet, ob ein Ereignis in naher oder ferner Vergangenheit liege, ob es in naher oder ferner Zukunft geschehen werde". I have amended the English translation.

and future [are effected] by means of spatial directions. The association here is especially intimate, since the spatial cannot really be represented without accompanying temporal qualities. The demonstrative gesture in its most primitive meaning, then, always signifies also a movement in the given direction, and, therefore, a spatio-temporal process."<sup>75</sup>

Some characteristic gestures for the past and the future I have already touched on above, when mentioning l'Épée. Ribot, too, in his *The Evolution of General Ideas*, lists such deaf-mute gestures: "*Past* –Throw the hand over the shoulder several times in succession. *Future* – Indicate a distant object with the hand, repeated imitation of lying down in bed and getting up again."<sup>76</sup> As a more recent account let me here quote a reference made to contemporary American Sign Language by Corballis:

Past and future are represented in ASL by an imaginary time line, which locates the past behind the signer, the present close to the signer's body, and the future in front of the signer. The sign for *yesterday* involves closing the fingers and extending the thumb, with the thumb first touching the cheek and then moving back along the jaw line to the ear. The sign for *tomorrow* starts the same way, but the hand is moved forward, with the wrist pivoting down so that the thumb ends up facing forward. *Future* is signed by holding the open hand by the head with the thumb up and palm facing inward, and then moving the hand forward. The further the hand moves, the further into the future is the time period in question.<sup>77</sup>

I am now coming to "yesterday" and "tomorrow" as expressed in DGS (Deutsche Gebärdensprache), reproducing the felicitious depictions given by Stefan Strixner and Serona Wolf in their wonderful little volume<sup>78</sup> on German Sign Language (cf. Figures 3 and 4). Indeed let me here reprint also the images Strixner and Wolf provide of "today" and "now" (Figures 5 and 6). I must admit that not only the pictures, but also the text of the *Kleines Wörterbuch*es very much appeal to me. So for instance where the authors write that for deaf people, "communicating almost exclusively in gesture language", "their ideas and thoughts often depend on the familiar motor sign system, … and their silent dreams … are often accompanied by the vivid movements characteristic of gestures".<sup>79</sup>

<sup>&</sup>lt;sup>75</sup> *Ibid.*, p. 130, I have in some places slightly changed the English translation.

<sup>&</sup>lt;sup>76</sup> Théodule Armand Ribot, *The Evolution of General Ideas* (cf. note 18 in chapter 1 of my volume *Meaning and Motoricity*), pp. 44 f.

<sup>&</sup>lt;sup>77</sup> Corballis, *From Hand to Mouth*, p. 122.

<sup>&</sup>lt;sup>78</sup> Stefan Strixner – Serona Wolf, *Kleines Wörterbuch der Gebärdensprache*, 5th, rev. ed., Wiesbaden: marixverlag, 2012. Figures 3–7 below are reproduced by kind permission of marixverlag GmbH.

<sup>&</sup>lt;sup>79</sup> Strixner–Wolf, *ibid.*, p. 18.



Figure 3: "gestern" ("yesterday") From Strixner–Wolf



Figure 4: "morgen" ("tomorrow") From Strixner–Wolf





Figure 5: "heute" ("today") From Strixner–Wolf

Figure 6: "jetzt" ("now") From Strixner–Wolf

And I am especially fascinated by the passages with which the Strixner and Wolf introduce their selection of time gestures. "Time", they write, "is a great mystery. It passes and passes, and yet is always there. And now please try to imagine", the authors continue,

how such an abstract notion as "time" can be represented in the language of the deaf. – Of course there are aids, which grasp the time in words – or indeed gestures. "Monday" or "hour", or "tomorrow" ... – all these concepts can be expressed ... by means of gestures. But how can the language of gestures also explain the

flow or the relations of time? For someone who can hear this will at first sound strange, but perhaps one may assume that the language of gestures is better suited to handle the phenomenon of "time" than are words spoken: gestures can be performed slowly or quickly, in a restrained or in a lively way... Particularly important pronouncements, especially when they are of an abstract nature, speakers often underline with spontaneous gestures. Those who venture to use the language of gestures, must perhaps not anymore depend on such motor crutches.<sup>80</sup>

In my book *Zeit und Bild* I have attempted to formulate a somewhat similar idea. I quoted from Augustine the famous passage, "What then is time? If no one asks me, I know: if I wish to explain it to one that asketh, I know not"<sup>81</sup>, adding, by way of interpretation, that Augustine's embarrassment was understandable, since he possessed certain perceptual images related to time, did not however have at his disposal, as neither have we today, a verbally articulated definition.<sup>82</sup>

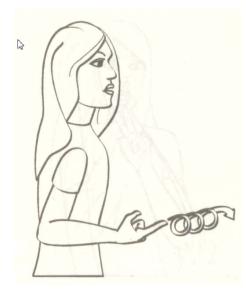


Figure 7: "immer" ("always") From Strixner–Wolf

Now there is a dimension of time, or, perhaps more precisely, an alleged dimension of time, *eternity*, for which natural sign languages apparently lack an expression. In his paper "Time and Eternity"<sup>83</sup> J. N. Findlay distinguished between the view of eternity as, on the one hand, an "indefinitely long time" – this view, he thought, was not at all interesting philosophically – and on the other hand as timelessness. It is the latter view McTaggart found so fascinating, and the view no natural gesture seems to be able to express. Natural sign languages

<sup>&</sup>lt;sup>80</sup> *Ibid.*, p. 121.

<sup>&</sup>lt;sup>81</sup> Augustine's *Confessions*, transl. E. B. Pusey, Book XI, Chapter XIV.

<sup>&</sup>lt;sup>82</sup> Cf. Kristóf Nyíri, *Zeit und Bild: Philosophische Studien zur Wirklichkeit des Werdens*, Bielefeld: Transcript Verlag, 2012, pp. 144 f.

<sup>&</sup>lt;sup>83</sup> J. N. Findlay, "Time and Eternity", *The Review of Metaphysics*, 1978–79.

of course do have a gesture for "always", and the *Kleines Wörterbuch*, too, depicts such a gesture (Figure 7). And both German Sign Language, and for instance its Hungarian counterpart, have a gesture for "eternity". But it is significant that, very obviously, this gesture is simply identical with the gesture "always". The experience of eternity, of the "eternal present" William James invoked in his Gifford Lectures, the experience of timelessness, has no motor basis, is a purported experience one can express in words but not in gestures. By contrast, the experience of the passage of time, of the reality of time, is embodied, and made visible, in the gestures of time, and indeed in all our gestures.