
In the first volume of Brain, John Hughlings Jackson wrote ‘no doubt, by disease of some part of the brain, the deaf-mute might lose his natural system of signs which are of some speech value to him’. Sixty years later, Macdonald Critchley suggests that W.H.H., who first attended his outpatient clinic in 1930, provides that evidence. Dr Critchley begins with a scholarly analysis of ‘symbolic formulation and expression’, of which spoken words are only one mode, and ‘articulate speech . . . not essential for making known one’s ideas and feelings’. Following Jackson, he points out that the tourist can contrive to make himself (sic) fairly well understood by ‘calling upon the resources of gesticulation, and . . . can comprehend his entourage by studying their facial expressions and gestures’. Diplomatically, Critchley chooses not to identify those nationalities in whom the preparedness to gesticulate appears to lack inhibition. He distinguishes Jacksonian ‘pantomime . . . a variety of dumbshow which aims at expressing an idea’ from ‘gesture which connotes those movements, especially of the hands and face accompanying speech for the purposes of emphasis’; silent acting versus italicized speech, propositionizing versus emotional utterance, respectively. Physiognomy denotes the involuntary contributions of the autonomic nervous system—‘blushing, pallor, shivering, sweating and horripilation’—to speech. Onomatopoeia is gesture disguised as utterances. Indeed, Critchley rehearses the argument that, as man started to gesticulate with his hands, the tongue, lips and jaw muscles followed suit in a mimetic manner; speech evolved as these grunts arising from the ‘expiration of air through the oral cavities produced a wide range of audible mouth-gestures or voiced-speech’. He reminds us that, although somewhat impoverished, gesture and pantomime generally survive the onset of aphasia: only in severe cases, is everything lost. But what happens when the language of gesture outstrips verbalization from speech, as in deaf-mutes who communicate by dactylography and lip-reading? Is the anatomical substrate, in this situation, different from the normal ‘zone of language’?

W.H.H., aged 42 years, learned finger-spelling and lip-reading after becoming deaf in childhood, but also had limited verbalization. Within 4 weeks of his left hemisphere stroke, power in the right arm and his speaking were restored, although the latter lacked prosody and grammar. He could not write, calculate or finger-spell (although his ability to understand these symbols did return). Initial examination had been aided by the late Rev. Mr Bradbury, chaplain to the Deaf and Dumb Institution: W.H.H. confused his ‘As’ with his ‘Es’; finger-speech was, at best, telegraphic and lacked grammar; he could not complete a list of vowels or the alphabet; conversely, ‘tests with writing, recognition of colours, clock-reading, word-building with cards, typing, and reading were executed pretty well . . . calculations were carried out with some difficulty’. Was this merely a dactylophonic variant of Liepmann’s speech apraxia? The only existing case in the literature (described by Joseph Grasset in 1896) lacked conviction since there were marked discrepancies between the abilities of the paretic right and intact left hands, suggesting a contribution from damage to the motor system. Macdonald Critchley describes the ability of finger-writers to employ a ‘natural sign-language’—a pantomimic shorthand that conveys an entire sentence in a single movement, not well covered in the literature but handed on, as it were, by tradition amongst deaf-mutes. To those who know, these movements appear instinctive and transcend racial and linguistic barriers, but with some cryptogenic peculiarities that have evolved to create national variations. These generic skills are closely related to the lingua franca of peoples who prefer sign-language: Queensland Aborigines, North American Indians, the Hung Secret Societies of China, those of the Neapolitan slums, and Trappist and other monastic orders.

One suspects from the detailed catalogue of flattery with which Hughlings Jackson begins his 1878 account of speech, that trouble is in store for the crew of previous commentators whose work he first professes to admire. His own position is that it is essential to consider separately the psychology, anatomy and pathology of speech. Confusing these elements has led to the erroneous concept that the “idea of a word produces an articulatory movement; whereas a psychical state, an ‘idea of a word’ (or simply a ‘word’), cannot produce an articulatory movement, a physical state”. The link between concept and utterance must ultimately be through the discharge of cells and fibres in an anatomical substratum that stimulates the articulatory apparatus. From his analysis that the speechless patient may not use words to order, but these nonetheless spill out effortlessly at other times, and intellectual processes are detached from those that are emotionally driven, emerges the Jacksonian concept of hierarchies and dissolution of layered functions in a given functional domain. Talking involves speech, articulation and voice; these can be separated by disease. Jackson does not like the term aphasia; he prefers
asesma ‘from α and σημαίνω, an ability to indicate by signs or language’ [quoting a certain Dr Hamilton, who we have been unable to trace], or ‘affections of speech’. The unit of speech is the proposition: this may be internal or external; and speechlessness is not wordlessness. It follows that there is no single entity of aphasia or loss of speech. ‘Can an aphasic make a will?’ is no more sensible a question than ‘will a piece of string reach across a room?’ Rather, we should ask ‘can this aphasic person make a will?’ Thus, there is a need to distinguish: defects of speech—propositional more than emotional; loss of speech, the most difficult category, in which ‘negative’ components have profound effects on internal and external propositional and emotional language, spoken and written, together with some impairment of pantomime but not gesticulation, whereas the ability to copy, use musical notation, read and comprehend are retained; and loss of language, in which the sufferer is speechless and has lost propositional and emotional language and pantomime. From this, Jackson considers the psychology of speech to involve the dual process in which an unconscious revival of relations of images, symbols that have something ‘behind them’ and give words their meaning, is followed by the assembly of neural substrates that act on the medullary neural pathways of articulation, to emerge as speech. Since, in many situations, emotional language is preserved, expression is maintained—especially through gesticulation, which may actually be enhanced. Jackson then considers the situation of the deaf-mute, contrasting this person with the individual who once acquired speech but has now lost it. The brain of the deaf-mute is not diseased; ‘it is uneducated or, in anatomical and physiological phraseology, undeveloped’. The deaf-mute has no words but has the natural system of signs. He will think by the aid of these symbols as we do by words: ‘no doubt by disease of some part of his brain the deaf-mute might lose his natural system of signs . . . but he could not lose speech, having never had it’.

It used to be said (by Macdonald Critchley) that Hughlings Jackson wrote an obscure prose, and so was much revered but little read. Perhaps Jackson also sensed this weakness. Mid-way through this account of language, suspecting that the reader may be tiring, he provides a simplified summary of the arguments: ‘the division to internal and external speech is not that just made into the dual service of words. Internal and external speech differ in degree only: such a difference is insignificant in comparison with that between unconscious, or subconscious, and automatic reproduction of words and the sequent (sic) conscious and voluntary reproduction of words; the latter alone is speech, either internal or external . . . we think not only by aid of image-symbols, ordinarily so-called (words), but by aid of symbol-images’. Does this help?

Macdonald Critchley was well aware that the case of W.H.H. did not fully address Hughlings Jackson’s surmise concerning the neurology of the natural system of signs and that a much more ‘severe lesion would be required to abolish the more primitive sign-language than the elaborate system of dactylogy’. But he had supplemented the theoretical position of Hughlings Jackson, who he much admired, with an example from the clinical neurology that Dr Critchley practised so well.

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