

3



Sign Iconicity and New Epistemologies

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NAMING

In the very definition of a sign, in one of the most well-researched and thought-out philosophical traditions, sign as a *silent mirror* image is unmistakable:

‘I define a sign as anything which is so determined by something else, called its Object, and so determines an effect upon a person, which effect I call its interpretant, that the later is thereby mediately determined by the former’ (Peirce 1998).

This definition clearly implies that without the so-called ‘Object’, a Sign cannot come into existence. Sign language as a language as encoded in the mind/brain of its native signers, is therefore unfortunately named thus, a mistake which is carried over to vernacular translations. To elaborate further, in the same way that a language cannot be merely represented through iconic symbols, sign language cannot be represented through a system of mere ‘signs’ in the above sense. That is, a system of symbolic or iconic representations cannot be the *metalanguage* to describe sign language.

THE POLITICS OF MISNAMING

There is another side to this issue. One of the most deeply entrenched stereotypes about sign languages is that they are a set of gestures. Gestures, though infused with cultural meaning, are iconic representations of activities, processes, states, substantives, manner, intensity, size, etc., of objects and expressions. Symbols too, at least in the popular imagination, are iconic or near-iconic representations of many of the substantives that are represented by gestures. It is easy therefore for a stereotype to emerge, since in some ways, symbols are the frozen gestures, that is, while gestures can be dynamic, symbols are static. Therefore to see sign language as a set of gestures or a symbolic language is not surprising. However, such misrepresentation in the case of sign language can be far more damaging than other similar naming issues. The politics of misrepresentation can cause great harm to a minority language like sign language, especially when the language under discussion is the language of a community that also belongs to the

larger community of Persons with Disabilities. Misnaming, in the case of sign language, the native language of the Deaf, therefore, has a dual negative effect on Deaf persons and the Deaf community from the perspective of their membership in two overlapping or intersecting communities. Naming is important as it may lead to internalisation of oppression; for example, being labelled as Mentally Ill (MI) is to be made to feel ‘ill’, needing cure, a victim of an oppression some have termed ‘saneism’.

THE SAUSSURIAN SYSTEM OF SIGNS

A sign in Saussure is the union of a concept and a sound-image:

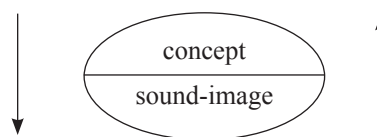


FIGURE 3.1: A SIGN IN SAUSSURE

The corresponding French terms were later changed by the editors of *Cours de linguistique générale* (CLG) (Saussure 1916) to Signified (*Signifié*) and Signifier (*Signifiant*) upon Saussure's insistence. The title ‘Language as a System of Signs’ was proposed by Saussure himself for Part 1, Chapter 1, of *CLG*. It encapsulates a central point in Saussure's theory, namely that a language (*langue*) is a system of signs forming a well-defined object which can be studied independently of the other aspects of natural language.

Saussure's importance in the context of sign languages can be seen in the following two ways. First, Saussure was opposed to nomenclaturism, the view that language ‘is a naming-process only—a list of words, each corresponding to the thing that it names’ (*CLG*, 97, 65). Seen from the point of view of sign language, the claim that sign language is iconic will amount to nomenclaturism.

Secondly, a Saussurian theory of language assumes that there are no language-independent meanings; the meaning which a particular linguistic item depends in some way on its intralinguistic relations to other items in the language rather than on its relation to something extralinguistic

This latter point further derives two things, one clearly more well-known than the other. The Saussurian system that signifying features of a linguistic sign depend on the ways in which it is related to those other signs, obviously leads to the launching of structuralism. The less obvious connection is more relevant to our present purpose: a sign has no reference outside the system of objects that it stands for or other signs.

ARGUMENTS AGAINST ICONICITY OF SIGN LANGUAGES

Within the philosophical discourse of the origin of language, discussion of sign languages often arises; late 18th century preoccupation with gesture, sign language, and deaf communities, is an evidence of that (Rosenfeld 2001, Davis, 1995). It seems therefore necessary to examine the points of contact between sign language and language.

Furthermore, the strategy of bowling for iconicity as some Deaf scholars seem to engage in (Thoutenhoofd 2000), can play into the hands of popular psychologists and educationists and can only

strengthen such stereotype as the following expressed by the American psychologist, Helmer Myklebust, who writes in his 1957 *Psychology of Deafness* (quoted in Bauman 2008):

‘The manual language used by the deaf is an ideographic language ... it is more pictorial, less symbolic ... Ideographic language systems, in comparison with verbal symbol systems, lack precision, subtlety, and flexibility. It is likely that man cannot achieve his ultimate potential through an Ideographic language ... The manual sign must be viewed as inferior to the verbal as a language.’ (241-2)

Furthermore, one virtue often expressed in arguing against the ‘linguistic turn’ in sign language studies, post-Stokoe (1960), is that such a turn denies the continued oppression of Deaf people as a collective and as an individual. In other words, it pretends that 20th Century linguistics put an end to oppression of Deaf people by demonstrating that sign languages are true languages. This is exactly the kind of argument presented by Thoutenoofd (2000) against Rée (1999).

Thoutenoofd’s argument against Rée is based on the issue of language maintenance, without however, presenting any clear evidence in support of his arguments. Emergence of new languages over a short period is a supposed evidence he gathers against the ‘absent iconicity’ argument of Rée, and refuses to accept the innateness hypothesis, again without any substantial argument. It is stated that there is convincing evidence (e.g. Kegl, 1994a/b) that natural sign languages can, and do, develop in communities in very short spates of time but his refusal of a perfectly logical Chomskyan explanation of this is done by simply saying that he doesn’t much like the theory. His use of Rée’s examples with reference to the reason for the 18th century French sign language instructor Laurent Clerc facing no problem understanding English Deaf children who were not trained in any sign language but who seemed nevertheless to have developed one among themselves, or the reason for Native Americans’ ability to easily converse with Deaf children in America’s first Deaf school, as being the presence of iconicity, can also be used as arguments in favour of a systematic and formal relationship existing among the signs and sign systems, rather than iconicity.

THE PEIRCEAN SYSTEM

Saussure’s unfortunate equation of sign as symbol is philosophically shallow, which denies the importance of interpretation. It is relevant therefore to reflect upon Peirce’s sign composition. Signs, for Peirce, consist of three related parts: a sign, an object, and an interpretant (cf. section 1). A sign like a written word, or an utterance, or red traffic light as a sign for stop, etc., can act as signifiers; an object can be the one signified. However, the interpretant can be considered as the *understanding* of the sign/object relation. Therefore, a sign signifies upon being interpreted.

The interpretant is thus given the most prominent place in the constituent of the sign, since the meaning of a sign is obtained only through the interpretation it generates in sign users. This last point can be seen as a counterpoint to the almost sign-as-icon thesis that underlies the quotation at the beginning of this paper. In the context of sign language, the essential presence of the interpretant is seen as the redeeming feature of the Peircean theory of signs.

Taking up the other important composite of a sign, namely, the object, only a partial set of features of the object is relevant to signification in the case of sign; only a partial identification is therefore necessary to establish iconicity. The relationship is that of determination: the object determines the sign; determination is the placing of conditions on signification by the object, the object does not derive the sign.

In conjecturing the relation between the object and the interpretant, Peirce arrives at the infinite semiosis²⁴ stage, where the resultant interpretant itself plays the role of a more developed sign of the object. This stage is determined through three ways: first, via ‘a mere community in some quality’ (Peirce 1982, 2:56, Atkin, 2010), termed likenesses, or more familiarly, *icons*. Secondly, through *indices*, those ‘whose relation to their objects consists in a correspondence in fact’. Finally, through *symbols*, ‘whose relation to their objects is an imputed character’.

Thus here we can see that icons and symbols are differentiated—a point that clearly comes out of the quotation from Peirce at the beginning of this article. Interestingly, the notion of infinite semiosis assumes that signs will act as objects for new signs—a situation that is difficult, if not impossible, to imagine for sign languages to arise.

By 1903,²⁵ for reasons related to his work on phenomenology,²⁶ Peirce further decomposed the central features of sign-vehicles²⁷ into three broad areas and classified signs accordingly. The three-way division highlights sign-vehicles signifying qualities, existential facts, or conventions and laws, classified accordingly as *qualisigns*, *sinsigns*, and *legisigns*, respectively. Any sign whose sign-vehicle is based on simple abstracted attributes or qualities is called a *qualisign*. The relation of causality between the fire and smoke makes the smoke a signifier, and this is an example of *sinsign*. An example of a *legisign* is the traffic lights standing for priority.

The nature of the sign is determined by the nature of the object being signified. By the above tripartite division, objects may thus affect signification in various ways. The sign is an *icon* when the sign reflects qualitative features of the object. If the sign utilises some physical connection with the object, then the sign is an *index*. If the sign is obtained making use of a convention, habit, or social law, then the sign is a *symbol*.

Out of these, let us say the sign of arm from the elbow upwards for the sign for a tree in American Sign Language (ASL) is neither of these, the nearest being the qualisign though the height of the tree is not an abstract quality of a tree, but rather concrete quality, more like a sign-vehicle of Peirce of 1867–68 (published in volume 2 of Peirce, 1982). This re-establishes the difference between an icon and a symbol, as before.

SIGN LANGUAGE AS A FORMAL SYSTEM

Recall that like in the Saussurian theory, the Peircean theory of signs restricts itself to the intra-symbolic world as a result of his denial of the Cartesian philosophical method, especially the central place of

24. An infinity of further signs both precede and follow any given sign; interpretants are thus considered as further signs, and signs are interpretants of earlier signs. Since any sign must determine an interpretant in order to count as a sign, and interpretants are themselves signs, the notion of infinite chains of signs is conceptually necessary.

25. A series of lectures at Harvard, and at The Lowell Institute, published in Peirce (1958).

26. Husserl’s (1970) approach is called ‘phenomenology’ because it utilises *only* the data available to consciousness—the *appearance* of objects. However, he places importance in intuition too: In his *Logical Investigations*, Husserl specifies that ‘logical concepts ... must have their origin in intuition: they must arise out of ideational intuition founded on certain experiences, and must admit of indefinite reconfirmation.’ Peirce’s project, on the other hand, is based on a denial of intuition.

27. The signifying elements of a sign, since it is not the sign as a whole that signifies, but only a part of it.

intuition in the latter (cf. Footnote 26); this strategy for Peirce is most clearly manifested in his retention of ‘infinite semiosis’ discussed in the previous section. However, that is not the case with sign languages, first, as discussed above, a sign by itself does not act as an object for another sign, and therefore there is no possibility of infinite semiosis, second, signs do have meaning/reference outside the system of signs and their objects, in the sense that the truth generated by a set of signs is greater/beyond the mere summation/product of its constituent signs (as in spoken language), in addition to the possibility of reference to a metaphoric truth.

This last point is brought out tellingly in Bauman’s (2008) example in fact of iconicity (see Figure 3.2). This example clearly shows that the metaphoric performance is bigger than just a generation of proposition as derived from quantifying terms and variables in the Peircean system of logic.

‘...how one of my students at Gallaudet University explained the process of reading Foucault. He first signed that it was difficult to read, with his left hand representing the book, open and facing him, and his right hand was in a V shape, the two finger tips representing his practice of reading, re-reading, and then finally, his fingers got closer to the book, and finally, made contact; at this point, the eyes of the V shape then became a digging apparatus, digging deeper into the text. He then reached in between the lines of the page, now signified by the open fingers of the left hand, and began to pull ideas and new meanings from underneath the text. The notion of reading between the lines gained flesh, as the hands literally grasped for buried meanings. The result of reading Foucault, he said, changed his thinking forever, inspiring him to invent a name-sign for Foucault. The sign he invented began with the signed letter “F” at the side of the forehead, and then twisting outward, showing the brain undergoing a radical reorientation.’

FIGURE 3.2: BAUMAN’S EXAMPLE OF METAPHORIC PERFORMANCE

Furthermore, in Chomsky’s (2010) lecture on ‘Poverty of Stimulus: Some Unfinished Business’, it is clearly stated that with respect to referentiality, as far as is known, though animal communication works through referentiality, human communication does not, since the symbols do not have any real referential concrete things representing them in the real world. In short, it cannot be language if it is only referential; the interplay of iconic, the indexical and the symbolic in the form of a network of structures are essential for the system to transgress into a linguistic system.

It is therefore quite possible, as Golden-Meadow (2003) conjectures, that children perhaps perform the language-learning task as a formal system (cf. Karmiloff-Smith, 1992), where elements of the language apart from being related to the world, are also related to other elements within the language itself (Newport and Meier, 1985). That is, children make use of the network of relations that the sign establishes with other signs. Here, if iconicity does not conflict with the formal system, it may be incorporated. This clearly indicates one obvious aspect of the linguistic connection between sign languages and spoken languages, that of contrast—the main theme of the structuralist enterprise.

ICONICITY AND SIGN LANGUAGE ACQUISITION

Another argument in favour of iconicity might be that children acquire iconic signs first. However, this is not the case. In case of ASL learnt as a second language, to hearing adults iconic signs seems

more concrete to commit to memory and are quite likely to be the first signs acquired. However, in the case of children, only one-third of their first signs are iconic (Bonvillian and Folven, 1993). In fact, Deaf children producing the early signs mean the same as the words produced by one-word speakers in spoken languages (e.g., 'milk', 'mommy', 'daddy', etc.; Newport and Meier, 1985).

Another example of how Deaf children must be unaware of the iconicity aspect of their language is visible in their acquisition of pronouns (Golden-Meadow, 2003). First and second person pronouns are produced in ASL by pointing either at oneself or the addressee, respectively, which are indeed iconic, being no different from their usage in spoken language. It might be expected that Deaf children acquire these pronouns early. However, this is not the case and their acquisition proceeds in the same manner as in hearing children acquiring a spoken language.

DEAF COGNITION: DIFFERENCE AND SIMILARITY

The argument presented above that signs cannot be just icons, cannot be stressed enough. The totality of the network of system that signs construct is also at work in not only in understanding the construct of identity through language—by now a well-established assumption in language and identity studies—but also in the existence of the being itself. Speech affects the construction of the self in various ways (Derrida 1976), however since the abstract totality of the sign system that constitutes the language in sign language, is not visible to fully affect the construction of the self in the same manner, it must therefore give rise to a different system, inscribed by non-presence as such, and construct the self differently since unlike hearing one's voice, it is never possible to see oneself sign in its full totality.

This, along with recognition that sign languages are true languages (Stokoe 1960), gave rise to the 'cognitive revolution' of the 1970s and the emergence of cognitive neuroscience in the 1990s resulted in efforts to understand the underlying determinants of learning, language, and cognition. Emmorey (2002), among others, studied in detail learning patterns of Deaf children.

The Difference of 'Culture'

Various studies demonstrated that Deaf children often construct knowledge, conceptualise, and develop cognitive/perceptual strategies differently from their hearing peers. The differences, if not noted by an observant teacher, may give rise to Deaf children falling behind in a mainstream classroom.

According to Padden and Humphries (2005) Deaf people's ways of 'seeing' may be affected by the long history of their interaction with the world in ways different from others which need not necessarily be considered natural or logical, even though a strong sense of vision is present. Such a mode of interaction gives rise to a certain 'cultural' way, which describes the lives of Deaf people.

Culture here focuses on the central role of sign language, which distinguishes Deaf people from hearing people and from other deaf and hard-of-hearing people who do not use sign language. Following Woodward (1982) they adopted the convention of using the capitalised 'Deaf' to describe the cultural practices of a group within a group, whereas the lowercase 'deaf' was used to refer to the condition of deafness, or the group of individuals with hearing loss without reference to this particular culture.

The Similarity of Learning

In spite of this difference of 'Culture', overwhelming evidence points towards the similarity of language learning and by extension, identity construction, between Deaf and hearing children. As Bauman (2008)

points out, ‘Neurons, it seems, are not choosy—whether goaded into action from visual or auditory stimuli, they still ignite into consciousness.’

The manual modality therefore is as good a medium for language as the oral modality, the capacity for learning a linguistic system therefore is modality-independent. Given that the ability to process information through eyes and ears differs a great deal, it is surprising—as Goldin-Meadow, 2003 conjectures—that the linguistic structuring of both signed and spoken languages is broadly similar.

It has been shown that Deaf children born to Deaf parents, thus exposed from birth to a sign language, acquire that language as easily as hearing children acquire spoken language. It has also been shown that the stages a Deaf child goes through while learning a sign language are identical to the stages a hearing child learning a spoken language goes through (Lillo-Martin 1999; Newport and Meier 1985).

Goldin-Meadow (2003) further reports that Deaf children produce their first recognisable signs slightly earlier in development than hearing children produce their first recognisable words (Bonvillian and Folven 1993; Meier and Newport 1990), however, these early signs are not used referentially until about twelve months—precisely the age at which hearing children produce their first recognisable words in referential contexts (Petitto 1988).

Given this similarity, it is quite possible that the politics of difference is often overplayed to keep in place a system of exclusion where administrators and teachers perpetrate hegemonic social norms, the ‘iconic-only’ claim for signed languages helps reinforce these exclusionary practices.

DE-CENTRING KNOWLEDGE

Against the background of this dominant ableist stance, I would like to offer a new perspective of de-centring epistemological practices (Bhattacharya 2010, 2012) to afford an insight into the possibilities that signed language offers.

A striking example of de-centring can be read into Keller’s (1985) account of the Nobel laureate but much neglected cytogeneticist Barbara McClintock’s work on transposition. McClintock’s philosophy can be understood from what she has to say about research in general and her own research on transposition in corn kernels in particular:

‘If the material tells you, ‘It may be this,’ allow that. Don’t turn it aside and call it an exception, an aberration, a contaminant.... That’s what’s happened all the way along the line with so many good clues. ... The important thing is to develop the capacity to see one kernel of maize that is different, and make that understandable. If something doesn’t fit, there’s a reason, and you find out what it is.’ (quoted in Fox Keller, 1985, 1995)

McClintock’s world view begins and rests with difference. Instead of viewing the world as constituted by dichotomy, in this view, difference gives rise to a radical reorganisation of the world around us that finally resolves into multiplicity. The kernels of corn that did not appear to fit in, revealed a larger world of multidimensional order irreducible to a single law. This is further reiterated in the following:

‘It never occurred to me that there was going to be any stumbling block. Not that I had the answer, but [I had] the joy of going at it. When you have that joy, you do the right experiments. You let the material tell you where to go, and it tells you at every step what the next has to be because you’re integrating with an overall brand new pattern in mind. You’re not following an old one; you are convinced of a new one, and you let everything you do focus on that. You can’t help it, because it all integrates. There were no difficulties.’ (Sprangenburg and Moser 2008)

Multi-modality of Sign Language

My thesis of de-centring the traditional way of thinking about language exploits this notion of difference. It is based on a conspicuous character of sign languages—the *multi-modal* nature of the language that achieves the impossible task of uttering two words at the same time in terms of a spoken language equivalent. Sound, as we know, is embedded in time, we can only utter word1 after word2 after word3, etc. A sign language, on the other hand, being a visual language makes use of both space and time to produce language. For example, producing a certain handshape for asking a question does not by itself mean a question unless also accompanied by facial expression or non-manual marking, like raised eyebrow in this case. Producing a question with just a handshape will be taken as being inarticulate. In this example, thus the simultaneous production of handshape and raised eyebrow only can be a meaningful question.

However, a more striking example of multi-modality of sign languages comes from the frequent employment of what is known as classifier constructions in sign languages. These are a set of handshape units that represent noun classes and/or characterising spatial relations and motion events. However, a unique property of these classifiers is the non-dominant hand representing yet another classifier at the same time as the dominant hand. For example, if the dominant hand represents the classifier unit for a ‘vehicle’, the non-dominant one might at the same time represent the classifier unit for a ‘tree’. Furthermore, not only are the two handshapes meaningful, but the locations articulated by the hand(s) signify the space to represent the event. On top of this, different types of movements of the two hands within the signing space indicate existence, location or motion (Supalla 1986), a complexity that is beyond any known spoken language.

This multi-modal property of sign languages opens up dimensions otherwise invisible in spoken languages. Centring sign language in language studies can thus enable us to look at language—the pure representation of the human mind—in a new light. Research imagination must make such periodic leaps—not only within disciplines but across—to take us to newer worlds.

Further Examples of Centring

Consider the following example from Padden and Humphries, (1988: 41). In ASL (American Sign Language)] as in English, HARD-OF-HEARING represents a deviation of some kind, it describes a condition that signifies a lack. Someone who is A-LITTLE HARD-OF-HEARING has a smaller deviation than someone who is VERY HARD-OF-HEARING ... yet the terms have opposite meanings in the two languages ... DEAF, not HEARING, is taken as the central point of reference.

Yet another possible example of centring could be a Deaf-centred architecture with fewer walls, more windows, and circular and curvilinear rooms. As Bauman (2008: 9), rightly points out: ‘The shape of a Deaf architectural environment would serve as an imprint, a Deaf Writing into the landscape etching a visual-tactile orientation within the world.’

A *paradigm* is defined as the full range of assumptions and practices associated with fundamental theoretical approaches; a model, theory, perception, assumption or frame of reference. Generally, it is the way one perceives, understands or interprets a topic or issue; it is, in short, an explanation or model. A critical approach to studying language, education and philosophy by de-centring knowledge from the existing dominant ableist constructs to a Deaf world-view that will bring about a radical, epoch-changing shift in paradigm in these domains to give rise to new epistemologies.

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