Saussure's View of Language as a System of Arbitrary Signs

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Abstract
Saussure's view that signs stand for their referents in an arbitrary fashion reflects a view of semiosis that separates sensory-bodily processes from cognitive ones. It remains Saussure's most controversial assertion within semiotics, even though it is a perspective that is found as an axiom in various cognitive sciences. This paper revisits Saussurean arbitrariness theory, showing how it breaks down in various ways when considering concrete semiotics phenomena. Nevertheless, as a model of semiosis, it has provided a basis on which to discuss and research semiosis in real-world terms.

Keywords: arbitrariness, semiosis, motivated modeling, modeling systems, embodiment theory

1. Introduction

> The bond between the signifier and the signified is arbitrary. Since I mean by sign the whole that results from the associating of the signifier with the signified, I can simply say: the linguistic sign is arbitrary. (Saussure, 1916/1959, p. 67)

Justly or unjustly, this quote has characterized perceptions of Saussurean theory more than any other since the publication of his *Course in general linguistics*. In it, Saussure asserts that there is no necessary dependence of the physical structure of a linguistic sign on the nature of its referent. In other words, there is no sensory linkage between phonemic forms (signifiers) and their referents (signifieds). Since many other parts of Saussurean sign theory are intrinsic to both linguistics and semiotics, it is useful to revisit the notion of arbitrariness and why it remains a problematic one in the context of current approaches to semiosis (the production and interpretation of signs), such as embodiment-based theories and Modeling Systems Theory.

Saussure dismissed as rare and unusual the presence of iconically-forged words in a language, that is, of linguistic signifiers created through a resemblance, replication, simulation, or imitation of any perceivable feature of their signifieds. For Saussure, onomatopoeic words—words that imitate the sound of the concept to which they refer (*chirp, drip, boom, zap,* and so on)—were the exception, not the rule. Moreover, the highly variable nature of onomatopoeia across languages suggested to him that even this sound-imitative phenomenon was subject to arbitrary social conventions.

For instance, the sounds made by a rooster are rendered by *cock-a-doodle-do* in English, but by *chicchirichì* (pronounced "keekeereekee") in Italian; similarly, the barking of a dog is conveyed by *bow-wow* in English but by *ouaoua* (pronounced "wawa") in French. Saussure argued that such onomatopoeic constructions were only approximate, and more or less conventional, imitations of perceived animal sounds. However, he could not explain the *attempt* by the different languages to imitate the sounds of the animals. The differing results are caused by diverse phonemic systems and their influence on perception. But even a cursory consideration suggests that there is an inherent phonemic commonality among the linguistically-diverse onomatopoeic signifiers.

Moreover, Saussure, a brilliant philologist, appears to have ignored the etymological source of common words. Even a seemingly non-onomatopoeic word such as *flow*, which means "to run like water or to move in a current or stream", possesses phonemic-iconic qualities that clearly suggest the movement of water, based on the suggestiveness of the sound cluster /fl/, whose articulation is clearly imitative of water current. It is unlikely that a word such as *plock* would have been coined in its stead, for the simple reason that it is counterintuitive phonemically. In terms of so-called Modeling Systems Theory (MST), the phonemically-motivated connection between a linguistic sign and its referent is part of a primary modeling system, a system that is fundamentally iconic. From this, constructions subsequently develop at higher levels of modeling, retaining the phonemic suggestiveness of the primary model. This is why *flow* has metaphorical extensions such as *flowchart, flow of information, going with the flow,* etc., which subconsciously suggest the initial or primary phonemic-iconic qualities of the word.

Right after the publication of the *Cours*, arbitrariness theory became problematic among some linguists and semioticians. One of the most interesting responses was put forth by the early structuralists working within the Prague School, who suggested that forms and their meanings were intrinsically intertwined, thus prefiguring MST (see Toman, 1995; Sériot, 2014). MST has its roots in the biological writings of Jakob von Uexküll (1909), and was developed by the pioneering work of the Tartu School semioticians (Lotman, 1991). In linguistics, a counterpart to MST, called sound symbolism theory, emerged in the same time frame. The theory posits that the articulatory-acoustic nature of a phonemic system guides the initial naming of a referent, even if there are intervening social and physical factors that might obviate this tendency (Andrews, 2003). In MST terms, this kind of phonemic iconicity occurs at the primary level, with higher levels extending the iconicity in an abstract fashion to grammar and figurative vocabulary.

2. Motivated Modeling versus Arbitrariness

Any phoneme is a potential modeling device in word construction. This is a primary modeling impulse that embodies sensory meanings into word forms (Sebeok & Danesi 2000). The term *embodiment* is defined by Rosch, Thompson, and Varela (1991, pp. 172-173) as follows: "By using the term *embody* we mean to highlight two points: first that cognition depends upon the kinds of experience that come from having a body with various sensorimotor capacities, and second, that these individual sensorimotor capacities are themselves embedded in a more encompassing biological, psychological and cultural context." In other words, initial word-construction is

guided by some property of the senses. As an example of how primary modeling manifests itself, Schuessler (2007) discusses word-formation in ancient Chinese; for instance, words constructed with /m/ were associated with something black; those made up with /n/ indicated something soft or flexible; and those with /k/ referred to some abrupt action.

Arbitrariness theory is actually ancient. As far back as in Plato's *Cratylus* (see Plato, 2013), we find Socrates suggesting that words are originally constructed with sounds that reflect some property of their referents. However, the many counterexamples given to Socrates by Hermogenes leads Socrates to reject this view. Arbitrariness became a mainstream view of word-formation, ensconced into philosophy and language science by Descartes (1637/1996), Hobbes (1656/1839), Locke (1690/1975), Leibniz (1765/1996), and in the modern era, Chomsky (1966, 2002). Locke, for example, argued that if onomatopoeia was a principle of language design then we would all be speaking the same language. Leibniz expressed a similar view, but attenuated this perspective by claiming that the correspondence between word meanings and their phonemic make-up is suggestive, rather than purely arbitrary. As Foucault (1994) has cogently argued, post-Renaissance philosophers like Locke and Leibniz saw knowledge as based on *difference*, rather than *resemblance*. Saussure falls into this epistemic lineage. Going contrary to this intellectual grain was Wilhelm von Humboldt (1836), who maintained that words and their referents are always interconnected in the process of creation—a theory that has had its own descendants or counterparts, including Peirce (1936-1958), Boas (1910/1940), Sapir (1921), and Whorf (1956).

As Sémir Badir (2017, p. 97) has cogently argued, perhaps Saussurean arbitrariness theory has been eschewed unfairly, given that there is more to it than its binarism:

> Arbitrariness is commonly seen as a major concept in Saussure's thought, and it even receives the status of a "principle" in his theory. It is not only the characteristic feature of the relation between signifier and the signified, but moreover it is constitutive of this very relation (the relation is semiological *because* it is arbitrary; there is a so-called "semiological relation" established between a signifier and a signified because of the principle of arbitrariness). And when linguists and other Saussurean interpreters comment on the concept of arbitrariness, they usually imply a binary relation…[but] the symmetry of the semiological relation has not been demonstrated. The signifier can be seen as arbitrary with regard to the signified, but no reason has been provided to recognize the converse.

In other words, Saussure may have unwittingly been looking for a way to connect, rather than separate, form from meaning, by indirectly suggesting a relation between signifier and signified that was symmetrical. This requires some radical rethinking of Saussurean theory, however, which is beyond the purpose of this essay.

The scientific investigation of sound symbolism started in the 1920s, continuing to the present day (Jespersen, 1922; Bentley & Varon, 1933; Tsuru & Fries, 1933; Newman, 1933; Allport, 1935; Guillaume, 1937; Hinton, Nichols & Ohala, 1994; Magnus, 1999). In the 1950s, Morris Swadesh (1951, 1959, 1971) championed this theory, drawing attention to the fact that most of the world's languages modeled their referents in specific phonemic-iconic ways. For example, many languages used

front vowels (/i/-type and /e/-type vowels) to construct words in which "nearness" was implied, in contrast to back vowels (/a/-type, /o/-type, and /u/-type vowels) to construct words in which the opposite concept of "distance" was implied: in English common examples are *here*-versus-*there*, *near*-versus-*far*, *this*-versus-*that*, etc. The same kind of primary modeling is found across languages to distinguish between *this* (implying nearness) and *that* (implying distance). This appears to be an instinctual propensity that cuts across languages. In a classic study, Roger Brown (1970, pp. 258-273) asked native speakers of English to listen to pairs of antonyms from a language unrelated to English and then to guess, given the English equivalents, which foreign word translated which English word, by attending only to their sounds. When he asked them, for example, to match the words *ch'ing* and *chung* to the English equivalents *light* and *heavy*, Brown found that about 90% of English speakers correctly matched *ch'ing* to *light* and *chung* to *heavy*. He concluded that the degree of translation accuracy could only be explained "as indicative of a primitive phonetic symbolism deriving from the origin of speech in some kind of imitative or physiognomic linkage of sounds and meanings" (Brown, 1970, p. 272). More specifically, words constructed with the vowel /i/ have a perceptible "lightness" quality to them and those constructed with /u/ a "heaviness" quality. This perceptual differentiation shows up in the kinds of meanings assigned to the words themselves.

Primary modeling shows up in many ways. For example, continuants are found typically in words that refer to things that are perceived to have "continuity". The /fl/ cluster is found commonly in the make-up of English words that refer to things that move or run smoothly with unbroken continuity, in the manner that is characteristic of a fluid (as discussed briefly above): *flow, flake, flee, float, fly*. On the other hand, the cluster /bl/, which consists of an obstruent, is found in words that refer typically to actions that involve blocking, impeding, or some other form of occlusion: *block, blitz, blunt, blow.* In effect, obstruent phonemes are found in words which refer to objects or actions that are perceived to involve "stoppage", continuants in words that refer to objects or actions that are perceived to involve "flow".

The work of Magnus (1999, 2013) is relevant in this area. She has documented modeling tendencies that indicate how the same phonemes tend to coalesce around a similar core of meanings, whereas different phonemes do not overlap referentially. The relation is not one-to-one—it is "symbolic", that is, one cannot predict what phoneme a given language will use for imprinting some audio-aural property of a particular referent into the formation of its words. The linkage becomes evident only after comparing large numbers of words. Magnus puts forth the following four basic modeling categories:

1. *Onomatopoeia* involves a straightforward, intentional imitation of sounds in the phonemic make-up of a word: *splash, pop, bang*.
2. *Clustering* refers to words that share a phoneme cluster around a referential domain; so, if /h/ is used for *house*, then a disproportionate amount of words will start with /h/ within the same referential or lexical field: *hut, home, hovel, habitat.*
3. *Iconism* alludes to words that have similar or analogous referents. For instance, words such as *stomp, tramp,* and *step* show an iconism among themselves whereby the phonemic pattern of /m/ + /p/ and /s/ + /t/ unconsciously produces a conceptual linkage.
4. *Phenomimes* and *psychomimes* are "quasi onomatopoeic" words that imitate soundless

> referents called phenomimes when they encode external phenomena and psychomimes when they refer to psychological states. The word *duck* is a phenomine because it suggests the sound made by a "duck", already encoded onomatopoeically with *quack.* A psychomime would be any emotive expression such as *Ugh*, which is meant to resemble some inner state indirectly.

As such research implies, Saussurean arbitrariness theory is an ideal; on the other hand, the fact that we use our sensory apparatus in the creation of signs is now virtually a law of semiosis. Already in 1922, Otto Jespersen suggested that iconicity was not only a force in the initial formation of language, but one that operated continually to shape words according to their senses.

3. Contrastive Sign Theories

Arbitrariness theory and MST are contrastive theories of mind. In the former, there is no connection between the physical structure of signs and their meanings; in the latter it is always there, from original or primary modeling to extensions at the secondary and tertiary modeling levels. Brown (1958) gives the example of Samoan *ongololo* referring to "centipede". In that word, the syllables correspond to the number of distinct elements in the sound, object, or action. The same process is extended to shapes, implying a secondary and tertiary level of modeling. This is why many of the Chinese classifiers (words indicating semantic category) evoke shapes, such as morphemes that indicate long, flat and round objects, containers, pairs and sets. Making the length of words to correspond to object size is a tendency found throughout the world's languages. The conclusion seems to be that words are models, guided in their creation by phonemic cues that gradually reach into the grammatical and semantic levels of language.

Saussure's model of the sign as an arbitrary binary structure, in contrast, separates form and meaning. It suggests that the particular thoughts that come to mind are evoked by the particular conventional forms we have created to encode them and, vice versa, if a specific thought comes to mind then we instantly search for the appropriate word that encodes it. So, if we see a particular plant in our line of vision and we have the word *tree* in our mental lexicon, the image in our mind and the word form a blend. Vice versa, when we use the word *tree* the image is also evoked simultaneously. Although this seems to be a simple model of cognition today, it is still interesting and useful on several counts. First, it does make a connection between form and meaning in a concrete way. A signifier cannot exist without a signified, and vice versa. Plants are perceived as indistinct impressions. They come into mental focus when we have a word that makes a selection among these impressions. This is what happens when we use the word *tree.* It selects from among an infinite set of possibilities and thus allows us to focus specifically on a particular domain of reference. Putting aside the fact that the connection may not be arbitrary, as Saussure maintained, it is still a remarkable yet simple theory of cognition. Binary structure is manifest in many artificial systems, such as alarm systems with their "on-off" structure, binary digits, digital computers, and others. In other words, Saussurean theory is more relevant to the description of artificial intelligence, rather than of human intelligence.

Each phoneme is a potential modeling structure that is guided by sensory or embodied suggestiveness. At a secondary level of modeling, this suggestiveness takes

on a composite shape in the connection of words on the basis of the latent phonemic force of the originating word. This includes clustering, iconism, and the formation of phenomines and psychomimes, to use Magnus's relevant categories. This is a level where signs are projected onto broader domains of meaning that are sensed to have some affinity with the primary forms. Finally, at the tertiary level associative structures are interconnected more intricately producing metaphorical, metonymic, and other figural structures. While the original phonemic cues in them may not be consciously recognizable, by deconstructing them into sound elements we can always recover it. So, a metaphorical expression such as "to duck under the bridge" can ultimately be connected to the iconic properties of the /k/ phoneme as suggestive of the animal, its sounds, and the images that emanate from the associations with /k/—abruptness, lowering (of the head), and so on.

Interestingly, in a recent study, Aliyeh and Zeinolabedin (2014) chose English and Persian primary sound-based structures randomly from different Internet sites and print sources as a basis for comparison. They concluded that some onomatopoeic activities in Persian and English were different; but these could be traced to the different species of animals, the different phonological or morphological systems of each language, and other such differences. But overall, the differences were minor. They also found a pattern of semantic similarity in the ads used by both languages, implying that they were very similar in how they conveyed moods, emotions and actions through phonemic modeling.

4. Concluding Remarks

As the Tartu School has so amply documented across a wide variety of languages, the study of semiosis is a study in how modeling systems interconnect forms and meanings in non-arbitrary ways. Nonetheless, Saussure cannot be easily dismissed as a collection of studies edited by Russell Daylight (2017) indicate. As Samuel Weber (2017, p. 9) states emphatically in the opening study in the collection:

> Saussure's theory of language as a process of differential and contextual signifying opens up the possibility of analyzing and interpreting not just verbal language but all phenomena taken to be significant, whether verbal, acoustical or otherwise accessed. In so doing his work transcends the fashions of structuralism and poststructuralism that first made him widely known, and is not just situated in the past but point to the future.

Saussure (1916/1959, pp. 68, 112) suggested that of all sign systems language was "the most complex and universal", and that this was so because "There are no pre-existing ideas, and nothing is distinct before the appearance of language." Revisitations of Saussure have attempted to show that his work was, in the end, innovative and pioneering, breaking away from philological traditions that were based on written language alone (e.g. Culler, 1986; Harris, 1988, 2001; Holdcroft, 1991; Sanders, 2004; Bouissac, 2010; Joseph, 2012; Thibault, 2013; Daylight, 2017). The problem, of course, is that Saussure saw the relation between linguistic signs and their meanings as an arbitrary one, while extensive research on languages subsequent to the publication of the *Cours* has shown this to be an untenable principle.

In *The Sign and Its Masters* (1979), Sebeok argued that the transformations of our bodily experiences into sign structures become permanently transportable in the

form of cognitive units, free from their embodied units of occurrence. It is this very process of transportation that seems to befuddle arbitrariness theories, which continue to displace signs from the experiences they encode.

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