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Opposition theory and the interconnectedness of language, culture, and cognition

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Abstract. The theory of opposition has always been viewed as the founding principle of structuralism within contemporary linguistics and semiotics. As an analytical technique, it has remained a staple within these disciplines, where it continued under the weight of post-structuralism starting in the 1960s — the exception to this counter trend being the work of the Tartu School of semiotics. This essay revisits opposition theory not only as a viable theory for understanding conceptual structure, but also as a powerful technique for establishing the interconnectedness of language, culture, and cognition.

Introduction

The founding principle of structuralism in semiotics, linguistics, psychology, and anthropology is the theory of opposition. The philosophical blueprint of this principle can be traced back to the concept of dualism in the ancient world (Hjelmslev 1939, 1959; Benveniste 1946). It was implicit in Saussure's (1916) own principle of *différence*. In the 1930s the Prague School linguists (Trubetzkoy 1936, 1939; Jakobson 1939) and several Gestalt psychologists (especially Ogden 1932) gave the principle its scientific articulation and, in the subsequent decades of the 1940s and 1950s, it was used to carry out extensive analyses of languages and to establish universal patterns in

linguistic structure. It was also expanded tentatively in the same era to encompass the study of the conceptual structure of language. However, by the 1960s, work and debate on such extensions of the theory came abruptly to a halt with the advent of two movements — generativism in linguistics (Chomsky 1957) and post-structuralism in semiotics (Derrida 1967) — both of which caught on broadly within their respective disciplines.

At the start of the 1990s several powerful defenses of opposition theory by Andrews (1990; Andrews and Tobin 1996) and Battistella (1990, 1996) came forward to revive interest in it. However, the crystallization and spread of yet another movement in linguistics, known as cognitive linguistics, once again relegated opposition theory to the margins of linguistics. However, as will be argued and illustrated in this paper, the theory of opposition is hardly antithetical to the basic principles of cognitive linguistics. It is actually implicit in its fundamental blueprint for language study. My purpose here is to revisit opposition theory as theory of language, mind, and culture, extending it as well to the domain of cognitive linguistic theory. The theory can, moreover, be seen to raise such fundamental semiotic questions as: Are human codes interconnected to each other through oppositional structure? Does such structure exist in reality or is it projected onto reality by the human mind? Is human cognition itself oppositional, as reflected in the fact that the brain has two hemispheres that process information in a complementary binary fashion? By revisiting the theory, and expanding it to encompass new forms of research in both semiotics and linguistics, it may be possible to answer such questions concretely.

Background

As mentioned, the basic idea behind opposition theory is ancient, going back to philosophies based on dualism, such as the Chinese *ying*/*yang* mystical framework and Aristotle's logical dualism (Ogden 1932; Babin 1940; Bocheński 1961; Deely 2001; Anfindsen 2006).

Dualism found its way into radical Cartesian philosophy in the sixteenth century — a philosophy that went so far as to claim that the mind and the body were separate entities. But the Cartesian view was more of an aberration than a continuation of ancient dualism, which actually sought to understand the relation between the body and the mind, not their independence. Certainly, the kind of dualism envisioned by the early structuralists was not Cartesian in any sense of the term, since it actually suggested that words were both sound-based and conceptual phenomena and, thus, simultaneously auditory-acoustic and mental forms. In fact, the implicit philosophical idea in early structuralism was that the human mind is inclined by its nature to perceive the world in terms of opposites. This is probably due to the fact that much of human anatomy is structured in a symmetrical binary way — we have a left and right hand, eye, ear, foot, etc. Among the first to make this implicit principle a target of empirical investigation were, in fact, the early founders of psychology, such as Wilhelm Wundt (1880) and Edward B. Titchener (1910). Their research agenda led to the establishment of structuralism in psychology and to its theoretical cross-fertilization in semiotics, linguistics, and anthropology.

Saussure (1916) put forward the notion of *différence* as being a particularly useful one for explaining how we extract meaningful (or more exactly meaning-bearing) cues from the chain of speech in oppositional terms. His analysis led to the theory of the phoneme as a differential unit of sound. Then, in the late 1920s, the Prague School (the Prague Linguistic Circle) adopted opposition theory as the basis of their approach to the study of language structure (Jakobson *et al.* 1928; Jakobson 1932, 1936; Trubetzkoy 1936, 1939, 1968; Pos 1938, 1964), thus establishing structuralism broadly as the primary *modus operandi* in linguistics and semiotics (Wallon 1945; Parsons, Bales 1955; Godel 1957; Lévi-Strauss 1958, 1971; Blanché 1966; Chomsky, Halle 1968; Belardi 1970; Ivanov 1974; Needham 1973; Fox 1974, 1975; Lorrain 1975; Jakobson, Waugh 1979). Indeed, no distinction was made between the term 'structuralism' and linguistics for several decades.

The first in-depth theoretical study of opposition as a theory of mind was Charles Ogden's 1932 treatise, *Opposition: A Linguistic and Psychological Analysis*, which elaborated upon several key ideas discussed in 1923 by Ogden and Richards in *The Meaning of Meaning*. Ogden claimed that a small set of conceptual oppositions, such as *right/left* and *yes/no*, appeared to be intrinsically binary in nature and that these were found across cultures. Others showed "gradience" between the two poles. For example, in an opposition such as *white/black*, various color concepts such as *gray, red*, etc. could be located between the *white* and *black* poles, a fact that clearly has both referential and conceptual resonance — gradient colors are distributed on the light spectrum, while *white* and *black* are not, forming instead conceptual endpoints on a mental color scale. Similarly, between the polar concepts of *day* and *night* on the *day/night* oppositional scale, gradient concepts such as *twilight, dawn, noon,* and *afternoon* can be inserted being, again, both referentially and conceptually appropriate. In other words, only "polar concepts", as they can be called, form a binary opposition and have, thus, paradigmatic structure in the conceptual system of a language, whereas "gradient concepts" do not — one cannot put *red* into any polar opposition with another color. Such concepts are "distributed concepts" on already-existing oppositional scales. They show, in other words, syntagmatic structure, since they are connected to the polar concepts in referential ways. Ogden also distinguished between oppositions that are cross-cultural (*right/left, day/night)* and those, like *town/country,* that are culture-specific. This suggests that there may be a "deep level" of oppositional structure that is part and parcel of human cognition, and a "surface level" that contains oppositions that are forged and acquired in specific cultural contexts. In effect, from the outset opposition theory was perceived to be a *de facto* theory of cognition, a theory that examined language as a channel through which cognitive structure gained physical form.

The Prague School linguists developed most of the technical apparatus of opposition theory by first investigating phonological and grammatical systems. And, in fact, the use of opposition theory to

study phonological systems was never abandoned by the generative movement, remaining a central aspect of its own theoretical apparatus to this day, despite some dissension within the movement (Haspelmath 2006). However, its extension to other levels, especially the semantic-conceptual one, was either relegated to the margins, resurfacing as componential analysis, or else totally abandoned under the weight of an analytic logical approach to meaning. But linguists of a different persuasion started revisiting opposition theory more broadly in the 1990s. Andrews (1990), for instance, argued that it allowed us to detect patterns of universal structure and meaning connecting language, mathematics, and other representational systems. Battistella (1990, 1996) claimed that it could be enlisted to explain several seemingly unrelated processes in linguistic change and that its extension to the study of conceptual structure and cultural representation could provide valuable insights into the relation between thought, language, and culture (see also Elšík, Matras 2006). Mel'cuk (2001) applied opposition theory to the study of sentence organization, claiming that sentences revealed a basic oppositional structure in their conceptual form. At about the same time, a few other scholars started to look at text-construction through the theoretical lens of basic opposition theory. Mettinger (1994), for example, conducted an in-depth empirical study of forty-three English-language novels, from which he isolated ten syntactic frames that he claimed were based on oppositional structure. He concluded that there were two kinds of conceptual oppositions, systematic and non-systematic, and that these played a crucial role in narratives.

Within semiotics, the spread of Peircean (1931–1958) theory, which gained momentum in the late 1960s, led to a de-emphasis on the use of opposition theory to examine conceptual structure generally. However, the Peircean approach has in no way ever been conceived to be antithetical to structuralism, with various attempts having been put forward to reconcile markedness (a derivative of opposition theory) with iconicity theory (for example, Andersen 1989, 2001, 2008; Tomic 1989). Also within the field, the analytical tradition of the Tartu School under the leadership of Juri Lotman (1991) never abandoned the basic

idea expressed by the Prague School linguists that oppositional structure may have been the conceptual glue, so to speak, that connected different codes to produce culture as an integrated sign-based phenomenon (see Andrews 2003 and Lepik 2008). In the same way that biological codes are interconnected in the biosphere, so too cultural codes are interconnected in what Lotman called the semiosphere. The goal of semiotics and linguistics is, in this framework, to show how such interconnectedness unfolds in concrete ways through language, art, magic, ritual, etc.

Types of opposition

The Prague School linguists uncovered many different types and levels of opposition. They did this by means of a simple commutative method. For example, by commuting a specific sound in a word such as *cat*, changing it to *rat* or some other minimal form *(bat, hat*, etc.), one could establish the phonemic status of its constituent sounds — in this case initial /k/. A pair such as *cat/rat* was called a "minimal pair" by Trubetzkoy (1939). Using this simple technique, the Prague School linguists discovered many aspects of phonological structure. They found, for instance, that some phonemes occurred in many minimal pairs, while others did not. This came subsequently to be known as the "functional yield" of a phoneme. The phoneme /p/ in English has a high functional yield since it is distinctive in word-initial (*pin/bin*), word-internal *(open/omen*), and word-final *(nap/nab*) position, and can be found in opposition with virtually every other consonant phoneme of that language. Research also showed that oppositions often revealed what came to be called "symmetry" (Pos 1938; Jakobson 1939; Trubetzkoy 1939; Martinet 1960). For example, the voiceless stops /p/-/t/-/k/ form the natural set of voiceless stops. Within that set, each phoneme can be put in binary opposition with the others: /p/-/t/ *(pin/tin*), /p/-/k/ *(pin/kin/*, etc. Similarly, /b/-/d/-/g/ forms the corresponding natural set of voiced stops, which has a similar "set-internal" oppositional structure: /b/-/d/ *(bin/din)*, /b/-/g/ *(bet/get*), etc.

Moreover, the consonants in the two sets can be put in opposition to each other: /p/-/b/ *(pin/bin),* /p/-/d/ *(pen/den)*, etc. The opposition-signaling feature between the two sets is, of course, [±voice]. This suggested to the linguists that phonological systems possessed symmetry. However, they also discovered asymmetries or gaps in such systems — in English, there exists an opposition between the voiceless dental and palatal sibilants, /s/-/ʃ/ (*sip/ship*), but since there is no voiced palatal consonant in that language, then there is no corresponding oppositional partner to the voiced dental sibilant /z/ (as in *zip*).

By conducting extensive analyses of this type, the Prague School linguists started to notice that there were specific articulatory triggers in phonemic contrasts. For example, in /m/-/p/ the opposition was triggered by a *nasality/orality* contrast, but in /m/-/n/ it was triggered instead by a *bilabial/dental* differentiation. These came to be called "distinctive features". Thus, in the "cross-set" oppositions /p/-/t/-/k/ and /b/-/d/-/g/ the critical distinctive feature is, as mentioned, [±voice]. Within each set, other distinctive features marked the oppositions: for example, the feature that kept /p/ and /t/, as well as /b/ and /d/ distinct, was [±labial]. Distinctive feature analysis became a mainstay early on and was adopted a little later by generative linguistics, under the influence of Jakobson (Jakobson *et al.* 1952; Jakobson, Halle 1956; Jakobson 1968). It continues to be used to this day under the rubric of Optimality Theory (McCarthy 2001). Distinctive features were differentiated from redundant features, such as the aspirated [p^h] in English, which occurs in word-initial position only before a vowel: *pat, pot, pill, pin*, etc. If /s/ is put before the consonant, the aspiration is blocked: *spit, spill, spunk, spat*. Aspiration of /p/ is thus a predictable feature of English phonology — when /p/ occurs in word-initial position followed by a vowel it is aspirated. It is a redundant, not a distinctive, feature. Since the two phones, [p] and [p^h] are connected to each other in the way just described, they are said to be allophones that complement each other — where one occurs the other does not. The rule that specifies the way in which allophones complement each other came to be called a rule of complementary distribution.

Work on distinctive features led to a typology of oppositions (Trubetzkoy 1939). The main ones are worth repeating here:

> • A *multidimensional opposition* is one in which the distinctive features that are common to both phonemes also occur in other phonemes: for example, /p/ /t/, and /k/ share the features [+stop] and [-voice]; but they also share [+stop] with the [+voice] counterparts /b/, /d/, and /g/.
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> • A *one-dimensional* or *bilateral* opposition is one in which the features common to both phonemes do not occur in other phonemes.
>
> • An *isolated opposition* is one that occurs between two specific phonemes but nowhere else in the phonemic system.
>
> • A *proportional opposition* is one that is found in two phonemes and is repeated in other phoneme pairs: for example, /d/-/t/, /b/-/p/ = [+voice]/[-voice].
>
> • A *privative opposition* is one in which pairs are distinguished by only one feature: for example, /p/-/b/ = [±voice].
> • A *gradual opposition* is one that involves varying degrees of a feature: for example the [open] feature of vowels.
>
> • An *equipollent opposition* in which pairs are distinguished by several features, /b/-/ð/ and /v/-/g/ are distinguished by [±labial] and [±stop]

Sometimes, two sounds can be shown to have phonemic status in certain minimal pairs, but not in others. In English, for example, the vowels /i/ and /ɛ/ are phonemic, as can be seen in minimal pairs such as *beet/bet*. However, some speakers pronounce the word *economics* with an initial [i], others with an initial [ɛ]. When this occurs, the two sounds were said to be in *free variation*, a phenomenon that is seen as having an "outside" or "extralinguistic" effect on the phonemic system. The actual pronunciation of a phoneme can, of course, also vary from speaker to speaker, which may be due to geographic, social, or other extralinguistic factors. All this suggested to the Prague School linguists, before the crystallization of sociolinguistics as a branch of general linguistics, that it may be possible to set up socially-variable opposi-

tions. For example, an opposition such as *formal/informal* might manifest itself as a difference in pronunciation, vocabulary, or some other linguistic phenomenon.

As work in structuralism gained momentum in the 1940s and early 1950s, inevitably the question arose as to the psychological validity of opposition. As interesting as it was, did it really explain linguistic competence or the language faculty, or was it no more than an artifact of the fertile minds of the Prague School linguists themselves? It was Jakobson (1942) who first tackled this question head on. By studying child linguistic development, he noted, for instance, that phonemic oppositions that occur rarely are among the last ones learned by children. Nasal phonemes exist in all languages. And, thus, they are among the earliest phonemes acquired by children. On the other hand, laryngeals are relatively rare and, consequently, are among the last phonemes to be acquired by children. Jakobson found many other features of linguistic development that fit in perfectly with the theory of opposition (Jakobson; Waugh 1979). In effect, as Jakobson's work showed, the Prague School was starting to entertain broader implications of opposition theory before structuralism was marginalized by the various movements and forces mentioned above.

Certainly, one of the questions that opposition theory begs is its extension beyond form to content. For the sake of convenience, therefore, oppositions can be divided into *form-based* and *conceptual*. Phonemic oppositions are form-based ones, since they allow us to recognize physical cues in words that are distinctive. Conceptual oppositions, on the other hand, involve content or meaning distinctions. Oppositions such as *day/night* and *right/left* are conceptual. The method for determining them does not involve the commutation techniques used in phonemic analysis, but rather the more general notions of antonymy, contrast, and contrariness (Mettinger 1994). Early on, it was thought that the same kind of distinctive-feature analysis used in form-based methodology could be extended to identify conceptual oppositions. Pairs such as *father/mother, son/daughter*, for example, could be shown to be conceptually distinct in terms of features such as [±human], [±gender], [±adulthood], etc. These came

to be known generally as *semes* (Hjelmslev 1959; Coseriu 1973; Pottier 1974), which could then be subdivided into *classemes* (subcategories). Although this seemed to constitute a useful way of establishing the denotative meanings of lexical items, it often produced strange or unrealistic results. An opposition between *heifer* and *dog (female)*, for example, can be given as either [+bovine]/[-bovine] or [-canine]/[+canine]. There really is no way to establish which one is, conceptually, the actual trigger in the opposition. Moreover, when certain words are defined in terms of semes or classemes, it becomes obvious that to keep them distinct one will need quite a vast array of semes (Schooneveld 1978). The whole exercise could thus become convoluted, artificial, and self-referential. Moreover, in reality conceptual features are often sensitive to sociocultural meanings. Although the term *bitch* does exist in English to refer denotatively to a female dog, it is rarely if ever used any longer because of the social connotations it has taken on. It is obvious that the larger "meaning picture" is critical in expanding and refining opposition theory. Semes can, of course, be used practically to categorize lexemes into semantic fields. For example, items marked by the feature [+seat], such as *chair, sofa, desk, bench*, can be assigned to the same semantic field. Within that field they can be further distinguished from one another according to how many people are accommodated, whether a back support is included, what relative size each one is, and so on. Research on identifying a universal set of such features is ongoing, but it has yet to yield a set of features that is not ultimately self-referential (see, for instance, the insightful work of Wierzbicka 1996, 1997, 1999, 2003). Unlike phonological systems, which are closed form-based systems, semantic systems are open-ended conceptual systems and, thus, constantly changing to meet new social needs.

The Prague School linguists and early Gestalt psychologists themselves realized that conceptual oppositions presented many technical and theoretical problems. Abstract concepts, such as "fatherhood," "femininity," "hope," and "justice," for instance, are particularly high in connotative content, and although they can be put on a binary scale — *fatherhood/motherhood, femininity/masculinity*, etc. — that

very scale is open to connotative gradience (Bolinger 1968). Among the first to examine connotative gradience in a systematic fashion were the psychologists Osgood, Suci, and Tannenbaum in 1957, who introduced the concept of *semantic differential* to do so. They argued that connotative (culture-specific) meanings could be measured by using such polar concepts as *young/old, good/bad,* etc. and asking subjects to rate a concept on seven-point scales, with the polar concepts constituting the end-points of those scales. The ratings were then collected and analyzed statistically. The number seven was chosen, incidentally, because the year before George Miller (1956) had shown, in a study titled *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information* that the ability to process meaning cues or bits of information was limited to between 5 and 9 equally-weighted errorless choices. To grasp how the semantic differential works, suppose hypothetically that subjects are asked to rate the concept "ideal father" in terms of oppositional scales such as *practical/idealistic, flexible/stern,* etc. The outcome would yield a connotative profile of "ideal fatherhood". Results near the end of the scales (say, 1.4 or 6.4) would indicate high connotative content; results near the middle of the scales would indicate neutrality and, thus, equipollence in the oppositions. Research utilizing the semantic differential has shown that the range of variations is not a matter of pure subjectivity, but forms a socially-based pattern. Younger people may tend to rate the ideal father as being flexible, older ones as stern, and so on. In other words, the connotative indices of abstract concepts are constrained by psychological and cultural variables.

Although very promising as a method for fleshing out social meanings, the semantic differential has never really caught on broadly. A common critique of the technique is that the poles used (*practical/idealistic, flexible/stern,* etc.) are themselves artifacts, put there by the researchers to unconsciously guide subject choices along a certain path that is itself culture-specific. In other words they show what analysts want to show. But even if the scales are determined in advance, the results obtained may be unexpected ones and thus the whole technique would be legitimate as a form of randomized experimentation.

From the outset, the Prague School linguists realized that oppositions were not limited to being necessarily binary. For example, the tense system of English has a basic ternary oppositional structure — *present/past/future*. It was found that oppositions can be strictly binary (*right/left*), ternary, four-part, graduated, or cohesive (set-based). The type of opposition that applies in the analysis of some system depends on what system (language, kinship, etc.) or subsystem (phonemic, semantic, etc.) is involved. Anthropologist Claude Lévi-Strauss (1958), for example, showed that pairs of oppositions often cohered into sets forming recognizable units within specific cultural codes or systems. In analyzing kinship systems, Lévi-Strauss found that the elementary unit of kinship was made up of a set of four oppositions: *brother/sister*, *husband/wife*, *father/son*, and *mother's brother/sister's son*. A decade later, Algirdas J. Greimas (1966, 1970, 1987) introduced the notion of the "semiotic square" — a model of opposition involving two sets of concepts forming a square arrangement. Given a sign such as the adjective *rich*, Greimas claimed that we determine its overall meaning by opposing it not only to its contrary *poor*, as in binary oppositional analysis, but also to its contradictory *not rich* and to the contradictory of its contrary, *not poor*. This makes logical sense, of course, because one can be *not poor* and still not be *rich*. This type of analysis allows us to use contradictories such as *white/non-white* and link them to contrary terms such as *white/black*. And, as already discussed, by the 1990s opposition theory was being revisited in the light of its previous applications to the study of conceptual systems, in line with the claims of early structuralists and especially the Copenhagen School of linguists, led by Hjelmslev (1939, 1959), who argued that oppositions existed as purely conceptual forms, underlying all languages independently of how they were delivered (vocally, graphically, manually). In effect, language itself had an "evaluative superstructure", as it came to be called more generally, that was oppositional in its overall makeup and design.

It is beyond the purpose here to delve into the merits and weaknesses of notions such as n-ary opposition, the semiotic square, Copenhagen School linguistics, and other modifications to basic

opposition theory. Suffice it to say that the historical value of such debate lies in having shown that oppositional relations might involve various structures and modalities other than purely binary ones in the determination of distinctiveness, contrariness, and contradiction. Along with the semantic differential, opposition theory in general suggests that there may be levels and scales of opposition that determine how we extract meaning from concepts. Barthes (1967) too had argued that ternary and four-part oppositional structures surfaced frequently in specific codes. In the fashion code, for instance, these included *tight fitting/closely-fit/loose/puffed-out* for what he called *d'adjustement,* and *open/side-by-side/closed/crossed/rolled-up*, for *clôture.* Structuralist approaches to advertising theory (Nöth 1987, 1997; Danesi 2006) have also shown that advertising textualities are based on underlying oppositions that reach deeply into the mythic unconscious.

Several questions remain that a revised and extended approach to opposition theory must attempt to address. First, what is the relation between form-based and conceptual oppositions? Are all concepts either polar — that is, forming a binary *(right/left, day/night,* etc.), ternary *(present/past/future*), etc. opposition — and others gradient, falling in between the polar concepts? The topic of further research in this domain will be taken up below.

Markedness

Early work revealed that many polar concepts seem to be formed on the basis of an overriding meta-opposition: *presence/absence.* In *day/night* for instance, *night* is typically conceived by people as being "absence of daylight", while *day* is never conceived analogously as being "absence of night time". So, it became obvious that polar concepts related to each other in terms of a "markedness" relation — *night* is marked with respect to *day*, which is perceived to be the "default" or "present" concept in the opposition. An opposition may, however, be equipollent if no markedness relation can be established or if there is a syncretism of two oppositions. For example, in the

give/accept opposition, either pole could be assigned "default" (unmarked) status, depending on the situation or viewpoint of the users of the opposition. So, sometimes other criteria must be enlisted to determine markedness relations, such as frequency. In language, the marked pole is generally more constrained than the unmarked pole in the type and number of combinations it may enter into, in the type and range of form changes it may undergo, in the frequency with which it occurs, and so on (Tiersma 1982; Eckman *et al.* 1983). This is perhaps why Trubetzkoy (1975: 362) defined markedness as the asymmetrical relation whereby one pole is more constrained than the other pole on a particular level (see also Chomsky, Halle 1968; Hertz 1973; Jakobson and Waugh 1979; Waugh 1979, 1982). As Battistella (1990: 2) observes, the principle of markedness comes from the fact that "the terms of polar oppositions at any level of language are not mere opposites, but rather that they show an evaluative non-equivalence that is imposed on all oppositions".

Psychologically, markedness has many profound implications. Above all else, it constitutes an unconscious conceptual reflex that subsequently guides language form and use. For example, when an opposition such as *tall/short* is involved in a speech situation, we ask instinctively "How *tall* are you?" not "How *short* are you?" because, unless there is a specific reason to do otherwise, we assume *tallness* to be the default pole, called the *unmarked* one, while the other pole, being exceptional or constrained, is the *marked* one.

Markedness theory was applied to both form-based and conceptual oppositions and found to undergird the whole structure of language. For example, in the indefinite article system of English grammar, /a/ is the unmarked morph, since it occurs before all consonants in the chain of speech (*a boy*), while /æn/ is the marked one, because it occurs before vowels (*an apple*). The markedness criterion in this case is frequency, since there are more words beginning with consonants than vowels. However, frequency does not always play in role in assigning markedness status. For example, *grape* is less marked than *grapes* on the morphological level, since the singular form is typically the unmarked one on this level. However, on the semantic and dis-

course levels the singular *grape* is the marked one since the plural form *grapes* is referentially more common and thus unmarked. Early markedness theory seemed, from the outset, to provide truly profound insights into the interconnectedness of linguistic levels and their relation to the external world of reference and reality, including social structure. In Italian, for example, the masculine plural form of nouns referring to people is the unmarked one, referring (nonspecifically) to any person, male or female, whereas the feminine plural form is marked, referring only to females. For instance, *i bambini* (which is masculine in form) can refer to all children, whereas *le bambine* refers specifically to female children. The fact that the unmarked form in Italian is the masculine gender is a cue that Italian society is historically male-centered. Changes in the markedness in the morphological system of Italian correspond to changes in social structure with regard to gender.

Research has, in fact, shown that in societies (or communities) where the masculine gender is the unmarked form, it is the men who tend to be in charge, while in societies (or communities) where the feminine gender is the unmarked form, the women are the ones who are typically in charge. In other words, the markedness built into grammatical structure mirrors social structure (Alpher 1987; King 1991). Markedness theory can thus be seen to be a diagnostic tool for unraveling unequal social relations and codes of power. Terms like *chairman*, *spokesman*, etc. are examples of how the English language predisposed its users to view certain social roles in gender terms in the recent past. Their replacements (*chair, spokesperson,* etc.) show how the oppositional poles in the evaluative superstructure of language can be neutralized. Indeed, markedness theory suggests that we can potentially change social structure by changing linguistic structure. Consider job designations as a case-in-point. Over the past sixty years, as women increasingly entered into traditionally male-based occupations, their presence was perceived to be a deviation from tradition. Logically, their job titles were marked linguistically by adding suffixes such as *-ess* to words (*waitress*, *actress*, etc.). Elimination of this suffix

today is, in effect, a linguistic validation of women's place in the professional workforce.

Suffice it to say that markedness theory has had enormous implications not only for the study of linguistic structure, but also for the study of the interconnectedness between language, cognition, and culture. Obviously, the extension of markedness theory to other codes (music, gesture, mathematics, etc.) might reveal similarly interesting phenomena (see, for example, Andrews 1990; Schuster 2001; Hatten 2004, Vijayakrishnan 2007; Danesi 2008). A fascinating study by van der Schoot, Bakker Arkema, Horsley and van Lieshout (2009), for instance, examined the effects of the opposition *consistent/inconsistent* within a relevant arithmetic operation and markedness (the relational term being unmarked ["more than"] vs. marked ["less than"]) on word problem solving in a sample of 10–12 year old children differing initially in problem-solving skill. The researchers found that less successful problem solvers will utilize a successful strategy only when the relational term is unmarked. In another significant study, Cho and Proctor (2007) found that when classifying numbers as odd or even with left-right keypresses, performance was better with the mapping *even-right/odd-left* than with the opposite mapping. Calling this a *markedness association of response codes* (MARC) *effect*, the authors attribute it to compatibility between the linguistic markedness of stimulus and response codes. The MARC effect and its reversal are caused by a correspondence of the stimulus code designated as positive by the task rule with the positive-polarity right response code. Markedness has also been found empirically to play a role in language learning and development generally (Collins 1969; Eckman *et al.* 1983; Park 2000; Mansouri 2000; Prieto 2005), discourse structure (Barbaresi 1988), and in other areas of human cognitive, communicative and representational activity. Overall, the work on markedness in human conceptualization generally validates Jakobson's initial findings, or at least their general implications — namely that opposition theory is a psychologically predictive and diagnostic tool.

Post-structuralism

It is accurate to say that opposition theory, or at the very least its markedness subtheory, continues to have a role to play in investigating human codes and learning, even outside the purview of structuralism strictly defined. Its use in generative phonology, language acquisition studies, and mathematics, to mention a few areas, indicates that it continues to hold a strong intuitive appeal across disciplinary domains as a framework for understanding human cognition. However, as mentioned above, by the 1970s, work on opposition theory *per se* came to a virtual standstill, especially within semiotics, as so-called post-structuralism took center stage. The post-structuralist stance was fashioned as a direct assault on markedness theory, presenting a clear challenge to the whole notion of opposition and thus structuralism.

Spearheaded by the late Michel Foucault (1972) and especially Jacques Derrida (1967), the post-structuralist movement gained a foothold in semiotics, cultural studies, and philosophy throughout the 1970s and 1980s probably because the Zeitgeist was ripe for such a movement, because notions such as authorship, narrative, interpretation, and the like were starting to become problematic ones in these fields (see Belsey 2002 and Mitchell and Davidson 2007 for in-depth analyses of post-structuralism). Post-structuralists were mainly literature scholars or culture analysts who had a particular social or ideological agenda in mind. As such, they attacked the very tool that allowed them to flesh out problems in social systems in the first place — opposition/markedness theory. In other words, they somehow failed to see this very theory as a tool for diagnosing social inequalities. On the contrary, they saw it as underlying and validating them. Marginalized groups thus saw the attack against structuralism as an opportunity for overall vindication. But it is becoming more and more apparent that post-structuralism resulted from a fundamental misinterpretation of opposition/markedness theory. Foucault and Derrida not only did not realize that the theory had a diagnostic value, but actually saw it as a form of political discourse aiming to enshrine inequalities such as *self/other*. Derrida in particular argued that it was a

logocentric theoretical concoction, which itself rendered it useless, since it encoded "ideologies", not "realities." In some ways, Derrida had made a valid point. In pairs such *day/night* it is easy to accept *day* as the unmarked form and *night* as its marked counterpart. This does not mean that one is more basic than the other in any absolute sense, but rather that it is perceived to be that way for a historical or psychological reason. Problems emerge, however, with oppositions such as *male/female* and *self/other*. But the post-structuralists missed an underlying principle, discussed above in this paper — namely, in such cases, the choice of one or the other as the unmarked polar concept would clearly reflect a cultural (not an absolute) markedness. As mentioned, in patrilineal societies the unmarked form is likely to be *male*; but in matrilineal ones, as for example the Iroquois one (Alpher 1987), the unmarked is just as likely to be *female*. This fact was either unknown to the post-structuralists or conveniently ignored.

Derrida (1977: 237) went so far as to claim that our oppositions deconstruct themselves when analyzed reflectively, that is, they fall apart, revealing their idealized origins:

> In idealization, to an origin or to a "priority" seen as simple, intact, normal, pure, standard, self-identical, in order *then* to conceive of derivation, complication, deterioration, accident, etc. All metaphysicians have proceeded thus: good before evil, the positive before the negative, the simple before the complex, the essential before the accidental, the imitated before the imitation, etc. This is not just *one* metaphysical gesture among others; it is *the* metaphysical exigency.

This passage reads more like a diatribe against a certain tradition, than a true rejection of opposition theory, since it uses that very theory to construct the diatribe. And, needless to say, Derrida failed to see that oppositions can be, and often are, reversed. This has happened, for example, to the *young/old* opposition in western society. At the turn of the twentieth century, *old* was seen as the unmarked form in terms of social status. By the 1920s a marketplace youth culture emerged to make *young* the unmarked one. Today, being young and staying young for longer and longer periods is the accepted norm (Danesi

2002). Such reversals exist across the domain of conceptual oppositions. They certainly do deconstruct themselves, as Derrida claimed, but in so doing they are reversing the markedness criteria or else neutralizing them.

It is, of course, impossible to refute deconstruction theory on its own rhetorical terms. It is a classic example of *post hoc propter hoc* reasoning. And this might explain why it has started to show signs of decline and of waning. It is, and always has been, more of an "anti-theory" than a paradigm shift within linguistics and semiotics. Now that the dust has settled in semiotics, it has become increasingly obvious that anti-theories have only temporary influence in scientific endeavors.

Expanding the structuralist paradigm

The analysis of the interconnections between linguistic oppositional structures and cultural-cognitive modalities was always implicit in the groundbreaking work of the Tartu School of semiotics (Lotman 1991; Andrews 2003; Lepik 2008). Lotman was among the first to envision culture as a system of interconnected codes shaped by historical processes. His approach to the language-culture-cognition nexus was broached in a general way by Danesi and Perron in 1999. However, they did not utilize the concept of opposition in their model of interconnectedness directly, although it was implicit in their use of image schemata theory *(up/down, closed/open,* etc.). The interconnectedness approach can, in fact, be informed by the fact that oppositions are encoded in various cultural systems through a network of representational interconnections. As an example of how a single binary opposition might be so encoded, consider the *right*/*left* one (Needham 1973; Danesi 2007). This is derived, anatomically, from the fact that we have a left hand (and foot, leg, ear, and eye) and a right one. Now, this anatomical fact has been encoded in an opposition that carries a markedness criterion along with it — *right* is unmarked and *left* is marked. Here are a few of the ways in which this surfaces

culturally. First, it intersects with other oppositions — *right* is associated with *good*, *light*, etc. and *left* with *evil*, *dark*. This synchronization of oppositional poles can be shown as follows:

right	/	*left*
↕		↕
good	/	evil
↕		↕
light	/	*dark*
↕		↕
day	/	*night*
↕		↕
etc.		*etc.*

This synchronization shows why we associate "leftness" with "evil" and both of these with "darkness", and so on, and why, by contrast, we associate "rightness" with "goodness", "light", and so on. The associations are connotative, of course, and they are involved in generating rhetorical, aesthetic, and other textual structures. For example, in Michelangelo's *Last Judgment* in the Sistine Chapel, Christ condemns sinners to Hell with his left hand but points good people to Heaven with his right hand. The word *right* is used commonly to convey concepts of "correctness", "truth", "justice", in English and many other languages. In the United States, *The Bill of Rights* is a legal document that lays out the "rights" to which each person is entitled, and a "righteous" person is defined as someone moral, and thus without guilt or sin. English has adopted the Latin word *sinister* ("left") to refer to something evil. Offering a handshake, saluting, or taking an oath with the left hand is considered improper and wrong. The list of the manifestations of the *right/left* oppositional network is a huge one. Similar networks can be established for other oppositions. Cumulatively these would show that our conceptual, representational, aesthetic, and ritualistic systems are interconnected in oppositional ways through connotative synchronizations of this type.

It is to be noted that in such a model of culture and cognition there is a fundamental *positive/negative* evaluation of various poles that establishes the markedness criteria throughout the network. In the above network the *negative* pole is the *marked* one and thus stands out cognitively and representationally. Also, the question of gradience can now be handled by locating gradient concepts in a similar synchronous fashion. For example, in the network above, one could locate concepts such as *benevolence, kindness,* etc. as gradient ones on the *good/evil* polar scale and *morning, noon, twilight*, etc. as similarly gradient ones on the *day/night* scale, and so on.

Now, the question of the etiology of such conceptual systems emerges. The plausible reason why we have come to assign positive values to the *right* end-point of the *right/left* scale and negative ones to the *left* pole probably stems from the fact that the majority of human beings use their right hands instinctively from birth to carry out routine tasks. Only about 10 percent of people are naturally left-handed. As a consequence, the right hand is perceived to be the default form of human handedness. This type of reasoning suggests that markedness is hardly a phenomenon of Nature. Nature makes no social distinctions between right-handed and left-handed individuals, nor associates negative and positive values accordingly; people do. In a society where left-handedness is the norm (should there be one), then the marked pole would be *right* in the oppositional scale. As can be seen by examining the opposition sets above, determining which member of a pair is the unmarked form and which one the marked one is a matter of tradition and history, as Lotman had persuasively shown. *Good*, for example, has always been assumed to be the default form of human behavior in many societies, while *evil* has always been perceived to be its antagonistic counterpart. And, by and large, people living in communities aspire to conduct themselves for the betterment of the community, while a few do not. Narratives, paintings, and the like bring this out either directly or satirically (as the case may be).

This type of analysis can be called "Systems Analysis" (SA), to adopt a term used by Sebeok and Danesi (2000) in reference to studying semiosis in terms of modeling systems theory. In the Sebeok-

Danesi approach, SA entails looking at how models emerge and coalesce to produce semiosis in and across species. In the analysis of cultural networks of oppositions, the term SA can be used more specifically as a method for investigating the idea that models and the codes to which they belong have oppositional structure and that they are interconnected through synchronization.

One of the tasks of SA would be to document and investigate how language and other codes mirror social and cultural processes. Another would be to determine which oppositions are more general or universal in the hierarchy of oppositions present in a network. Some seem to have universal status, including *masculine/feminine*, *light/dark*, *good/evil*, *self/other*, *subject/object*, *sacred/profane*, *body/mind*, *nature/culture*, *beginning/end*, *love/hate*, *pleasure/pain*, *existence/nothingness*, *left/right, something/nothing,* among others. These can be called "meta-oppositions", a term used already in this paper. Yet another main task of SA would be to determine which concepts are polar and which are gradient. Consider bodies of water. In English, words such as *lakes, oceans, rivers, streams, seas, creeks,* and so on are used commonly. These are gradient concepts located on a *water/land* oppositional scale. Now, people living in the desert have very few words for bodies of water, for obvious reasons. So, such concepts would not play as much of role in their culture as they do in others. In the latter, further oppositional refining, as it may be called, emerges. For example, size may enter the classificatory picture to produce lower-level conceptual oppositions — *ocean/lake* — as does width and length — *river/stream* — among other features. Another task of SA would be to investigate how a specific oppositional network manifests itself in representational, ritualistic, linguistic, aesthetic, and other cultural behaviors.

One of the most important tasks of SA would be to apply opposition theory to the investigation of figurative meaning. As mentioned, the movement known as cognitive linguistics (CL) came to the forefront in the 1980s, after the publication of Lakoff and Johnson's groundbreaking book, *Metaphors We Live By* (1980). Since then, the movement has become not only an alternative to generative linguistics and formal

semantics within linguistics proper, but also a highly valuable framework for semiotic, anthropological, and psychological analyses of the interconnectedness of language, cognition, and culture (Langacker 1987, 1990, 1999; Gibbs 1994; Lakoff, Johnson 1999; Dirven and Verspoor 2004; Danesi 2004; Geeraerts 2006; Müller 2008). Without going into details here, suffice it to say that CL has documented the fact that cultural meaning emerges from associations among concepts, called *conceptual metaphors* or more generally *blends* (Fauconnier and Turner 2002; Müller 2008). The idea behind the whole CL enterprise is that the human mind seeks to understand reality by blending domains of meaning through bodily, historical, and affective processes. For example, by linking animals to human personality, we are seeking to understand the latter in terms of the former. This is why we interpret sentences such as "He's a fox", "She's an eagle", and so on, as personality constructs. It is not the denotative meaning of the animals that is built into the sentences, but rather their connotative (cultural) meanings. Upon closer reflection, this whole process can be seen to be the consequence of an ontological opposition: *humans*/*animals*, with *animals* being the marked pole. This suggests that opposition operates in an ontological way to produce figurative meaning. Gradience in this case is the actual allocation of specific animals onto the scale — "John is a gorilla", "Mary is a snail", etc.

Lakoff and Johnson trace the psychological source of such polarity and gradience to mental image schemata that are produced by our sensory experiences of locations, movements, shapes, substances, etc. as well as our experiences of social events and of cultural life in general (Lakoff and Johnson 1980, 1999; Lakoff 1987, Johnson 1987). Upon closer analysis, these turn out to be meta-oppositions: *up*/*down*, *back*/*front*, *near*/*far*, *full*/*empty, balance*/*unbalance*, etc. Their manifestations occur in language ("I'm feeling up today", "Inflation is going down at last", "I'm full of memories", "My sense of timing is out of synch", etc.) and in other codes. For example, in music the *up*/*down* opposition is expressed by the fact that the higher tones express *happiness* and the lower ones *sadness*. This *up* is synchronized to *happiness* and *down* to *sadness* across the network of codes in a culture.

Consider again the opposition *humans/animals* discussed above. In western culture, it not only surfaces in discourse about human personality, but also in the naming of sports teams (*Denver Broncos*, *Chicago Bears, Detroit Tigers,* etc.), which imparts a certain character to the team in terms of perceived animal qualities, in the utilization of fictional or cartoon characters *(Bugs Bunny, Daffy Duck,* etc.) to represent human personality types, in assigning surnames and nicknames *(John Fox, Mary Wolf*, etc.), and so on and so forth.

Concluding remarks

The goal of SA is to investigate opposition theory as a framework for studying interconnectedness in cultural systems. Among the tasks and questions it will have to broach (some of which have already been mentioned), the following is only a minimal list:

- Which kinds of concepts are polar and which are gradient? It would seem that some emotion concepts (*love/hate, happiness/sadness,* etc.), metaphysical concepts (*existence/nothingness, unity/multiplicity*, etc.), mathematical concepts *(even/odd, prime/composite*, etc.), and various others surface as polar across cultures. Others seem to surface as gradient, occurring between poles in an opposition. This is the case for example of color concepts (*red, blue*, etc.) and temporal concepts (*noon*, *afternoon*, etc.), which are locatable between polar concepts such as *light/dark, day/night*, and so on.

- Which polar concepts are universal and which are not? It would seem that those that are purely binary *(right/left)* cut across cultures. However, this would have to be investigated and examined more empirically.
- How is markedness assigned in a polar opposition? What kind of criteria apply to the establishment of markedness?

- How many oppositions are n-ary in a culture? Within n-ary oppositions where do the gradient concepts occur?

- What is the intrinsic relation between opposition theory and conceptual blending?

- How does synchronization unfold in specific cultures? Are there any aspects of synchronization that are universal?

- To what extent are codes oppositional in structure and how is the evaluative superstructure of codes utilized to create texts of all kinds, from narratives to scientific theories?

- Is oppositional structure specific to human semiosis or does it cut across semiosis in all species? I would argue that it does not, while others may argue differently (Nöth 1994). Nevertheless, this is a key question for both semiotics proper and biosemiotics.

These are of course only a handful of questions that can be asked within the framework of SA. As has been argued in this paper, the time has come to reactivate opposition theory research in a revitalized form of structuralism that can embrace current models of meaning coming out of CL and other domains (biosemiotics, mathematical philosophy, etc.). But perhaps the most fundamental question of all that such a revitalized structuralism begs is the following one. Since oppositional concepts have existed across time and across cultures to encode some of the most metaphysically important questions humans have devised, is oppositional structure in the world or in the mind? In other words, do we understand the world in oppositional terms because we ourselves are structured to do exactly that and, thus, are blocked from ever really understanding the true nature of reality? Or is the world itself oppositional in structure and all we are doing is discovering how this is so?

In sum, as one of the most important achievements of the Prague School, opposition theory continues to have validity, despite countermovements that have emerged to either attack it or replace it with other models of meaning. It is one of those notions that has always been implicit in human affairs, but which needed articulation in a concrete scientific way. That articulation gave birth to structuralism which, itself, is a throwback of ancient philosophies that surfaced in

mythic, religious, and philosophical forms. As social critic Camille Paglia (1992: x) has so aptly put it, it reveals a basic truth about human experience: "All objects, all phases of culture are alive. They have voices. They speak of their history and interrelatedness. And they are all talking at once!"

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Теория оппозиций и соотносимость языка, культуры и восприятия

Теорию оппозиций всегда считали основой структурализма в современном языкознании и семиотике. Как аналитическая техника она до сих пор используется в них в качестве основного приема/ инструмента для нахождения значимых частиц в физической форме знака. Но как теория понятийной структуры она была отвергнута под влиянием торжествующего с начала 1960-х гг. постструктурализма (единственным исключением тут является Тартуская школа). Статья рассматривает теорию оппозиций в качестве не только весьма эффективного средства при анализе понятийных структур, но и как великолепную технику для выявления связей между языком, культурой и восприятием.

Opositsiooniteooria ja keele, kultuuri ning taju seotus

Opositsiooniteooriat on kaasaegses keeleteaduses ja semiootikas alati peetud strukturalismi alustalaks. Analüütilise tehnikana on opositsiooniteooria neil aladel jätkuvalt põhivahendite seas. Seda kasutatakse märkide füüsilises kujus tähenduslike vihjete leidmiseks. Kuid mõistelise struktuuri teooriana on see alates 1960ndatest võidukäiku teinud poststrukturalismi mõjul hüljatud — ainsaks erandiks siinkohal Tartu koolkonna semiootika. Käesolev artikkel käsitleb opositsiooniteooriat mitte ainult kui vägagi toimivat teooriat mõisteliste struktuuride analüüsimiseks, vaid ka kui suurepärast tehnikat keele, kultuuri ja taju omavahelise seotuse tõestamiseks.