

A GREEK PERSPECTIVE ON THE QUESTION OF THE ARBITRARINESS OF LINGUISTIC SIGNS

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MOST DEFINITIONS OF language emphasize the conventionality and arbitrariness evident in this particular system of human communication. The definitions in (1) are representative of what is found in introductory linguistics textbooks as well as supposedly authoritative sources such as encyclopedias:

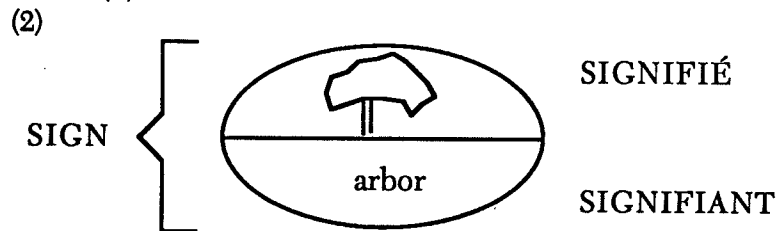
- (1) a. "an arbitrary system of articulated sounds..." (W. N. Francis, *The Structure of American English*)
- b. "[a system of] vocal sounds to which meanings have been assigned by cultural convention" (*Encyclopedia Britannica* [1974: VI.32])
- c. "a system of arbitrary vocal symbols..." (E. Sturtevant, *Introduction to Linguistic Science*).

The appeal to conventionality and arbitrariness in these characterizations of human language draws on one answer to an age-old debate over the nature of language that was initiated, in the West at least, by the ancient Greeks. In particular, as exemplified by Plato's musings in the *Cratylus*, for instance, a major philosophical concern for the Greeks of classical Athens was the question of whether words had the meanings they did because of a natural connection between form and meaning, i.e., by nature (*phúists*), or because of an arbitrary association, i.e., by convention (*thésis* or *nómos*);¹ this particular issue is the essence of the analogist/anomalist debate in Greek philosophy.

From a modern vantage point, it is fair to say that both sides in this

phúsis/thésis debate were right to a certain extent, for there is compelling supporting evidence on each side. On the one hand, for example, one can cite many words in which there is nothing intrinsic in the sound of the word itself that connects it with the concept it expresses; examples from within Greek—though similar cases could be adduced from any language—would be ordinary words such as *lógos* ‘word; reason’ or *tréxo* ‘run’. On the other hand, there are other words in Greek—or any language, for that matter—in which such a connection is evident, e.g., the verb *tsirízo* ‘I screech’, where the phonic composition of the word suggests a high-pitched noise or the noun *kúkos* ‘cuckoo’, where the name suggests the characteristic sound (*ku-ku*) made by the bird.² Words of the first class—the *lógos/tréxo* type—have what appears to be a totally arbitrary form-meaning relationship, one based entirely on convention, while those of the other class have a less-than-arbitrary connection, hence one based more in nature.

However, most linguists these days have been influenced in large part by the ideas of the great Swiss linguist of the late nineteenth and early twentieth centuries, Ferdinand de Saussure, who stressed “l'arbitraire du signe,” i.e., the arbitrary nature of the linguistic sign. Through diagrams such as that in (2) for Latin *arbor* ‘tree’:



de Saussure stressed the fact that there is generally nothing in the make-up of a given linguistic form—the lower part of the diagram of the overall sign, the *signifiant*, in his terminology, or *signifier* in the usual English translation—to link it with a given linguistic referent—the upper part of the diagram, the *signifié*, in his terminology, the *signified*. The basic nature of the linguistic sign, then, involves an arbitrary connection between form and meaning, a connection that is a matter of convention in the speech community and not something determined by the nature of the referent or of the form itself. Nonarbitrariness, in his view, is relegated to a minor role at best in language.

The Saussurean view has had an enormous impact on modern thinking concerning the arbitrariness issue. Support for the strong Saussurean view that everything in language is essentially arbitrary comes from the very class of words—the *tsirízo/kúkos* type noted above—which at first glance would seem to be the stronghold of *phúsis* in language. It has often been pointed out that such words, the so-called onomatopoetic vocabulary of a language, even with their less-than-arbitrary connection be-

tween form and meaning, to a considerable extent owe their form to some degree of conventionality. Nothing in the high-pitched noise of squealing brakes corresponds directly to the *r* of *tsírizo*, for instance, and words for the same noise can be shown to vary from language to language, even when the referents are identical; for example, the snap of a dry branch gives off a *tsak* in Greek but a *crack* in English, forms that are similar, to be sure, but far from identical. Thus such words show some degree of nonarbitrariness in their form but are different enough from one another to doom any claim that their form is entirely determined by their meaning.

Still, there is reason to believe that de Saussure vastly overestimated the degree of arbitrariness in the linguistic sign and more generally the extent of arbitrariness in language. For one thing, speakers often behave as if linguistic signs were not totally arbitrary, and instead look for some motivation for the form a particular word has. Moreover, it can be demonstrated that there is much in language that has not only motivation but, more broadly speaking, an iconic basis as well, where *icon* is to be understood in the Peircean³ sense as a sign that expresses a formal, factual similarity between meaning and meaning carrier, generally with a physical resemblance between sign and referent. A factual basis to support these claims can be built up out of material drawn from virtually every human language, but, in the discussion that follows, several examples are adduced from just a single language, Greek, and especially modern Greek. The choice of Greek here is not a completely arbitrary one, for on the one hand the use of Greek data is in keeping with the interest of early Greek philosophers in the issues under discussion, and, on the other hand, Greek—as becomes evident below—provides an interesting case demonstrating the extent to which motivation and iconicity can pervade a linguistic system.

The starting point is a reconsideration of the data mentioned in regard to de Saussure's diagram and demonstration that the linguistic sign has an arbitrary connection between the signified and the signifier. The rather considerable degree of arbitrariness associated with words such as *lógos* and *tréxo* as linguistic signs, as well as the lesser degree even in words like *tsírizo* and *kúkos*, has already been brought out.

Given a degree of arbitrariness in all types of words, one might well say that a speaker who would impute some sort of nonarbitrary relation between a word like *lógos* and its referent, trying for instance to connect the double occurrence of the vowel *o* in this particular word to the shape a mouth takes in uttering any word, is simply wrong. On the other hand, it is possible to find evidence that speakers do attempt to make sense of the relation between a form and its meaning, and in that way seek to lessen the arbitrariness such words evince.

That is, speakers often "parse"—i.e., analyze—words that the linguist might see as unanalyzable and in so doing often change their pronun-

ciations of words so analyzed. This is the phenomenon known as folk etymology (in Greek, *paretimologyia*). An example of folk etymology with a monomorphemic word is the change that Greek speakers effected in the word for 'eggplant' as it was borrowed into the language—the immediate source for 'eggplant' seems to have been Italian *melanzana*,⁴ which should have given a pronunciation **melandzana* in modern Greek; the fact that the second syllable has ended up as *-i-* and not *-an-* is presumably the result of a folk-etymological association of the first two syllables of the word with the word for 'honey', *méli*. Even though eggplants are not necessarily sweet in the way that honey is, in folk-etymologies, it is often the case that any already-existing word, even if semantically somewhat remote from the form being subjected to reinterpretation, can come into play; in any case, honey is a food and thus is within the same general semantic sphere as eggplant. Another example is the verb *ligothimó* 'I faint', which derives from ancient Greek *lipothumô* by a folk-etymological association of the first part of the word with the adjective *lîgos* '(a) few; (a) little',⁵ presumably through a meaning such as "have little spirit" or the like. Forms such as these show the results of speakers trying to make some sense, through a connection with already-known words, of new utterances they encounter.

In a sense, then, what is relevant here is that one can find words that evince a connection between the form of the word itself and its meaning that is highly *motivated* (a term de Saussure himself used) even if not completely determined. This holds even for words like *lógos*, for uses other than its basic one. For example, *lógos* in itself may not provide any motivation for why the sounds [l] [o] [ɣ] [o] mean what they do when combined together, but the derived noun *álogo* 'horse' does show considerable motivation for the occurrence of the same sounds in it, through its association with—and derivation from—the neuter singular of the adjective *álogos* 'having no reason' (with the negative prefix *a-*), together with, presumably, a conventional view of the horse as having less than fully developed mental capacities. Similarly, the compound adjective *sfingoxéris* 'tightwad' literally "having a squeezing hand," has a motivated meaning through an association of cheapness with keeping a tight grip on one's money. To a certain extent, such examples of motivation for derived or compound forms involve a metaphorical usage, to be sure, but since metaphorical use of language is certainly common and is generally readily interpretable by speakers, metaphor—and derivation in general—can be interpreted as providing for a somewhat productive degree of nonarbitrariness in language.

Thus Greek compound nouns like *nikokirá* 'housewife' or *dendrolívano* 'rosemary' show some motivation in their composition, from *îkos* 'house; establishment' plus *kíra* 'mistress' and from *déndro* 'tree' plus *lívano* 'incense', respectively. Still, even though such analyses and interpretations would certainly seem to be readily available to speakers who reflect upon the composition of the words, it is fair to assume that speakers do not

necessarily think of each word in that way every time they use it;⁶ note that the initial *n-* of *nikokirá* is unmotivated synchronically even though there is a ready diachronic account for its occurrence.⁷

Thus these instances of derivation via metaphor and composition show some degree of nonarbitrariness in that one could legitimately give a substantive answer to the question "Why is X the word for Y?" and not just have to respond with "Because" or "Because that's the way it is," answers which amount to no answer at all since they only can appeal to conventionality; speakers undoubtedly, upon reflection, can give such answers for *nikokirá*, *dendrolívano*, *sfingoxéris*, etc., but not for *íkos*, *déndro*, *xéri*, etc.

It is clear, however, that this degree of nonarbitrariness is tenuous in a few ways. First, even if one can come up with a motivation for the particular meaning a form has, there is still some arbitrariness in the particular phonic shape the word takes—even if *álogo* is motivated in the sense developed here, there is nothing inherent in the sounds of the word that summon up the meaning it has. Second, the extent of nonarbitrariness here partly depends on the cleverness of individual speakers, something which can be subject to variation. Third, nonarbitrariness in such examples is subject to the vicissitudes of other types of language change.

With regard to the second point about individual cleverness in discerning motivation, it should be noted that speakers are always making associations between words—in an attempt to "explain" them—which are not historically justified (cf. the discussion of folk-etymology above) and often can even lose sight of what might appear to outside observers (e.g., linguists) as obvious connections. With regard to this latter point, Anttila cites the example of a native speaker of Greek, a trained linguist at that, who "had never made a conscious connection between *petô* 'I fly' and *petô* 'I throw' although the verbs have identical conjugational paradigms" until one day when "it came to him in a flash that the second *petô* is obviously the causative of the first, i.e., 'I cause to fly'."⁸

Another type of motivation—and thus nonarbitrariness—in language is that which is evident in words like *tsirízo* and *kúkos* discussed earlier. They present cases in which the form of the word is not just motivated but in part determined by the meaning, i.e., somewhat onomatopoeic, or, more generally, iconic (in the sense of Peirce, i.e., consisting of a sign that expresses a formal, factual similarity between meaning and meaning carrier, generally with a physical resemblance between sign and referent). For example, even though a word like *tsirízo* is admittedly somewhat conventionalized in its form, nonetheless, with the high second formants⁹ in its vocalic nucleus (*-i-*) and its consonantal onset (*ts-*), it presents an acoustic form that is quite evocative in its phonic effect of the high-pitched noise it refers to; such a word, therefore, deserves the label "(somewhat) iconic."

It turns out that, for all the fact that so much in language seems to

be arbitrary, it is still rather easy to find instances of iconicity in language, in a variety of domains, i.e., not just in a subset of the vocabulary, e.g., noise words, or in the occasional folk-etymological reshaping of a word. For example, iconicity can be found in syntactic patternings, by which strings of words are combined to form phrases and sentences.

In particular, the order of words in syntactic combinations is often iconic. A case in point from Greek is the placement of consequent clauses—subordinate clauses which express a result or outcome of some action or proposition and which therefore logically follow upon the action or proposition—for they generally are placed after the clause expressing the action they logically follow. Thus in (3):

- (3) mas kímise tóso vathyá pu típote den
 us/ACC put-to-sleep/3SG so deeply that nothing not
 borí na mas ksipnísi
 can/3SG SUBJUNCTIVE us/ACC wake/3SG

'He put us into such a deep sleep that nothing can wake us'
 the clause expressing the consequent (*pu típote...*)—the result that logically follows some action—follows the main clause and any deviation from that ordering sounds distinctly odd at best. Similarly, temporal subordinate clauses that set the stage for some action or event in the main clause typically are placed before the verb expressing that action, as in (4):

- (4) o vasilyás san ákuse aftó xárike
 the-king/NOM:SG when heard/3SG that/ACC rejoiced/3SG
 'The king, when he heard that, rejoiced'

A similar sentence with the stage-setting clause after the main verb (*o vasilyás xárike san ákuse aftó*), while technically possible, would be somewhat unusual.

Several iconic tendencies can be identified also in morphology—the patterning that languages show at the level of the composition of individual words. It is quite common, for instance, for reduplication—the intensification of the form of a word through repetition of all or part of a word—to be used to denote an intensification of the reference of the word, e.g., an intensified activity or description. For example, an intensive degree of an adjective, i.e., 'very X', can be expressed in Greek by repetition—that is, intensification—of the adjective, as with *psilós* 'tall', *psilós psilós* 'very tall'. Similarly, the comparative degree of an adjective, which quite literally refers to more of the adjectival meaning, typically has more morphological material, either an affix, as in *evrís* 'broad', *evríteros* 'broader', or an extra word, as in *endiaféron* 'interesting', *pyo endiaféron* 'more interesting'.

In a parallel fashion, in Greek, as in many languages, plurals, which semantically represent a multiplication of or adding to a given entity, are iconically expressed by the multiplication of morphological material, i.e., by adding various affixes to the base form. A good example is furnished by

nouns like *psomás* 'baker', which adds a *-d-* to the base in the plural as well as further endings, e.g., *psomádes* 'bakers'.

Just as in phonological iconicity, where it is evident that even the most iconic and formally nonarbitrary words have some noniconic elements, so too, in cases of morphological iconicity, it is essential to realize that one can reckon only with tendencies and not iron-clad generalizations. The order of subordinate clauses is not rigidly fixed, and the iconic arrangement in (3) and (4) is the most usual ordering, but not the only one. Further, in one class of Greek plurals, namely those of the third declension neuter nouns in *-os* such as *méros* 'part', the plural has fewer sounds than the singular; *méri* 'parts' has four phonemes whereas the singular *méros* has five.

Even with the above examples from syntax and morphology, it is probably in the realm of phonology that the most familiar examples of iconicity are to be found. Instances of onomatopoeia, including but certainly not limited to words such as *tsirízo* and *kúkōs* noted earlier, are so widespread in language that sometimes one must legitimately wonder where it stops. Whole books have been written attempting to derive an enormous portion of the lexicon of various languages from an onomatopoeic base; a Greek example is the work of Kalogeras,¹⁰ which, though it has not had much of an impact on the way Greek linguistics is practiced, nonetheless represents an attempt to see onomatopoeia in virtually all vocabulary.

Phonic iconicity often plays a role in poetry and literature, where the "success" of a poem or the ability of a literary passage to achieve the right impression often depends on words carefully chosen for their sound-effect. For example, to choose from ancient Greek lyric poetry an example that has been much discussed, most recently by O'Higgins,¹¹ in line 9 of her poem 31, the poet Sappho, in expressing her feelings upon viewing a beautiful young girl, states:

- (5) all' ákan mèn glô:ssa éage
 but in-silence but tongue/NOM has-been-broken/3SG
 'But my tongue is broken in silence'.

This line contains a disputed form *éage* with a word-internal vowel sequence, a "hiatus," that is usually avoided in Greek poetry. The occurrence of the hiatus here seems iconically to reflect the actual stumbling of the tongue that is referred to in the line; as O'Higgins suggests, it "is deliberately intended audially to reproduce the 'catch' in the poet's voice."¹²

Phonic iconicity also figures in the phenomenon known (somewhat misleadingly) as sound-symbolism or phonesthesia. In sound-symbolism, certain sounds or combinations of sounds, sometimes called "phonesthemes," which seem to be something less than truly isolable pieces of words, come to be associated with or, better, are generally evocative of, particular meanings, which often are only vaguely impressionistic

rather than concretely referent. For instance, it is not uncommon cross-linguistically for the high, front vowel [i] to occur in words denoting smallness, where the iconicity is acoustically indirect in that the vowel has an inherent high pitch—a sound that is physically characteristic of smaller objects and creatures—but visually direct in that the oral cavity is small with [i]; similarly, the low, back vowel [a] is often associated with bigness, again a visually direct iconicity since the oral cavity is large with [a]. Greek shows both associations in the pair *mikrós* 'small' versus *makrós* 'long' where the significant difference in meaning seems to be carried only by the difference in the vowel of the first syllable of each word; here, as with most instances of iconicity, one can only talk in terms of tendencies, for there are "large" words in Greek like *psilós* 'tall' that contain the "small" vowel [i].

There are other types of sound symbolism that can be cited which are of a more language-particular nature. For example, within Greek, there is a group of words with the common phonic shell of unstressed *kuC-* (where C stands for any consonant) and the common meaning of referring to some deformity or deficiency, e.g., *kutsós* 'lame', *kufós* 'deaf', *kulós* 'one-armed, maimed', and quite possibly also *kutós* 'stupid'. Such phonesthetic sequences are well-known and found in most, perhaps all, languages.¹³ In such examples, the iconicity, though real in that these phonic elements do summon up strong images and impressions, is paradoxically somewhat conventionalized, in that their effect can be quite language-particular—thus the English translations of the Greek words in this group do not participate in the phonic resemblance—and there are counter-examples to these associations even within the very language in which the forms cluster phonically, e.g., *kuvás* 'bucket' (though admittedly a loan-word from Turkish). Still, their effect can be real to speakers of the language in question, who are often sufficiently aware of such clusters of words to be able to comment on them and offer additional examples.

Some further interesting insights into phonic iconicity are provided by a consideration of language change, even though de Saussure denied this. He noted the fact that words that are originally onomatopoeic can undergo changes that take them away from their iconic origins. For example, the ancient Greek word [bɛ:] (<βη>) for the sound a sheep makes is clearly onomatopoeic in nature, yet, as noted by Anttila,¹⁴ the modern spelling pronunciation of this form, if encountered for instance in a modern Greek edition of an ancient text, would be [vi] with sounds that are hardly evocative of a sheep's noise-making. de Saussure cited parallel examples as "obvious proof that [such words] lose something of their original character in order to assume that of the linguistic sign in general, which is unmotivated."

Again, it seems that de Saussure has overstated things, for onomatopoeia is often recreated so as to reestablish the link with the referent;

for instance, the ordinary modern Greek noise-word for a sheep's sound is [bɛ] (<μπέ>), thus re-creating the link which was evident in the ancient form but which was disturbed by the regular sound changes that would yield modern [vi] from ancient [bɛ:]. There are also numerous cases in which the pronunciation of words change in the direction of a more overt association with an iconic group: an example from the history of Greek is provided by the group of *kutsós* 'lame', *kufós* 'deaf', *kulós* 'one-armed, maimed', and *kutós*, 'stupid' noted above, for it appears that *kulós*, showing the effects either of replacement with a dialect borrowing or an irregular change in the vowel of the first syllable,¹⁵ was attracted formally into the group of *kutsós*, *kufós*, and *kutós*, all of which have [u] as a regular development in their first syllable.¹⁶

As a further example involving diachronic tendencies and sound-symbolism—a case which lays the groundwork for the metasemiotic situation in Greek phonology to be discussed next—the following observation about Greek can be cited: the consonants *ts* and *dz* demonstrably have a special functional status in modern Greek, based on their lexical distribution.¹⁷ In particular, these sounds, but especially *ts*, occur primarily in a variety of iconic and highly expressive words, such as interjections, obvious onomatopoes, slangy highly evocative terms, and a network of sound symbolic elements focussing on 'smallness' and 'sharpness'.¹⁸

(6) Iconic/Expressive/Affective Domains for [tʰ]

a. INTERJECTIONS:

prits 'Oh yeah?!; no way!'

ts 'NEGATION' (actually a click, but conventionally represented like this; also conventionalized as *tsuk*)

tse 'noise used in peek-a-boo game'

b. CALLS TO ANIMALS:

guts 'call to pigs'

tsus 'call to donkeys'

tsunks 'call to donkeys'

its 'whoa!'

iots 'whoa!'

c. ONOMATOPEES (and derivatives):

tsak 'crack!' (cf. *tsakízo* 'I break')

krits-krits 'crunch!' (cf. *kritsanízo* 'I crunch')

mats-muts 'kissing noise'

tsiu-tsiu 'bird's chirp'

plits-plats 'splish-splash!'

xrats 'scratching sound' (with variants *yrats/krats*, and cf. *yratsunó* 'I scratch')

d. IDEOPHONES (i.e., ATTITUDINAL ADVERBIALS):

tsáka-tsáka 'immediate quick action; straightaway; directly'

tsúku-tsúku 'steadily and surely, with a hint of

- secretiveness'
tsaf-tsuf 'in an instant'
- e. CONVENTIONALIZED 'CHILD LANGUAGE' FORMS:
tsatsá 'aunty' (also 'madam [in a bordello]')
tsitsí 'meat' (also slang for 'breast')
tsís(i)a 'peepee' (and cf. variant *dzís(i)a* in [7])
pítsi-pítsi '(act of) washing'
- f. GENERALLY COLORFUL/CONNOTATIVE/ICONIC VOCABULARY:
tsambunízo 'I whimper; I prate; I bullshit'
tsalavutó 'I do a slovenly job'
tsapatsúlis 'slovenly in one's work'
tsurápi 'vulgar woman' (primary meaning: 'woolen sock')
tsókaro 'vulgar woman' (primary meaning: 'wooden shoe')
tsirízo 'I screech'
tsili(m)burdó 'I gallivant; I fart about; I whore around'
tsitsídi 'stark naked'
- g. SOUND-SYMBOLIC GROUP #1: *tsi*-WORD-INITIALLY IN WORDS MEANING 'SMALL, NARROW, CLOSE, THIN':
- i. tsítóno 'I stretch'
tsíta-tsíta 'just, barely (said of a tight fit)'
tsíma-tsíma 'right up to the edge; close'
tsíxla 'thin woman' (primary meaning: 'thrush')
tsilivíθra 'thin woman' (primary meaning: 'wagtail')
tsíros 'thin person' (primary meaning: 'dried mackerel')
tsiló 'have diarrhea (i.e., a thin stool)' (with variant form *tsirló* and related nouns *tsirlió*, *tsíla*, etc.)
- ii. In various diminutive suffixes and nicknames:
-ítsa (e.g., *fuskítsa* 'little bubble')
-ítsi (e.g., *korítsi* '[little] girl')
-útsikos (e.g., *kalútsikos* 'somewhat good [i.e., a little bit good]')
-ts- in hypocorisms (e.g., *Mítsos* from *Dimítris*)
- h. SOUND-SYMBOLIC GROUP #2: *tsV*-WORD-INITIALLY IN WORDS RANGING OVER SUCH NOTIONS AS 'STING, BITE, TEASE, BURN':
tsim(b)úri 'tick'
tsivíki 'tick'
tsimbó 'I pinch, I nip'
tsuknída 'nettle'
tsúzo 'I sting'
tsingló 'I goad'
tsatízo 'I tease'

- tsitsirízo 'I sizzle; I torment slowly'
 tsíkna 'smell of meat or hair burning'
 tsiknízo 'I burn (in cooking)'
 (7) dzi-dzi 'noise of a cicada' (cf. *dzídzikas* 'cicada')
 dza 'noise used in peek-a-boo game' (variant of *tsa*)
 dzís(i)a 'peepee' (variants of *tsís(i)a*)
 dziridzándzules 'coquettish airs; evasiveness'
 dzá(m)ba 'for free; thrown in; cheap'

What is relevant here is that many of these words, especially in the sound-symbolic networks, have been the "target" of changes in pronunciation that were irregular in the sense that they seem to have been sporadic and lexically particular changes, and were not instantiated in a large number of words. These changes affected the earlier Greek derivational sources of these words and had the effect of bringing these words into the "sphere of influence" of particular constellations of sound symbolic words:

- (8) tsitóno 'stretch thin' <—titáino: 'stretch (e.g., a bow-string)'
 tsíxla 'thin woman' <—kíkhle: 'thrush'
 tsíros 'thin person' <—kírris 'sea-fish'
 tsiló 'have diarrhea' <—tiló: 'have a thin stool'
 (9) tsim(b)úri 'tick' <—kímmuros 'counting trifles'
 tsivíki 'tick' <—kímbiks 'skinflint; stingy'
 tsimbó 'pinch' <—knip- 'small insect infesting trees'
 tsúzo 'sting' <—sízo: 'hiss'

The development of *ts* into modern Greek and its current status in the language are interesting in the context of a discussion of iconicity, for *ts* shows an iconicity internal to the linguistic system. That is, there is iconicity both in the types of words it occurs in and in the ways in which its iconicity is manifested in the physical and the cross-linguistic properties of *ts* and *ts*-like sounds. In particular, it is quite common cross-linguistically for such sounds to occur in diminutives and in words denoting 'smallness' in language after language; for example, there are such hypocoristic nicknames as English *Betsy* from *Elizabeth* or German *Fritz* from *Friedrich*. Moreover, *ts* has a high second formant (see footnote 9) and thus is high-pitched in much the same way that the vowel [i] is, with characteristics of sounds made by small objects. Therefore, the physical properties of *ts* and its lexical occurrence in diminutives and words for 'smallness' (cf. [6g]) converge and present an iconicity internal to the system of sounds and the lexicon of Modern Greek.

Besides this system-internal iconicity, *ts* in modern Greek also shows an extra-systemic iconicity that gives it a very special semiotic function. In particular, it plays a role in what may be called the "phono-semantics of marginality" since the sound itself seems to correlate with a certain meaning.

As suggested above, *ts* has a special functional status in modern

Greek. Its lexical distribution can be interpreted to mean that in the overall system of Greek phonology, *ts* has a place that can only be described as marginal, for it is simply the case that *ts* occurs primarily in words that are not run-of-the-mill, ordinary, stylistically, or expressively neutral words. That is, these words are not basic concrete referring expressions like 'table', 'chair', 'light', 'tree', etc. but rather are words that are marked in some way, all a bit unusual due to their evocative feel; a run through various lists of elements in basic structured semantic fields in Greek yields very few *ts*'s—for example, of a hundred body-part words in Greek, only three have a *ts* in them; of fifty-five kinship terms, none has a *ts* and one has the voiced counterpart *dz*; of nineteen basic and not-so-basic color terms, none has a *ts*; etc. Similarly, a 'Swadesh'¹⁹ list of 207 basic vocabulary items yields only one word with *ts*, and that a variant of another term. Such measures are crude, to be sure, but more controlled counts of phoneme frequency that various scholars have undertaken place *ts* at the bottom of the chart.²⁰ While no one can deny the existence of this sound—on the surface at least—in Greek, all analysts have concluded that it is a marginal sound.

What makes the systemic marginality of *ts* especially intriguing from a semiotic perspective is an examination of a few of the groups of words that it occurs in. In particular, one fairly robust set of *ts*-words is a group that refers to deformities or deficiencies of one sort or another (including here some forms with the voiced counterpart to *ts*, namely *dz*):

- (10) *tsevdós* 'lisp' (and derivatives *tsevdízo* 'I lisp; I have a speech defect', *tsévdizma* 'lisp', etc.)
tsátra-pátra 'stumblingly (especially of speech)'
tsimblíaris 'bleary-eyed' (cf. *tsímbla* 'eye-mucus')
dzudzés 'dwarf'

including one subset of words defined by the shape *k-VOWEL-ts-*:

- (11) *kutsós* 'lame'
katso- 'wrinkledy'
katsída 'balding, scurvy head'
kodzam- (prefix denoting largeness often with a contrasting defect)

a group which, interestingly, intersects via *kutsós* with the other deformity subset noted above that is defined by the shape *kuC-*: *kutsós* "lame", *kutós* "stupid", *kufós* "deaf", *kulós* 'one-armed'.

Now this situation in itself is somewhat interesting, in that a language is seemingly associating a particular phonic element, or set of elements, with a semantic class—that of deformities—that is well demarcated. This in itself is noteworthy but may not be so unusual; similar phonic associations with a word-class referring to deformities or abnormalities of some sort are to be found in other languages. For example, in Latin, it has long been noted, e.g., by Meillet,²¹ apparently picking up on an observation of de

Saussure's, and more recently by Malkiel,²² that the vowel [a] is found to a surprisingly high degree in words for weaknesses, physical deformities, and the like: *aeger* 'ill', *balbus* 'stammering', *blaesus* 'lispings, stammering', *caecus* 'blind', *caluus* 'bald', *claudus* 'lame', *crassus* 'fat', *macer* 'lean', *man-cus* 'maimed, infirm', *nanus* 'dwarf(ish)', *paetus* 'squinting', *scaeuus* 'left, clumsy', *strabus* 'squinting'.

Similarly, in Spanish (and more generally, Hispano-Romance, i.e., including Portuguese), there is a preponderance of words with the shape *Co(n)Co-* referring to 'weakness of mind' of some sort, as Malkiel and others have pointed out; among these are the following: *bobo* 'dolt, simpleton', *chocho* 'doting', *fofo* 'spongy, empty', *ñoño* 'senile', *soso* 'inane', *tonto* 'stupid', *zonzo* 'dull, silly'. Similarly, one can point also to the frequency of labials and velars in English ethnic slurs, as noted by Wescott.²³

The Greek deformity-words discussed here have an added dimension to them that makes them especially interesting from the perspective of nonarbitrariness. It is fair to say that deformities or deficiencies generally place a person at the margins of society; moreover, there are numerous negatively-valued character flaws or traits which can place a person on the fringes of society. Significantly, such words, as well as words for other marginal social types, are to be found in Greek with *ts*, e.g.:

- (12) *tsapatsúlis* 'slovenly'
tsulís 'untidy person'
tsingúnis 'miserly'
tsifútis 'skinflint; Jew' (NB: from Turkish *çifit* 'Jew, stingy')
tsúla 'loose-living or low-class woman; slut'

Finally, many Greek words for 'gypsy', the classic instance of a social borderer, a group living at the margins of mainstream Greek society, contain *ts*, e.g.:

- (13) *tsingános*
atsínganos
katsívelos (also with meaning 'sloven', and cf. *k-Vowel-ts-* group above.

Thus, these facts show that the linguistically marginal sound *ts* is prevalent in words for socially marginal types.

This correlation allows for an interesting interpretation: there is here an iconicity that crosses systemic boundaries—the marginal place that *ts* has in the linguistic system serves as an icon for the marginal place that the referents of words with *ts* have in the social system. The marginality of the *signifié*, i.e., the referent, is therefore reinforced by the marginality of a sound contained in the *signifiant*, i.e., the form itself. Moreover, one can even note that the sound in question is generally the initial consonant, i.e., one that at the margins itself (of the word) but also as a result one that is perceptually quite salient.

It can further be suggested that this iconicity is not merely fortu-

itous. It is very striking to be sure, but it instantiates a situation which is found elsewhere in languages of the world; that is, a need to take this situation seriously derives from the fact that it is not restricted to Greek.

In proto-Indo-European, the ancestor language to Greek, Latin, English, Russian, etc., to judge from the cognate forms found in various languages, e.g., Greek *βάρβαρος* 'non-Greek; speaking an unintelligible (i.e., non-Greek) language', Latin *barbarus* 'foreign, strange', Sanskrit *barbara-* 'stammering; non-Aryan', and others, the word that can be reconstructed for one particular type of socially marginal group, namely outsiders who did not speak the language of the tribe, was probably something like **barbaro-*. This form contains two infrequent sounds in proto-Indo-European, namely **b* and **a*, and it has often been pointed out that it is probably imitative in origin, suggesting the babbling effect of a non-proto-Indo-European speaker; the modern Greek forms with *ts* that refer to various speech problems may be a relevant point of comparison. It would seem that there is more than mere onomatopoeia here, something beyond simple mimicry of a babbling-like noise—since **b* and **a* are infrequently encountered in reconstructed proto-Indo-European, it can be hypothesized that these sounds had a marginal status in that language, similar to what is found with *ts* in modern Greek; that being the case, this is then an example of marginal sounds being employed in a word referring to a socially marginal group, i.e., the type of cross-systemic iconicity that Greek *ts* entered into.

Similarly, in the northeast Caucasian languages Chechen and Ingush, according to Nichols,²⁴ pharyngealization occurs on vowels in groups of words referring to boundaries of some sort, including the numerals '1' and '100' (conceptual boundaries, the bounds of native numerals in these languages), various words for sharp ends, tips, and points (providing an interesting parallel to the second Greek phonesthematic group mentioned in [6h]), and—most relevant for the point under consideration here concerning the status of *ts/dz* in modern Greek—some words for physically and/or socially marginal people, in particular the words for 'klutz', 'hulk', 'giant', and 'illegitimate child'.

Finally, even the Latin situation noted above, in which the vowel-*a* seems to be inordinately represented in words for various infirmities, could be relevant here, if it is a carry-over of the marginal status of **a* in Proto-Indo-European referred to above with regard to **barbaro-*.

Only if the role of iconicity in language—as in human symbolic systems in general—is recognized can one make sense of such situations; to pass them off as mere coincidences, nothing more than chance convergences of form and meaning, involves both bad science and bad humanism—a recurring trait across different languages and cultures would seem to demand an explanation in terms that refer to what it means to be a human speaker of a language embedded in a common human environment.

Languages have marginal features; societies have marginal members, social borderers. Hence, finding that speakers might utilize a feature of their linguistic system as an icon of a feature of their social system—associating marginal social groups with marginal linguistic elements—is entirely in keeping with the notion that in essence language users do not impute arbitrariness to language and to linguistic signs; rather they seek some motivation for the signs, even if the resulting reflection is extra-systemic in nature.

This extended example from Greek phonology, therefore, together with the other evidence of iconicity that emerges from an examination of Greek, provides a thorough-going instance of the extent to which iconicity can pervade the various systems comprising and interacting with a language.

Moreover, since all of the phenomena discussed here for Greek find parallels in other human languages, it can be concluded that a greater role for iconicity in language in general needs to be recognized.

NOTES

A version of this paper was originally presented as my inaugural lecture before the College of Humanities of The Ohio State University, on May 3, 1989. I thank the members of the audience for many valuable comments. I would also like to thank James Tai of the Department of East Asian Languages and Literatures of my university, for bringing to my attention his work on iconicity. See James Tai, "Temporal Sequence and Chinese Word Order," in J. Haiman (ed.) *Iconicity in Syntax: Proceedings of a Symposium on Iconicity in Syntax. Stanford June 24-26, 1983*, Typological Studies in Language, 6 (Amsterdam: John Benjamins, 1985).

1. For the most part, I give the ancient Greek forms in transliteration (thus with *u* for upsilon), using a colon (:) to indicate vowel length, except where reference to the written form directly seems necessary; the modern Greek forms, however, are in a roughly phonemic transcription (thus with *i* for ip-silon)—note that I use *x* for modern Greek chi, *ks* for Greek xi, *d* for delta, *y* for *i* before vowels, for gamma before front vowels, and for the combination of gamma plus iota, and *g* for gamma otherwise. Phonetic representations of words are given in square brackets (i.e., []), whereas spelled forms are given in angle brackets (i.e., <>).

2. Other similar examples include modern Greek *kukuvága* 'owl', supposedly named for the noise *kukuváu* it makes (see N. Andriotis, *Ετυμολογικό λεξικό της κοινής νεοελληνικής* [*Etymological Dictionary of Common Modern Greek*] [Thessaloniki, 1983: s.v.], and English *cuckoo*).

3. Cf. Charles S. Peirce, *Philosophical Writings of Peirce*, edited by

Justus Buchler (New York: Dover Press, 1955), for discussion.

4. Andriotis, *Ετυμολογικό λεξικό της κοινής νεοελληνικής*.

5. Andriotis, *Ibid.* For some discussion of folk-etymology in Greek, with more examples of folk-etymological connections, see Kostas Kazazis, "Folk Etymology with and without Adaptation: Some Turkish Loanwords in Greek," in H. Aronson and B. Darden (eds.), *Studies in Balkan Linguistics to Honor Eric P. Hamp on his Sixtieth birthday, Folia Slavica*, 4 (2-3) (1981):309-16.

6. An example from English is *breakfast*, which most native speakers can analyze into *break* in the sense of 'put an end to', plus *fast*, the abstention from eating during a night's sleep, but which few probably think of in those terms when they use it.

7. The *n-* of *nikokirá* is most likely the result of resegmentation of the final *-n* of an accompanying definite article, when in the accusative case (i.e., *tin ikokirá*—> *ti nikokirá*), a relatively common development that is attested elsewhere in Greek, e.g., in *nómos* 'shoulder', from ancient Greek *ômos*. That such a resegmentation could have occurred with this word might suggest a loosening of the connection with *ikos*.

8. R. Anttila, *An Introduction to Historical and Comparative Linguistics* (New York: Macmillan, 1972), p. 349. I know of one instance of a native speaker of German who only at the age of twenty-six came to realize that a German 'glove' (*Handschuh*) was literally a 'hand-shoe' (*Hand* 'hand' + *Schuh* 'shoe')—she had treated the word as an indivisible, unanalyzable lexical item until a nonnative speaker of German pointed out the connection to her.

9. The term 'formant' refers to one of several areas of high acoustic intensity created in the production of a sound, whether a vowel or a consonant.

10. B. Kalogeras, *Ήχοποιητές λέξεις και ρίζες στην ελληνική* (*Onomatopoeitic Words and Roots in Greek*) (Thessaloniki: Afan. Altindzi, 1975).

11. D. O'Higgins, "Sappho's Splintered Tongue: Silence in Sappho 31 and Catullus 51," *American Journal of Philology*, 111 (2) (1990):156-67.

12. O'Higgins, *Ibid.*, p. 159.

13. Well-known examples from English include the word-initial sequence *gl-* in words for various visual phenomena involving light in some way or another, e.g., *gleam*, *glimmer*, *glister*, *glitter*, *glare*, etc., or word-final *-ash* in words for violent hitting, e.g., *bash*, *mash*, *crash*, *dash*, *smash*, etc. (see M. W. Bloomfield, "Final Root-Forming Morphemes," *American Speech*, 15 [3] [1953]:158-64). These too reflect tendencies only, for there are words such as *glue* or *sash* which are phonically but not semantically like the above words.

14. Anttila, *Ibid.*, p. 86.

15. From the ancient Greek <κυλλός>, the expected form in the standard modern language would be [kilós], not, as is found, [kulós]. Given the unexpected nature of the [u] in this word, it may well be that one has to deal here with a sporadic but not unattested change of ancient Greek <v> to [u] (cf., e.g., *fúska* 'bubble' from ancient <φύσκη>) or else a borrowing into the standard language from a dialect in which [u] is the regular and expected outcome of ancient Greek <v>.

16. The vowel [u] from earlier <ω> ([o:]) is quite widespread in unaccented syllables in which a velar consonant (*k* or *g*) or a labial (*p*, *b*, *f*, *v*, or *m*) or both occurs, e.g., *kupí* 'oar' from earlier [ko:píon].

17. I have discussed this observation at length elsewhere from a variety of perspectives (synchronic, diachronic, Balkanistic, etc.)—see Brian D. Joseph, “Τὴν ἰδαίτερη θέσιν τοῦ [ts]/[dz] στὴν ἐλληνικὴ φωνολογία” (“Concerning the Special Place of [ts]/[dz] in Greek Phonology”) *Studies in Greek Linguistics: Proceedings of the 3rd Annual Meeting of the Department of Linguistics, Faculty of Philosophy, Aristotelian University of Thessaloniki, 26-28 April 1982* (Thessaloniki, 1985), pp. 227-35; Brian D. Joseph, “Language Use in the Balkans—the Contributions of Historical Linguistics,” *Anthropological Linguistics* 25 (1983):275-83; Brian D. Joseph, “Balkan Expressive and Affective Phonology—The Case of Greek *ts/dz*,” in K. Shangriladze and E. Townsend (eds.), *Papers for the Fifth International Congress of South East European Studies* (Columbus: Slavica Publishers, 1984), pp. 313-21; Brian D. Joseph, “The Appropriateness of [ts] in Certain Greek Suffixes,” *Onomata. Revue Onomastique*, 9 (1984):21-25; Brian D. Joseph, “On the Use of Iconic Elements in Etymological Investigation. Some Case Studies from Greek,” *Diachronica. International Journal for Historical Linguistics*, 4 (1/2) (1987):1-26; Brian D. Joseph, “Interlectal Awareness as a Reflex of Linguistic dimensions of Power: Evidence from Greek,” to appear in *Journal of Modern Greek Studies*, 10 (1992); Brian D. Joseph, “Modern Greek *ts*: On Beyond Sound Symbolism,” a paper presented at the Conference on Sound Symbolism in January 1986 at Berkeley, to appear in conference proceedings edited by L. Hinton, J. Nichols, and J. Ohala; Brian D. Joseph and Irene Philippaki-Warbuton, *Modern Greek* (London: Croom Helm, 1987).

18. This list is by no means exhaustive, but is meant to be suggestive; note that claim is not that every word with *ts* or *dz* in modern Greek belongs to these lexical classes—there are of course perfectly ordinary words such as *tsiménto* ‘cement’ or *étsi* ‘so, thus’ that have no such special value (though note that such words can move into more colorful spheres, as the relatively recent slang use of *o étsi mu* for ‘my boyfriend’ shows)—but rather that the preponderance of words with *ts* or *dz* fall into one (or more) of these classes.

19. So-called after Morris Swadesh, a linguist who pioneered the exploration of changes in the basic vocabulary of different languages.

20. F. Householder, K. Kazazis, A. Koutsoudas, *Reference Guide of Literary Dhimotiki* (Bloomington: Indiana University Press; The Hague: Mouton, 1964).

21. A. Meillet, *Esquisse d'une histoire de la langue latine* (Paris: Hachette, 1948).

22. Y. Malkiel, “Genetic Analysis of Word Formation,” in *Current Trends in Linguistics, III: Theoretical Foundations*, edited by T. Sebeok (The Hague: Mouton, 1966), pp. 305-64.

23. R. Wescott, “Labio-Velarity and Derogation in English: A Study in Phonosemic Correlation,” *American Speech*, 46 (1971):123-37.

24. J. Nichols, “The Semantics of Pharyngealization in Chechen and Ingush,” a paper presented at the Conference on Sound Symbolism, Berkeley, CA, January 1986.

