

## Degrees of iconicity in the lexicon

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### Abstract

Iconicity is an important part of language: e.g., there is substantial diagrammatic iconicity in the lexicon due to recurrences of form–meaning connections in morphemes, submorphemes, phonesthemes, and word-affinity relations. However, the term morpheme has been applied to phenomena which do not exhibit iconicity. And, differential polysemy across words constrains cross-lexical recurrence of meaning. It emerges that the lexicon exhibits degrees of iconicity, as defined by two competing tendencies for sound: one towards total iconicity, the other towards total non-iconicity (arbitrariness).

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### 1. Introduction

The debilitating premise (Friedrich, 1975: 200) of the arbitrariness of the linguistic sign has for too long held sway not only in general linguistics (including psycholinguistics, cognitive linguistics and linguistic pragmatics more generally), where in some circles it has become almost unquestioned dogma, but also, oddly enough, in semiotics (including semiotic pragmatics), despite the towering intellectual legacy of Charles Sanders Peirce, whose work has convincingly shown that iconicity is an important part of all semiotic systems, including language (1955 [1902]). But general linguistics and semiotics still labor under the shadow of de Saussure (1959 [1916]), even though throughout the 20th century there have been repeated demonstrations that arbitrariness is quite limited. In fact, in the last decade or so, there has been a good deal of work on iconicity, in particular the iconicity of syntax and grammatical (inflectional) morphology;<sup>1</sup> this research has shown the iconic basis of, for example, word order, morpheme order, distance between elements, (a)symmetrical structures, and so forth.

The present paper puts the English lexicon under the iconic lens and asks whether the specific sounds used to form a word carry any cue about its meaning.

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<sup>1</sup> See e.g., Haiman (1980, 1983, 1985a,b), Mayerthaler (1981), Jakobson (1984e [1982]), Shapiro (1983, 1991), Givón (1985, 1989), Bybee (1985a,b, 1986), Dressler et al. (1987), Malkiel (1990a).

The traditional answer to that question is a dogmatic ‘no’; it is fashionable even in iconicity circles to claim that grammar is iconic, but the lexicon is not (see e.g., Haiman, 1985b: 15, 102, 158, 167, 192, 195, 230, 235; 1980, 1983, 1985a). However, I will attempt to show here that the answer to that question should be a qualified ‘yes’: there is iconicity in the lexicon, but it is constrained in very important ways because of lexical polysyemy. In particular, lexical iconicity is a matter of degrees: a given lexical item (or subparts of that lexical item) may be more or less iconic.

## 2. The lexicon is more iconic than is generally believed

Although there are, according to Peirce (1955: 105–107), three types of icons (i.e., image, diagram, and metaphor), I will be concentrating solely on diagram here (for a discussion of image iconicity – onomatopoeia and sound symbolism – see Waugh, 1992). Diagrams are, in Peirce’s words, those icons “which represent the relations of the parts of one thing by analogous relations in their own parts ... many diagrams resemble their objects not at all in looks; it is only in respect to the relations of their parts that their likeness consists” (1955: 105–107). Diagrammatic iconicity then is relational in nature.

### 2.1. Words and morphemes

The particular relation we will study here is the systematic recurrence of sound and meaning in sets of words: both recurrences of form (i.e., subparts of words are formally identical) and recurrences of meaning (i.e., subparts of the meaning are the same). This consistency of form–meaning relation across words, known as the principle of isomorphism or isomorphic iconicity (Haiman, 1980, 1983, 1985a,b – see also Anttila, 1977b: 55), is the famous one form–one meaning principle: it means that sameness of form from one sign to another signals sameness of meaning and difference of form signals difference of meaning. Put in this simplistic way, isomorphic iconicity conforms to the expectations of ordinary speakers and hearers: if there are two different words in a language, we expect them to be different in meaning; if we hear a familiar word in a new context, we expect its meaning to be related to its meaning in other contexts; if we hear an unfamiliar word, we expect it to have a meaning through which we can use it in another context and which will differentiate it from every other word. What is the case with words is also the case with phrases, clauses, sentences, etc. There are exceptions to this general principle, some to be discussed later, but the assumption is that the isomorphism principle is at work unless proven otherwise.

The basis of the analysis of words into their smaller components, generally called morphemes, is isomorphic iconicity. *-ette* is a morpheme by the principle of isomorphism: it recurs in a set of words in which there is a consistency of meaning. In like fashion, there is a set of words like *water*, *watery*, *waterfall*, *rain*, *rainy*, *rain-*

*drop*, *snow*, *snowy*, *snowshoe*, whereby, for example, *water*, *watery* and *waterfall* share a meaning, which is formally represented by the same form *water* in all three words. And likewise with the *-y* of *watery*, *rainy*, and *snowy*. *Watery* is diagrammatically related to *waterfall* on the one hand because of the common root *water* and to *rainy* on the other hand because of the common derivational suffix *-y*; *watery* is motivated relative to these and other words through the recurrence of the same form–meaning relationship. The traditional morpheme (whether lexical, derivational or grammatical) is grounded in the recurrence of particular form–meaning correlations across words. And traditional morphology is a recognition of this fact even if the terms iconicity and isomorphism are often not found in books on morphology.<sup>2</sup> Actually, the terms that have found some currency in the discussion of such issues, more in semiotics than in linguistics, are relative or secondary motivation.<sup>3</sup> But, these are misnomers: such motivation is not relative, it's relational; and it's not secondary, rather it's a powerful structuring force. Indeed, it seems that de Saussure himself was aware of the importance of this principle: in 1911, he explained that the principle of arbitrariness applies only to linguistic signs which cannot be analyzed into smaller constituents; in compound signs, arbitrariness is balanced by motivation. As Godel says in his discussion of this facet of Saussure's unwritten work, "death prevented him from developing these new ideas" (Godel, 1966: 482).<sup>4</sup> One line of development is the following. Language abounds in compound signs, from words which are made up of morphemes, to phrases made up of words, to clauses made up of phrases, and so forth. And due to the fact that the meaning of the whole is a function of the meaning of the parts – that meaning is compositional – there is motivation (also called transparency, see e.g., Ullmann, 1962, 1975; Genette, 1976; Mayerthaler, 1981; Toussaint, 1983; Nöth, 1990: 244–245). Viewed from this perspective, language is a hierarchy of parts and wholes, in which the principle of isomorphism allows wholes to be understood in terms of their parts. In fact, the principle of isomorphism is the basis on which new compound signs such as phrases, clauses, and sentences are formed and is the reason why these new signs can be understood. Thus, diagrammatic iconicity is ubiquitous in language, and the only types of signs for which diagrammatic-isomorphic iconicity does not hold are non-compound signs (e.g., mono-morphemic words). Viewed from this perspective the lexicon is a repository of a good deal of iconicity.

However, there is much more diagrammatic iconic structure in the lexicon than is treated in traditional morphology.

<sup>2</sup> See Matthews (1974); Scalise (1986); Jensen (1990); Spencer (1991). On the iconic/semiotic basis of morphology, see Bybee (1985b), Dressler et al. (1987), Bauer (1988), Matthews (1991) (second edition of Matthews 1974).

<sup>3</sup> Relative motivation is Saussure's term (see 1959: 131–134); others use secondary motivation (see, e.g., Culler, 1976: 30).

<sup>4</sup> At the same time Saussure was exploring anagrams, which are also non-arbitrary – see Starobinski (1971); Culler (1976: 123–134).

## 2.2. Morphemes, submorphemes, phonesthemes

The way by which linguistics normally recognizes internal structure in words is through the morpheme – and only the morpheme. That is, linguistics tends to isolate only those subparts of words which are easily recognizable, which have a good etymological pedigree (i.e., their history can be traced), and which combine with other elements which also have a good pedigree and behave in a well-mannered way. So, for example, *blackberry* is made up of *black* and *berry*, *daily* of *day* and *ly*, *rainy* of *rain* and *y*, *spittle* of *spit* and *le*. But what about *cranberry*, *boysenberry*, *raspberry*, or *holiday*, *Monday*, *yesterday*, *today*, or *naughty*, *jolly*, *clumsy*, *cozy*, or *nozzle*, *runnel*? In an inconsistent and ultimately incoherent move, some analysts claim that *rasp*, *Mon*, *joll* and *nozz* and so forth are morphemes even though they have no meaning. Others recognize internal structure in some of these words but not in others; e.g., *cran*, *boysen*, and *rasp* are considered to be morphemes but *Mon*, *joll* and *nozz* aren't (see Fromkin and Rodman, 1974: 129–131; Aronoff, 1976: 33, 35–45; Spencer, 1991: 40, 86). What is at issue here is the fact that in doing analysis of this sort linguists have been caught in the trap of assuming that if one part of a word is morphological, then the other part has to be too (the principle of total accountability or exhaustive classification). But, there is no reason to suppose that words have to be totally divided into morphemes; research on whole-part relations in general has shown that parts can exist within wholes irrespective of whether the rest of the whole is divisible into parts. Thus, words which are totally divisible into morphemes are simply a more specific case of the general principle that words may have some internal structure. There is no need to assign morphological status to *rasp* or *nozz* or *Mon* or *joll*.

An iconic field trip in the lexicon reveals many more examples of partial structure. One type is what have sometimes been called submorphemes – that is, recurrent partials characteristic of a well delimited set of words, in which the rest of the word is not morphemic (see Read, 1949; Bolinger, 1965e: 220–224; Jakobson, 1971f; Jakobson and Waugh, 1979: 198–203, McCune, 1985, 1988; Blust, 1988). Among the many examples cited is the diagrammatic relation between *brother* and other kin terms like *mother* and *father* because they share *-ther* (Jakobson, 1971f: 354). Moreover, the *th* of *brother* is historically regular, while it isn't in *father* and *mother*; the semantic similarity between the three kin terms led to the reshaping of *father* and *mother*. The English number system evidences several submorphemes (Jakobson, 1971f: 354): *three*, *thirteen*, *thirty*, *third*, with *th-r*; and *two*, *twelve*, *twenty*, *twin*, *twi-*, *twice*, all with (-)tw-; *ten*, *-ty*, and (-)teen with *t* plus a front vowel. Such associations are also found in restricted sets of lexico-grammatical words. For example, initial /ð/ only occurs in words “of demonstrative and relative meanings” (Bloomfield, 1933: 47, 244; Jakobson and Waugh, 1979: 58): *the*, *this*, *that*, *they*, *their*, *thee*, *thou*, *thy*, *thine*, *then*, *there*, *thus*, *than*, *though*. Similarly, initial /hw/ is associated (in some speakers' pronunciation) with the ‘wh-words’ (this designation is an implicit recognition of its status as a sub-morphemic marker) *what*, *why*, *when*, *where*, *which*, *whether*, *how* (with a vowel inserted), and *who* (with a merger of /w/ and /u/) (Jakobson and Waugh, 1979: 59). A large number of such types of diagrammatic relations have been identified for English and other languages.

But there are other diagrammatic relations which are characteristic of more far-reaching word-families. The most widely studied are based on what have been called phonesthemes (Firth, 1930: 184, 186–187; 1935: 44; Householder, 1946: 83; Samuels, 1972; Rhodes and Lawler, 1981, Lawler, ms.). The best known examples are English initials such as /fl-/, which is expressive of movement and characterizes a family of words (*flap, flare, flee, flick, flicker, fling, flip, flit, flutter, flow, flutter, fly, flurry*, etc.<sup>5</sup>); or, /sn/, found in words dealing with the nose: *snore, snorkel, sniff, sniffle, snuffle, snuff, snivel, snout*, etc. (Bolinger, 1965b: 197; Spencer, 1991: 33). Phonesthemes do not have to be initial in words; they may also be final: *rump, dump, hump, mump, lump, stump, chump, thump, bump* (Jespersen, 1922a: 314; Bolinger, 1965b: 196). Or medial. The list of phonesthemes in English is a long one and is expanding due to recent interest in this area.<sup>6</sup>

Phonesthemes are not lost on the ordinary language user. For example, the phonesthemic and onomatopoeic are comically combined in a cartoon published in *The New Yorker* in which one tiger says to the other: “griping, greedy, grasping, grotesque, gruesome, grisly – do you know of any other good grr words?” In fact, *gr-* comprises three phonesthemes, relating to: (1) something unpleasant (*grim, grisly, gritty, gruesome, gruff, grumpy*); (2) complaint (*grumble, groan, grunt, grieve, grudge, gripe* and even *disgruntled*); (3) undesirable rubbing (*grind, grate, grovel, grub*) (Bernard and Delbridge, 1980: 151).

While such phonesthemic associations are quite widespread in the lexicon, not all words with a particular sound combination evidence a given phonestheme, submorpheme or morpheme. Diagrammatic iconicity is always limited by homonymy. So, for example, the prefix *in-* (meaning ‘in’) of *income, input* is not the same as the *in-* (meaning ‘not’) of *inconvenience, inability*, nor as the beginning of the word *incident* (where *in* is not a morpheme). The same is true for grammatical morphemes. Final *-s* is a plural morpheme in *cats*, a noun formative in *pragmatics, linguistics*, an adverbial formative in *besides* (cf. the preposition *beside*), a diminutive in *babykins*, and not morphological at all in *gas*. In much the same way, *flask, snow*, and *grin* don’t contain the phonesthemes *fl-*, *sn-*, *gr-* respectively. Homonymy always limits how far morphemic, submorphemic, and phonesthemic relations go.

### 2.3. Word-affinity relations

But, while word-families characterized by phonesthemes, submorphemes and morphemes are one result of the workings of isomorphic iconicity in the lexicon, they are not the only basis for form–meaning relations between words, since there are also quite far-flung diagrammatic form–meaning recurrences across sets of words known in the literature as word-affinity relations or word constellations

<sup>5</sup> Jespersen (1922: 400), Bloomfield (1933: 156, 242–245), Sturtevant (1947: 111–112), Bolinger (1965d: 207), Harris (1951: 177–178), Chomsky (1957: 100), Wells and Keyser (1961: 8–11); cf. Marchand (1966: 402–404, 412), Samuels (1972: 45–48), Bernard and Delbridge (1980: 151).

<sup>6</sup> See Firth (1935, 1957b,c), Bloomfield (1953), Adams (1973), Matthews (1974), Tyma (1979), Rhodes and Lawler (1981), McCune (1985, 1988), Blust (1988), Lawler (ms.), Janda (ms.).

(Bolinger, 1965b: 191, 198). Moreover, word-affinity relations also may result in multiple and cross-cutting relations, such that a word may share one identity with one word and another identity with another word. So, *rumble* and *mumble* partially share both form and meaning, as do *mumble* and *mutter*, *mutter* and *stutter* and *sputter*, *stutter* and *stammer* and *yammer*, *sputter* and *flutter* and *flitter*, *flitter* and *jitter*, *fritter*, and *glitter*, etc. (Bolinger, 1965e: 220). Some of this is no doubt a *reductio ad absurdum* (Bolinger 1965e: 203), but the fact remains that many of the couplings are not artificial – note collocations like *shiver and shake*, *quiver and quake*. It should also be noticed that this word-family contains some phonesthemes (*fl*, *gl*), but the main basis of the associations across words is the diagrammatic recurrence of form and meaning (Bolinger, 1965e: 220).

In other words, the lexicon is organized around such types of word-affinity relations, in which morphemes, submorphemes, and phonesthemes can sometimes be discerned, but not always: that is, it is a mistake to insist on recognizing specific entities.

While there are many other types of examples of word-affinity relations,<sup>7</sup> it should be obvious that diagrammatic iconicity actually characterizes many words in the vocabulary of English. Indeed, according to Householder (1946: 83), for monosyllabic words with the stressed short-vowel /ʌ/, about 75% of standard English words (and almost all dialect words) either are based on phonesthemes or have their “meaning colored or altered in varying degree by secondary association with phonesthemes”; another 16% “are capable of being associated” with phonesthemes; and only 9% are “clearly and completely arbitrary, their meaning unaffected by the sound”.

No matter whether such claims prove to be right or not, we are very far from where we started: instead of iconicity, it is arbitrariness which is the marginal force in the lexicon. Unfortunately, we have been too eager in our quest for iconicity; we have cast the net too wide and have caught a few barnacles and even some waste products.

### 3. Constraints on iconicity

#### 3.1. *The traditional morpheme*

There are several powerful forces which reduce the workings of the isomorphic principle in the lexicon; in particular we have made an assumption that will prove to be wrong, namely that all recurrences of form are iconic. This is wrong for at least two reasons.

The first is that not all recurrences of form across words are meaningful. And what is at fault is the traditional morpheme, which has been applied to vastly differ-

<sup>7</sup> A full discussion would include blends, synchronic (folk) etymology, acronyms, haplology, back formation, ideophones, clipping, sound symbolic ablaut, reanalysis, slips of the tongue, ideograms, binomial expressions, taboo words, malapropisms, puns, and so forth.

ent phenomena. On the one hand, there are the diagrammatic iconic elements discussed above: e.g., the suffix *-y*. On the other hand, words may have an internal formal structure which has no relation to meaning: e.g., the residue discussed above (such as *cran* of *cranberry*), left over when some words are inappropriately cut into morphemes; linking or sandhi elements such as the *o* of *morph-o-syntactic*; formal components in words borrowed from another language, as in the *-ceive/-cept* words of English (*receive, reception, deceive, deception, conceive, conception*); formal components resulting from a loss of motivation within a language, as in *understand*; other types of formal elements, used for the prediction of certain kinds of phonological behavior.<sup>8</sup> None of these formal elements are the same as the meaningful morphemes discussed earlier.<sup>9</sup>

However, it must be added that these formal elements are also not the same as purely phonological elements – sound in only its distinctive function. In particular, because of the workings of the isomorphic principle, these formal elements always have the potentiality to become associated with a meaning. These semi-morphemes (also called virtual or potential morphemes – see Trnka, 1932: 301) may keep that in-between status over long periods of time, that is, they may never gain a semantic motivation. But there are cases where a semi-morpheme becomes a full morpheme. One recent change from semi-morphemic to full morphemic status in English is the element *mini-*, based on the word *miniature*, borrowed from Italian *miniatura* ‘painting’ (especially the miniature illuminations in Medieval manuscripts), itself from *miniare* ‘to illuminate’, from Latin *miniare* ‘to color with red lead’, from *minium* ‘red lead’. *min(i)-* was an etymological component but *miniature* had both a formal and a semantic relation to words meaning ‘of small size’: *minimum, minion, minnow, minute, min'ute*, and *minutia*. As a result, the element *min(i)-* now means ‘small’ (Jespersen, 1922a: 408; Bolinger, 1965d: 238) and fairly recently became a creative formative element in its own right: e.g., *mini-bike, mini-conference, mini-skirt, mini-camera, mini-computer*, and has led to a spelling and pronunciation change from *minuscule* to *miniscule* (see Espy, 1975: 266).

This seems to suggest that we must recognize at least three types of elements in words: (1) morphemes, submorphemes, phonesthemes, vs. (2) semi-morphemes, semi-submorphemes, semi-phonesthemes, vs. (3) phonological elements. And we must recognize that semi-morphemes/submorphemes/phonesthemes, always have the potential to be actualized, just as morphemes may cease to be active and become etymological components. In the same way, phonological elements may drift towards semi-morphological status, especially if there are enough formal recurrences across words to support it. In other words, given the isomorphic principle, any part of a word has the potential to be iconic, a potentiality which may be fully actualized, partially actualized, or not actualized:

<sup>8</sup> For a discussion, see Bolinger (1965c, 1965e), Matthews (1974, 1991), Aronoff (1976), Scalise (1986), Bauer (1988), Jensen (1990), Spencer (1991).

<sup>9</sup> They may be diagrammatic in other ways: many words with *-ceive* have a corresponding noun with *-cept* or *-ception*, even if the exact meaning of the words is not known.

## Continuum of Actualization of Isomorphic Potential

### None vs. Partial actualization vs. Complete actualization

This leads to a model of the lexicon in which there are word-affinity relations, based on recurrences of form and meaning, in which units like morphemes, submorphemes, phonesthemes, and so forth may sometimes be discerned. But there are also relations which lead to positing the virtual, not the actual status of such units; and there are relations which do not lead to positing separable units. In other words, the lexicon is a network of relations from word to word, based on systematic recurrences of form and meaning, where the relations sometimes result in separable or actualized units, but not always.

While this model is better than that with which we ended section 1, there are still some major refinements to be made.

### 3.2. *The nature of lexical meaning*

#### 3.2.1. *Polysemy*

There's a second – major – reason why the form of a word is not iconic: the meaning of a word can't always be known from its parts.

It is a major principle of the lexicon that words are polysemous<sup>10</sup> and are subject to sometimes wide-ranging semantic development over time. *Book*, for example, originally came from the word for a kind of tree, then meant the pieces of wood from the tree on which documents were composed, then the written document itself, and finally any written document or composition (Jeffers and Lehiste, 1979: 126). Perhaps an extreme example of semantic development is *jolly* (from Old French *joli(f)*, itself changing from 'gay' to 'pretty' at the time of the borrowing), which has meant, "with due allowance for overlaps conducive to occasional polysemy, 'gallant, brave', 'confident', 'amorous', 'splendid, fine', 'delightful, nice', 'of gay disposition, festive, jovial'" (Malkiel, 1982: 121).

Now, sometimes the meanings associated with a given form are so different as to constitute homonyms (two distinct words): e.g., *bank*, as in *grassy bank*, vs. *bank*, as in *savings bank* (from the same source but treated by *The American Heritage Dictionary* as homonyms). But, actually homonymy is simply the limiting case of extensive and wide-ranging polysemy. That is, given the criterion of the relatedness of the contextual meanings of words, there is a continuum going from unitary meaning at one end, to narrower and then to more and more wide-ranging polysemy, to homonymy at the other end:

#### Continuum of polysemy

unitary meaning – some polysemy – more and more polysemy – homonymy

<sup>10</sup> On polysemy, see Cruse (1986); on monosemy, Ruhl (1989). The polysemy–monosemy debate is too long and complex to be recounted here, as are issues like core vs. marginal meanings, prototypical meanings, etc.



This continuum is both diachronic (a word can go from one unitary meaning to more and more polysemy and finally to homonymy – as in *bank* – or, vice versa, homonyms can coalesce in meaning over time) and synchronic. And it is a notoriously difficult task to make a cut in the continuum (whether synchronically or diachronically) such that one could say that there is one word with several meanings on the one side and two words with different meanings on the other: e.g., is *professor* meaning ‘one who professes’ a homonym of *professor* ‘a teacher at an institution of higher learning’, or not; is the body part *ear* a homonym of *ear of corn*, or not? The answer is not obvious and not uniform across dictionary-makers or linguists, and in any case depends on the criteria being used – which criteria are by no means uniform. And this lack of uniformity is linked to the fact that what is at issue here is a continuum, not an obvious dichotomous situation.

### 3.2.2. *Every word has its own history*

All of this semantic differentiation happens to words which participate in word-affinity relations, even those where morphemes, submorphemes, or phonesthemes are present. Moreover, words which are part of such families may be polysemous in different ways; they do not always develop in the same way semantically. That is, as the slogan goes, every word has its own history. Now, the isomorphic principle may help to slow down the rate of semantic divergence of words, especially if the words share a common root; and the more productive the root and affix are, the more the meaning is kept in check. There may of course be cross-lexical tendencies in semantic evolution and polysemy, but even within words which are morphologically quite close there are often idiosyncratic semantic differences.

For example, among some of the *-y* words of English (Malkiel, 1990c: 111–148), *rainy* (‘characterized by, full of, or bringing rain’) has developed semantically the least, being still closely related to *rain* (‘water falling to earth in drops; rainy weather; rapid fall of anything; (plur.) rainy season’). *Crazy* has developed further from its root, *craze(d)*, so that their meanings only partially overlap. *Craze(d)* means ‘to cause or to become deranged, obsessed, insane; a short-lived popular fashion, a rage, a fad’, whereas *crazy* means ‘affected with or suggestive of madness; insane; departing from proportion or moderation; possessed by enthusiasm or excitement; immoderately fond; infatuated; not sensible; impractical’. *Sorry*, which means ‘feeling or expressing sympathy, pity or regret; sorrowful; worthless or inferior; poor; paltry; causing sorrow, grief or misfortune’, is more complex. It used to be spelled *sory* and is etymologically connected to *sore* (‘painful to the touch, tender; hurting; causing misery, sorrow; causing embarrassment, irritation; full of distress; grieved; sorrowful; an open skin lesion, wound, or ulcer; any source of pain, distress, or irritation’) but seems now to be “at equal distance from *sore* and *sorrow*” (Malkiel, 1990c: 120 – cf. *sorrow* ‘mental anguish or suffering; sadness; something that causes such suffering; misfortune; the expression of such suffering; grieving’). *Canny* (‘fully competent; shrewd; prudent; explicable, natural’) and *uncanny* (‘exciting wonder and fear, inexplicable, strange; so perceptive as to seem preternatural’) are even further from each other – and from *can* (‘ability; possession of a specific power, right, or means; possession of a specified capacity or skill; possible

contingency; a requesting or granting of permission'), to which they are etymologically related.

*Jolly* has no counterpart and thus has enjoyed the semantic development given above; it also exhibits a certain amount of polysemy today ('full of merriment and good spirits; fun-loving; exhibiting or occasioning happiness or mirth; cheerful; festive; greatly pleasing; enjoyable').

The lesson to be learned from this is that words with the same suffix and with a related root can still develop semantically, and this development can be different for each word, as exemplified by *rainy*, *crazy*, *sorry*, *canny*, *uncanny*, and *jolly*. They too form a continuum.

Submorphemes, phonesthemes, and word-affinity relations also evidence such variety. In addition to three interrelated families for *gr-* words, discussed above, *gl-* words can be aligned on a continuum, from the visual at one end (e.g., *gleam*, *glance*, *glitter*, *glow*) to the non-visual at the other (e.g., *glen*, *glide*, *globe*, *glove*), with words which are partially visual and non-visual in between (e.g., *glacial*, *glamor*, *glaze*) (see Bolinger, 1965e: 221).

When the semantic divergence between words with common roots, morphemes, phonesthemes goes far enough, terms like lexicalization or lost motivation are used (see Bauer, 1983: 42–61) and examples like *understand* are given: that is, *understand* is said to be lexicalized and homonymy is claimed between *under*, *stand* and *understand*. But the problem is that much lexicalization is only partial: *crazy*, *professor*, *glamor* have some relation to the meaning of their parts, they are at least partially compositional and thus partially lexicalized and partially motivated; but they themselves exhibit different degrees and types of compositionality. So they are different from *rainy* on the one hand which is fully compositional and from *understand* on the other hand with no compositionality at all. That is, as we go across the words in the lexicon, we find a synchronic and diachronic continuum of semantic compositionality going from full compositionality to much compositionality to less and less compositionality to no compositionality:

#### Continuum of semantic compositionality

full – much – little – no compositionality (i.e., lexicalization)

This relates to another facet of whole-part relations: wholes are often not just the sum of their parts; they are related, but not completely nor in predictable manner, to their parts.

The continuum of compositionality is similar to the polysemy–homonymy continuum discussed above. And just as it is difficult to draw a line between homonymy and polysemy, so it is difficult to draw a line between lexicalization and partial compositionality.

What all of this means is that it is difficult if not impossible to find an identity of meaning across words which are part of word-affinity relations, whether such relations are based on roots, derivational affixes, submorphemes, phonesthemes, or whatever. This would seem to deal a death-blow to the quest for iconicity. Whereas

at the end of section 1 of this paper we cited the claim that the lexicon is permeated with iconicity, now we find that the iconicity is everywhere subject to doubts, stricture, constraints. Are we to abandon our search and declare that it has yielded nothing but false icons?

### 3.3. Degrees of iconicity

The problem is that we have been looking for identity of meaning. The question we have been asking is, are the meanings identical or not? And the answer we have gotten from the lexicon is: more or less. The meanings of words in word-families are more or less identical to each other, not strictly identical. This means that it is not identity of meaning which is relevant, but similarity of meaning. Now, actually in Peirce's original definition of the icon (in 1902) and in the work of many of our "iconicity pioneers",<sup>11</sup> iconicity was defined as a similarity relation.<sup>12</sup> However, most linguists working on lexical meaning and on the derivational relations between words have insisted on looking for sameness or identity – and then have been bothered when words (or morphemes) which participate in word-affinity relations are not semantically well-behaved; that is, they have been frustrated by finding that polysemy is the natural state of the meanings of words. To a certain extent, work on the lexicon has been led astray by the results of work on grammatical meaning, where identity of meaning is much more apparent: *walk* and *walked* are substantially alike in meaning, as are *walked* and *dropped*. But the lexicon is different: where grammatical meaning is closer to identity, lexical meaning is much further away. Where grammatical paradigms exhibit more regularities of semantic structure across the words of a paradigm, word-families and word-affinity relations exhibit all of the characteristics of families and social networks in general: that is, certain similarities of character but not identity, idiosyncratic differences, closer vs. further relationships, stronger and weaker ties, and so on.

To put it in another way, similarity itself is gradient: there is more or less similarity, rather than the either-or, all-or-none which is part of identity. There is a continuum going from identity through various degrees of similarity to no similarity at all:

#### Continuum of similarity

identity – more similarity – less similarity – no similarity

Or to put it another way, in terms of lexical relations, there is a continuum going from full relatedness (where there is identity of meaning) through various degrees of

<sup>11</sup> Term from Givón (1985: 191); he cites Roman Jakobson, Emile Benveniste, Dwight Bolinger and Joseph Greenberg.

<sup>12</sup> For a discussion of similarity, see Bolinger (1954, 1961), Jakobson (1971c), Eco (1972; 1976: 191–216).

partial relatedness (where there is similarity of meaning) to no relatedness (no similarity of meaning):

Continuum of relatedness

full – more relatedness – less relatedness – no relatedness

What this means is that linguists will have to abandon the principle of all-or-none, categoriality, either-or, sameness vs. difference<sup>13</sup> for the lexicon, since it is ruled by continua, by degrees, by both-and. To put it in another way, phonology and syntax may in part be categori(c)al, but not all of language is. The lexicon is a prime example of non-categori(c)al coding.

This means that iconicity itself is not an all-or-none; it defines a synchronic and diachronic continuum going from the fully iconic (isomorphic, morphemic, motivated) at one end, to, at the other end, the fully non-iconic (no isomorphism, not morphemic, no motivation), with many degrees of iconicity in between: partial isomorphism, semi-morphemes, partial motivation. And this continuum is correlated with the other continua discussed earlier, the continua of polysemy, semantic compositionality, similarity, and relatedness:

Continuum of iconicity

fully iconic	many degrees of iconicity	fully non-iconic
isomorphic	partially isomorphic	not isomorphic
motivated	partially motivated	not motivated
morphemic	semi-morphemic	not morphemic
onomatopoeic	partially onomatopoeic	not onomatopoeic
sound symbolic	partially sound symbolic	not sound symbolic

Other, related continua:

unitary meaning	polysemy	homonymy
full compositionality	degrees of compositionality	no compositionality
identity	degrees of similarity	no identity
full relatedness	partial relatedness	no relatedness

Thus, fully iconic morphemes evidence full isomorphism/motivation insofar as they have unitary meaning and full compositionality, depend on identity of meaning, and are the basis for full relatedness across the words in which they occur. But, the majority of the lexicon – i.e., the majority of the word-affinity relations, whether based on morphemes, phonesthemes, sub-morphemes, or more general word-fami-

<sup>13</sup> For a discussion of continua and gradience, see Bolinger (1965c: 183; 1961), and, more recently, Bybee (1985b), and Givón (1985).

lies – actually exhibits degrees of iconicity: that is, there is partial isomorphism/motivation, and thus polysemy, degrees of compositionality, degrees of similarity of meaning, and partial relatedness.

Another, more categori(c)al, way to put this is to say that there are two general competing tendencies at work in language: one in which sound plays a wholly iconic role, and one in which it is wholly non-iconic. Words, subparts of words, lexical relations, and sounds are all differentially affected by these tendencies to various degrees. The lexicon as a whole, word-families, individual words, morphemes and phonesthemes – all constantly manifest a delicate and dynamic balance between these two tendencies, between iconicity and non-iconicity, a balancing act that produces the continua outlined above.

Thus, for the majority of the English lexicon, there are cues for the meaning of a word in the specific sounds used to form that word. But these cues are only partial ones, since the nature of lexical meaning – in particular the tendency toward polysemy within and across lexemes – is a major constraint on diagrammatic/isomorphic iconicity.

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