Women, Men, and Bristly Things: The Phonosemantics of the BR- Assonance in English

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Sound symbolism is a troublesome subject for linguists. It's one of those myths that teachers in Introductory Linguistics classes are at some pains to debunk. Surely, goes the usual story, no one who's ever thought seriously about language could believe that there is any relation between the way an ordinary word sounds and its meaning; for instance, dog, chien, and Hund all refer to the same thing, and yet they have nothing in common phonologically. Further, an arbitrarily large number of such counterexamples can be supplied. Q.E.D., and that's the end of that.

I adopt a different perspective on the possibilities of sound symbolism here. Richard Rhodes and I have already sketched its outlines in R[hodes] & L[awler] (1981), though our paper was general in nature and preliminary in intent. To summarize it briefly:

- We limited our data to English monosyllables, (and extended monosyllables with otherwise unique monosyllabic roots, like bristle and bracken);
- 2) We analyzed these words into two phonosemantic units called assonance and rime, following Bolinger (1950). For instance, the assonance of the word brush is

/br-/, while its rime is /-əš/

- 3) We found that there was a great deal of semantic coherence in the sets of words with the same assonance and, to a lesser degree, the sets of words with the same rime. There was, in fact, far more coherence than could be accounted for by any extant theory, enough to challenge the underlying assumption that there was no systematic relation possible between a word's sound and its meaning, at least for many sets of English monosyllables.
- 4) We noted that the meanings of these words were often restricted by pragmatic circumstances to senses that were coherent with their phonosemantics, but not a priori pre-

dictable from it.

- 5) We proposed that the meanings of the assonances and rimes could be described nicely by considering them as a classifier system, using essentially the same sets of features that languages like (say) Chinese or Algonquian use for their noun or verb classifiers.
- 6) We proposed a mechanism for the retention of such phonosemantically related sets of lexical items in the vocabulary over long periods of time. People (especially children) learning a language (whether first or second) will often use phonological resemblance as one strategy for interpreting unfamiliar words. Above some threshhold of phonosemantic coherence (i.e., in a set of lexical items that are similar to some extent both semantically and phonologically), this strategy is successful and becomes reinforced, which in turn reinforces the coherence of the set.

Over a period of time, this process contributes to the retention of the set in the vocabulary, and also acts on new items as they come into the language, accreting them to the set, and suggesting new, coherent, meanings for other phonologically related items.*

* I am greatly indebted to Rich Rhodes for bringing the phenomenon that is the subject of this paper to my attention in the first place, and for the quality and quantity of his previous work with me on the topic, on which I have built wherever possible. I owe a debt of gratitude also to George Lakoff for his insightful syntheses of cognition and linguistics. Thanks are due as well to Ernest McCarus for his interest and encouragement, and to Sheri Schultz of Apple Computer and Scott Wiener of Ashton-Tate for hardware and software assistance, respectively.

Since the appearance of our paper, there has been a flurry of innovative work that deals with similar kinds of semantic and cognitive structurings, though little (except McCune 1983) has been on sound symbolism per se.2 Probably the most thorough and influential of these have been Langacker (1986) and Lakoff (1987), which use such terms as prototypes, gestalts, cognitive models, and image schemas to refer to the various ways in which cognitive processes operate to provide semantic structures that inform our ordinary perception of language (and, for that matter, practically everything else in our conceptual system).

One of the concepts introduced by Lakoff is that of a radial category. His discussion includes the following short characterization of it, with respect to the definition of mother:

"... there is a central category, defined by a cluster of converging cognitive models (the birth model, the nurturance model, etc.); in addition, there are noncentral extensions which are not specialized instances of the central category, but rather are variants of it (adoptive mother, birth mother, foster mother, surrogate mother, etc.). These variants are not generated from the central model by general rules; instead, they are extended by convention and must be learned one by one. But the extensions are by no means random. The central model determines the possibilities for extensions, together with the possible relations between the central model and the extension models. We will describe the extensions of a central model as being motivated by the central model plus certain general principles of extension." (1987:91; emphasis in original)

This type of structure is precisely the kind that is useful in discussing classifiers,3 and it is precisely the kind we found in the semantics of the assonance and rime sets. R&L (1981) was intended to be a large-scale preliminary analysis of the system of assonance and rime meanings. As we said:

"This paper should be taken as a scouting report, rather than a detailed topographic map of the territory."

(1981:318)

I am now in a position to present in this paper a smaller-scale but finer-grained map, a

complete analysis of one assonance as a radial semantic category, with discussion of its semantic relations to several other assonance classes, and the image schemata that appear to be useful in describing the assonances and their meanings. The conclusions I draw are that sound symbolism is alive and well in English - that phonosemantically related sets of monosyllabic lexical items, at least, are common; and that there is a great deal of interesting semantic stucture to be found in these sets. The words I concentrate on here are the English monosyllables that begin with the assonance BR-,4 with mention in passing of the BL- and PR-5 assonance classes. (I have nothing more to say here about rimes, a separately vexing problem awaiting further analysis).

The data in this study is roughly the same as that in R&L (1981): a corpus of Modern English monosyllabic words, designed and initially developed jointly by R and me.6 Surprisingly, there are only about 3500 monosyllabic words in English; to broaden the coverage somewhat, we have also included about 2000 extended monosyllables. These are restricted to those ending with one of a set of unstressed suffixes, listed below with examples from the assonance classes considered here, if any7:

: blunder, prosper -a -ə1 : bramble, bridle, prattle -ən : bludgeon, bracken, prison : blanket, bracket, prophet : practice, prowess, precious

: blemish, brandish -əš -əm : blossom, prism -i : blarney, brandy, prissy

-0 : blotto, bronco, presto

We include only extended monosyllables with otherwise unique monosyllabic roots. That is, none of these words have roots that exist themselves as free monosyllables with any obviously related sense; for instance, prow, brand, and blank are all extant monosyllables, but they are not related to prowess, brandy, or blanket by any productive derivational or inflectional processes in English. Hence the latter words are included in the data, while such forms as blinker, blandly, and broody are not included, since they are derived straightforwardly from extant monosyllabic roots by productive processes.

The initial restriction of the data to monosyllables is significant and deserves discussion. The class of English monosyllables represents the intersection of three important classes of linguistic entities, as Figure 18 shows:

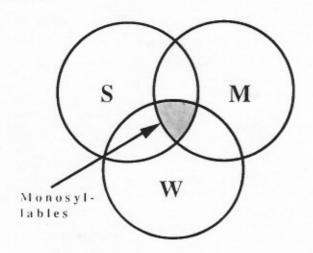


Figure 1

S = the set of single **Syllables** W = the set of single **Words**

M = the set of single Morphemes)

Each of these classes is significant in a different area of linguistics: the syllable in phonology, the morpheme in grammar, and the word in lexicography. It is to be expected that when these classes intersect, the set formed will be prototypic in many important ways.

As linguists have known since Zipf and suspected since long before, short words are important words. This is especially so in English, with its phonological tendency toward syllabic reduction in colloquial speech, its grammatical tendency toward analyticity in syntax, and its lexicographic tendency toward retention of the core Germanic vocabulary in largely monosyllabic form, in parallel with polysyllabic borrowings from non-Germanic languages. These and other processes have had the combined effect in English of eating away at the native words, often leaving original syllabic morphemes audible only in part, if at all, in these most common of all words in the language.

Our original reasoning was that whatever processes were at work in phonetic symbolism, they would preferentially apply in vocabulary areas with long histories; on the other hand, it was important in a semantic undertaking like this to choose the area without reference to se-

mantic considerations, so as not to prejudice the outcome; previous studies like Bolinger (1950), which did not restrict the data in this way, had come to the frustrating conclusion that not much could be concluded because of confusion with too many extraneous variables. We were able to avoid this effect by limiting the scope of the investigation.

Other restrictions on the data are:

- No word is included unless we have heard (or read) and understood it. This means that many archaic and dialectal words are not in the corpus, while, on the other hand, many other words that would be familiar only to overeducated professors like R and me are included.
- 2) We accept any word (no matter how illbred) that we do know. This means that the common Anglo-Saxon monosyllabic taboo terms are all part of the corpus, as are some of the more recent slang terms. However, we were both born before 1950, and we make no pretense to cover all recent change in the language.
- 3) Only common nouns are considered. Since proper names are included in the corpus, all entries can be expected to have some lexical reference.
- 4) Variant inflected forms like men or drank are not entered in the corpus, except in the the cases where these words exist independently as free forms, like the noun drunk 'inebriated person'. This tends to reduce the amount of lexically unmotivated phonological resemblance.
- 5) One word is considered different from a homophone if it has a different spelling; so break and brake are two entries, but there is only a single entry for brake, despite the variant senses of brake (n) 'vehicular stopping device' and 'copse or thicket'; and brake (v) 'stop a vehicle'.

All of these restrictions are motivated by the necessity of reducing (ideally, of avoiding altogether) phonological similarity among forms in the data that are not legitimate evidence for claims about synchronic sound symbolism. Obviously, if there were fifteen forms of a particular word that all began with the same consonant cluster (a common occurrence in inflected languages like Latin or Spanish, for example), they could not by themselves constitute any evidence for phonetic symbolism. The semantic relationships of such forms would be due to ordinary morphological processes, and not to any putative phonosemantic ones. We

have thus consistently erred on the conservative side, excluding forms in which we could discern regular synchronic relationships to

roots that were already included.

Diachronic relationships are another matter. Linguists are fond of pointing out unsuspected historical relationships between words, and it seems clear that at least some synchronic phonetic symbolism is due to the aggregation of phonologically and semantically related forms by gradual historical processes. These processes, however, are not well-enough understood even by linguists (let alone by nonspecialists) to warrant the exclusion of historically-related forms from the corpus, if they are perceived to be separate words.

We often allow ourselves to forget that, even if we can trace sound changes from word to word and language to language, we have only the tiniest inkling of why such changes occur, much less why some forms survive and others don't. On this basis, the inclusion of forms in the corpus that are known or suspected to be related historically can be justified.

The type of phonetic symbolism represented by the English assonance system is on the border between phonology, which changes at a glacial pace, and semantics, which is more amenable to change when the culture requires it; the endurance of the system for at least the last millenium9 speaks strongly of its inherent stability and also of the antiquity of the semantic themes it encompasses. Despite the fact that many of the words with the BR- assonance came into the language after the Old English period, the fact that they are still organized around much the same senses provides evidence of a powerful principle of semantic structuring.

The semantic structure of the BR- assonance is, as noted, a radial category. It is, however, a somewhat complex example of this type because there are two central categories, each with its own radial extensions. The sets are not totally disjoint; most of these words are polysemous, and many have meanings associated with both senses, for reasons we will discuss below. The effect of this overlap is one of partial homophony between the two central prototypes. There are 93 items with the BR- assonance in the data (the full set is given in Appendix A). Of these, 71 (more than 75% of the set) cohere with one or both of the two central senses of this assonance.

Both central prototypes are of a common enough type in classifier systems; Dimensionality (One-Dimensional, Two-Dimensional, etc.) is a prime classifier category type, capable of being further focussed into a number of dif-ferent subfields; also, classifier systems almost invariably include classifiers for Humans.

These are precisely the two central catego-

rial senses of BR- :

BR₁: One-Dimensional [Connected]

This particular One-Dimensional (hereinafter simply 1-D) classifier has a focus on Connection, having reference to any of the several different ways in which the concepts of monodimensionality and connectivity are semantically combinable.

(2) BR₂: Human [Gender Role]

One of the Human classifiers in this system. This class includes both Male and Female terms, each with reference to quite primitive sex-role stereotypes. 10

In discussing the semantic structure of BRhere, I use some terminology originated by Kelly (1955) in a different context. Speaking in psychological terms of properties of constructs (not being concerned with his details, I will roughly and unfairly equate this here with concepts). Kelly noted that any construct has a range of convenience in which it can apply. and a narrower focus of convenience to which it is well-adapted. I will speak here of the range and the focus of both individual lexical items and of classes of such items, like the BR- assonance class.

The notion of range of a form is close to what was called semantics in R&L (1981): a broad characterization of the sense of that form, with many possible instantiations. What I call a focus here, on the other hand, is a distinguished subset of a semantic range, similar to what was called pragmatics in R&L (1981); a focus is a narrowing of a broad range of possible meanings to only a few, or even one, with more particularly specified characteristics.11 This process is caused by conventional association of characteristics in ways that might be considered arbitrary and are certainly unpredictable, though in fact they are probably governed by the practical characteristics of the world as we perceive it and communicate about it.

Thus, for instance, there is a focussing of the English verb drink to mean 'consume alcoholic beverages'. This is arbitrary in one sense, in that it is not a priori necessary to have such an item in the lexicon, and this special use could not be predicted by the semantic description of *drink* alone. But, given that a need for such a term is felt, *drink* is the logical candidate, since it is a fact about the world (and not about English) that alcohol is a salient type of material, that it is liquid at standard temperature and pressure, that its cultural salience comes from its effect on humans when ingested, and thus that its most salient use is an occasion of drinking.

Similarly, there are a number of special instantiations of the noun brush (e.g., the objects referred to by the compound nouns underbrush, hairbrush, toothbrush, bottle-brush, paintbrush, scrub brush, etc.), each a focus of the general sense of the word onto a different salient shape. It is more or less arbitrary which ones exist as lexical items; for instance, English has a word broom, referring to what might just as easily be called a floorbrush; but the senses of the forms are not arbitrary, given the semantic range of brush and the particular focus involved.

A focus is a subset of a range, as noted, but in a multi-dimensional semantic space such as I am assuming here, ranges have non-empty intersections. It is possible, indeed normal, for a given focus to be a subset of another range as well. This can then lead to reassociation of the senses of the items in the focus with those in another range, which may be quite different in its basic definition, producing a me-diated semantic relation between the two ranges. BR₁ is a good example of this process.

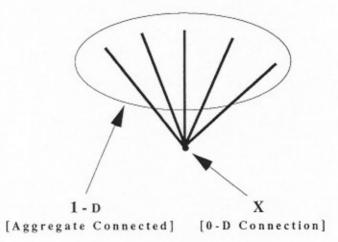
I take its basic sense here to be **One-Dimensional**, similar to the senses of ST- or STR-, which were presented as **1-D Rigid** and **1-D Non-Rigid**, respectively, in R&L (1981). BR₁ has quite naturally (for a classifier) been focussed onto a more restricted meaning set, characterized here as **One-Dimensional Connected**. This is a unified image, something more than a simple intersection of monodimensionality and connectivity.

Dimensionality and connectivity are both topological notions, and may be combined semantically in several ways: there are at least two topologically and grammatically distinct instantiations. The English predicate **connect**, in its basic stative non-causative transitive use, as in (e.g.) A bridge connects the two parts of the city, requires two semantic elements as arguments:

- (a) one I will call the Connected element (e.g, the two parts of the city), which is plural or aggregate.
- (b) the other is the Connection itself (e.g, a bridge), which may refer to a discrete object, or merely to the border between contiguous elements.

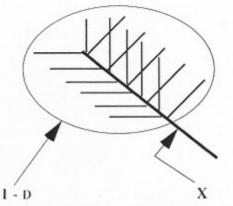
(b) occurs as grammatical Subject of connect and (a) as Direct Object. The 1-D element could be instantiated by either of these two NP elements that appear with connect. Each of these possible references gives rise to a different case, with a different type of meaning.

In Case A, the semantic formula is **X CONNECT 1-D**, with some element **X** as the Connection, serving as Subject, and **1-D** as its Direct Object, which has to be plural or aggregate in order to be the Connected element. Dimensionality is also salient for X; the three common senses of the prototype example of this case, the noun *brush*, are each associated with a different dimensionality value (from 0 to 2) for X. ¹² Figures 2-4 illustrate the variants.



BR₁, Case A: X CONNECT 1-D
[Dim(X)=0]
Figure 2

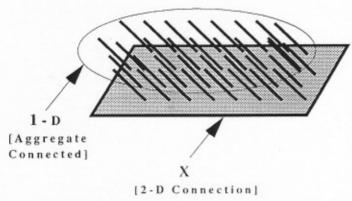
Where **X** is a dimensionless juncture point of several 1-D objects, as in Figure 2, we find the *underbrush* sense of (for example) tufted, multiply branching small plants the most salient. Other examples are *bracken*, *bramble*, *bristle*, and *briar*.



[Aggregate Connected] [1-D Connection]

BR1, Case A: X CONNECT 1-D [Dim(X)=1] Figure 3

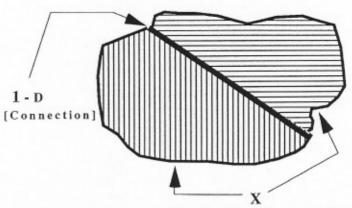
Figure 3 shows the case where X is itself a onedimensional object, with other 1-D objects connected to it. Here we find the paintbrush or bottle-brush senses. Other examples are branch, brand, bract, bridle, braid, and broom.



BR1. Case A: X CONNECT 1-D [Dim(X)=2] Figure 4

In Figure 4, where X is a 2-dimensional plane serving as a common base for multiple, often parallel 1-D objects, 13 we have the hairbrush or toothbrush sense. Other examples are browse and brake.

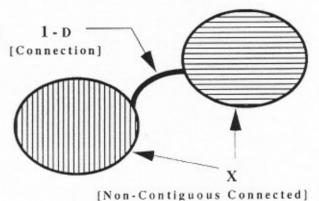
In Case B, on the other hand, the references of the elements in the semantic formula are reversed, producing the formula 1-D CONNECT X, with 1-D as the Subject Connection and X as the aggregate Direct Object Connected. There are two senses, depending, as in Case A, on topological properties of X: if the Connected elements of X are contiguous, then the 1-D element is defined at their border, as in Figure 5.



[Contiguous Connected]

R₁ Case B: 1-D CONNECT X [Contiguous X] Figure 5

Examples of this class are broad, brim, brow, brink, breadth, breach, broach, break, and brittle. If, however, the parts of X are non-contiguous, then the 1-D element refers to a linear connection between them, as in Figure 6.



BR₁, Case B: 1-D CONNECT X

[Non-Contiguous X] Figure 6

This situation is exemplified by bridge, brace, breech, bracket, and brad. We thus see that a large proportion of the words in BR- can be unified under a common semantic analysis, making BR1 a typical radial category with well-defined linkages. There are other linkages within BR1, however, that are not so clear-cut, though they may be more important to the nature of the class.

As mentioned above, it is normal for a term's lexical meanings to migrate from one range to another via focussing. It is a linguistic truism that languages don't have words they don't need; no more do they maintain for long periods of time semantic or morphological distinctions that are irre-levent or without practical significance. It would be strange indeed to find that English speakers had gone to the considerable organizational difficulty of maintaining a BR- classifier if there weren't important objects that were to be classified by it. Unsurprisingly, there are. This semantic range, the pragmatic extension of Case A of the 1-D Connected BR1 category, is simply the large and highly salient class of Plants.

Consider: plants of all sorts are the most diverse, important, and perceptible natural instantiations of Case A. While not all plants are branching in this way, it is fair to say that the overwhelming majority of those commonly encountered are, and that this is a prototypically salient perceptual characteristic of plants. Thus, since this focus has most of its natural instances in the range of Plants, it is natural to associate with them, and with the focus itself as a subset, some of the other salient characteristics of that range. There are several common traits shared by most plants that give rise to further associations.

To begin with, since plants grow from a single stem, it is normal for the diameter of branches to decrease as they get farther from the center of the plant, resulting in a tendency for ends to be quite narrow, even sharp. This can be seen in prototype form in thorns, where the tapering is not from one segment to another, but within a single 1-D segment.

A second characteristic of plants is that they define volumes and surfaces by the extension of their branches. Since plants are stationary, these surfaces are relatively permanent natural features, and, to the extent the characteristic of sharpness described above is present, human contact with them can be difficult, even painful.

These two characteristics are found in many words in the BR₁ class themselves: e.g., bramble, briar, brush (including verbal senses of brush). More interestingly, these and other plant characteristics that are less closely related to the BR₁ range are also found as crosslinks to the homophonous Human BR₂ classifier, showing why the homophony is only partial.

We will return to this topic below after discussing the BR2 classifier.

Probably the most striking of the BR₂ words is a group of six true monosyllables with rimes ending in /-d/: breed, braid, bread, bride, broad, brood. These are, in fact, the words that originally led me to a closer examination of BR-. All these words refer to female gender-role stereotypes. The ways in which they refer are quite varied, as varied as their histories: broad, for instance, in its feminine reference, is a recent slang term, while bride in this sense goes back to the earliest Anglo-Saxon, where it was not limited as it is now to a female ref-erence. 15

The roles associated with the feminine sense of BR₂ are basically two: **breeding** and **feeding**. The former includes sexual behavior and procreation, and the latter food preparation and nurturant behavior. These are, of course, the major female roles associated with early rural European cultures, not to speak of many other cultures worldwide.

Despite the appearance of pejorative terms like broad and brothel, and of symbolic ones like braid and broom (a symbol not only of domestic labor, but of witchcraft, and a prototype BR1 and Plant sense overlap as well), the majority of the feminine BR2 terms are concerned with the nurturant aspects of the female role. The prototype term for these is clearly breast, as denoting not only a female sexual characteristic, but also the original source of human nutrient. In modern English, bra and brooch refer to items of conventional female attire that are worn on the breast, and brisket is a cut of meat from the chest area, therefore referring to both semantic fields symbolized by breast: the pectoral area of the body, and food and nurturance.

Other food terms, less obviously derived from breast, are brew, broil, braise, broth, bran, brine, bread, and brunch. Note again that most of these refer to the type of food preparation typical of rural environments: brining pickles, brewing beer, and baking bread are less common in city homes than rural ones; nor can one rely on finding a kettle of broth on every stove. Bran, being a product of threshing, labor often assigned to females in agricultural societies, also fits here, as well as in BR1.

The sole exception to this rustic theme is the modern (hence urban) blend brunch, a combination of breakfast (a polysyllable coherent with the feminine nutrient sense of BR2) and lunch. Of the activities referred to, broiling and braising are the most common ones in American kitchens, though of course broth and bread (not to mention a few brews, and even 40% bran) are available in most kitchens in commercially packaged form. With this exception, all of the feminine BR2 terms represent aspects of female cultural stereotypes that go back to our rustic Germanic origins. The image of a bride in braids, brewing broth and

breeding brats, is hard to avoid.

And what of her mate? His stereotypic roles are quite different; the masculine senses of the Human BR2 classifier tend toward the more violent of the rustic social virtues, e.g. brave, brawl, brash, brawn, brutal, brag. The image here is one of a socially aggressive, territorially defensive patriarch, far less removed from primitive hominid society than we are likely to think ourselves. There are many clear animal references; bruin seems particularly totemistic, and its phonetic similarity to brute (whence brutal) reinforces the image. Some animal characteristics overlap with the first sense of BR1: for instance, rigid body hair and its role in aggressive display is relevant to the meanings of bristle, particularly the aggressive use of the verbal sense (He bristles when you mention it); and the verb brush is often used to refer to an unpleasant personal encounter, for similar reasons.

Then there is bridle. This word presents a complex collection of interrelated senses: in its nominal sense, it is an example of Case A of BR₁; in its verbal sense of reacting defensively to a perceived threat, it refers to Masculine behavior traits; and in its connotation of control and servitude, and its folk-etymological relation to bride, it can potentially interact with the Female sense of BR2.

bray is another interesting case; the word denotes the vocalizations of asses and mules, animals culturally associated with the qualities of ignorance, stubbornness and pugnacity. In its Human uses, it refers to human vocalizations with precisely these characteristics, appropriate to verbal aggression and territorial defense.

This sense begins to slide over (as almost all phonosemantic senses do in part) toward onomatopoeia, since it denotes a sound. However, it would be a mistake to dismiss this phenomenon that way, since the relevant meaning is not so much descriptive of a sound as of the implied attitudes and context of the communications symbolized by the sound. The relation to brag is clear; other, less common, communicational references in this class are bruit (to celebrate or publicize, with connotations of exaggeration) and brabble (to argue captiously, for the sake of argument).

Adjectives that describe aggressive behavior are brusque and brisk, suggesting an unpleasant brush. A bruise can result from aggression, and a bruiser is an aggressive person; one takes the brunt of something when it (typically an aggressive act) is damaging. Significantly, one can only brandish a weapon, and this is normally interpreted as symbolic, which puts it into the category of aggressive display, along with brag and bray, as important territorial defense behaviors. In addition, brand has 'sword' as one of its meanings, and brick, among other senses, including an old slang term of male comradeship, includes that of a hurled weapon, as seen by the existence of the term brickbat. A modern word that coheres with these weapon terms is bren, which is the acronymic name of a type of British light machine gun developed originally by the Czechs at Brno and later at Enfield armory.

There are also a few masculine BR- terms that are not especially aggressive; all of them, however, refer to conventional male social roles. brother (and its colloquial variants br'er and bro') are unambiguously masculine, and serve as bonding terms. A modern addition to the lexicon with clear masculine denotation and equivalent social bonding value is bris; finally, the obligatory dual 16 forms britch(es) and brief(s) refer to conventional male clothing.

Three doubtful cases are brevet, which refers to a temporary promotion to a position of military authority; brig, which originally referred to a type of warship, but is now restricted in meaning to a nautical or military jail; and bribe. While the act of bribery is socially aggressive, it is probably not visible enough to stand in this company. brazen, on the other hand, refers to openly self-assertive behavior; even though its synchronic derivation is from the verb braze, a Case B instance of BR1, its diachronic relation to brass, a word connoting both military authority and shameless self-promotion in modern English, has been main-

We have noted several cases of overlap, where polysemous words have meanings coherent with both senses of BR-. These are not accidental; there are principled reasons why the two categories overlap. Some of these have to do with experiential linkages with the class of Plants discussed above. Plants are salient at least partially because they are economically important; many are domesticated and provide food and other important human needs. The concepts of procreation and nurturance are intimately connected with plants in the symbol systems of all agricultural societies.

To find that these two related concepts are related also to human females in the feminine BR2 senses of breeding and feeding should have come as no surprise (though it did, at least to me). Plants are symbolized in their seeds, in the hope of a next generation, and in the nurturance value of their products; the prototype image of the fem-inine BR2 classifier has pre-

cisely the same symbols.

The masculine BR₂ classifier, on the other hand, is not at all concerned with nurturance, but rather with territorial definition, maintenance, and expansion by means of aggressive display and actions. The plant characteristics that cross-link with these attributes are precisely those that can be seen in briar, bramble, etc. They have to do with a personal space defined by its borders and the defense of those borders, making any contact with the borders unpleasant and threatening, thus allowing the organism(s) within the space to grow unmolested. We see here a root metaphor¹⁷ for most of the aggressive senses of the masculine BR₂ forms.

In fact, the relation between the prototypical feminine and masculine characteristics of humans as seen in the BR2 classifier is evolutionarily identical to the relation between the procreative and defensive characteristics of plants, as seen in the focus of the BR1 category; any organism, whether animal or vegetable, needs both to reproduce and defend itself, and devices to achieve these ends will be evolved. It is to be expected that successful solutions to the basic problems of species survival are to be found in more than one Kingdom.

Not all the words in the BR- class cohere so directly with either of the central categories. There is a residue of 21 words, which can be divided into several smaller subclasses, some of which represent further extensions that are motivated less obviously than the ones above. Their various modes of coherence suggest that

a larger and more comprehensive **cognitive model**, integrating both of the central categories and embracing most of the words in the assonance class, may have emerged as another type of phonosemantic organizing principle here.

What kind of model could unite the categories of Male, Female, and Plant? What kind ofmodel could possibly have been part of our language and culture for more than a millenium,
performing this integrative function? Lakoff
(1987:154; emphasis added) hints at the answer:

"Cognitive models are *embodied*, either directly or indirectly by way of systematic links to embodied concepts. A concept is embodied when its content or other properties are motivated by *bodily or social experience*."

I have pointed out several times above the links that relate the two central categories of BR-: BR₁'s focus on Connectivity and its extension to Plants; BR₂'s focus on Gender Roles and its motivated overlap with the Plant category. All of these can be embodied by a simple experiential model; I present a somewhat romantic¹⁸ version of it here.

Consider the image of a **House in the Forest**, containing a family engaged in subsistence agriculture and hunting; surrounded by plants and animals, both wild and domesticated; breeding, brawling, and bristling with life. Ever since I started to look at the words that make up this class, this image has haunted me. I cannot escape the conclusion that the BRwords encapsulate and integrate into our living language a part of the experiential gestalt of

our Germanic linguistic forebears.

Most of the remaining words in the class cohere in interesting ways with this image. There is, to begin with, a set of 9 words that seem to have something to do with **Fluids**. ¹⁹ Several of them are related derivationally to words that are included in one of the radial classes, BR₁ or BR₂; for instance, brackish is akin to brine, which is listed above under food preparation terms because of its use in pickling. However, brackish, although it clearly refers to a salt solution, like brine, is out of place in BR₂. Similarly, although brandy is a comestible product, it is not sufficiently close to the nurtural sense of Feminine BR₂ to be counted as such.

Some further subregularities can be observed in this class: brook is certainly fluid: breath, breathe, and breeze have some obvious semantic relations (though the fluid involved is not a liquid); and then there are the inevitable zoological terms, all referring in this case to aquatic animals: one waterbird (brant) and two fish species (bream and brit).20 Note that all these words refer to natural phenomena that would be experienced in the environment of early Germanic culture.

There are also 3 Color terms: brown, bright, and brindle. These may represent "leakage" from the BL- assonance (see below); in any event, note that these colors are also associated with a woodland environment. Finally, there is a congeries of words that simply seem to have no relation, however tenuous, to the semantics of the assonance: bronze, bronco,21breve, broker, bring, brief, brain, braille, and broque.

To sum up this part of the study: BR- includes over 75% of its words in its two central categories: BR1 (1-D, focussed on Connection, with extension to Plants) and BR2 (Human, focussed on Gender Roles, both Male and Female). There is considerable overlap between the categories, much of which can be integrated with the less obviously motivated extensions of Fluid and Color into the general embodied image schema of The House In The Forest, encompassing almost 90% of the words in the class.

So far I have had a great deal to say about the semantics of the BR- assonance, but very little about its phonology. While there is not much of theoretical interest in initial consonant clusters, there is one utterly normal phonological question we might ask: What does it contrast with? In the case of an initial stop-plusresonant cluster, contrast should be with a similar cluster, and the closest contrasts would be with those that differ by one significant feature. If one varies the initial stop, the obvious contrast is with PR-; if one chooses the other resonant that can occur in such a cluster in English, it would be BL-.22 I will discuss both of these briefly here, largely by way of comparison and contrast with BR-.

Another normal linguistic question one could ask about these assonance classes is whether they show any semantic structures that correspond to the phonological constrast. The answer, it turns out, is surprising. The rude, embarassingly unsophisticated cultural roles expressed by the BR- assonance contrast very directly with the cultural role stereotypes expressed by the voiceless counterpart of this assonance: PR-.

This assonance contains 78 words (see Appendix B), of which 10, or about 13% (prod, pry, pretzel, prop, prow, prawn, probe, prong, prick, and prickle) are precisely coherent with a species of 1-D classifier: PR1 - 1-Dimensional

[Extended].23 However, like the situation in the BR- assonance, half of the other words in PR- (39 words) are extensions of a different, partially homophonous central category that bears reference to human social roles. These roles are not sexual in nature (except that any human reference is apt to have occasional implications of sex); their primary reference seems to be to a concept of social Class. Contrasting bray with pray, broad with prude, brute with prig, brag with praise, and brat with prince, for example, gives something of the flavor of the category.

The connotations of the words in this category: PR2: Human [Class Role], are of Propriety and Privilege, particularly in appearance and behavior. This category seems to reflect not so much an actual upper-class sensibility as a pejorative perception of it on the part of a lower class. This is eminently sensible, when one recalls that spoken language is controlled by lower socio-economic classes; despite all the undeniable resources of upper classes, the least common denominator is always the determiner

for non-technical vocabulary.

A good example of the continuing semantic vigor of this category is the recent acceptance of the term preppie (from prep) into the common vocabulary of American English; the denotations and connotations of this term are precisely in tune with the category semantics of PR2. Some descriptive words in PR2 are: preach, prance, prattle, prom, prate, prim, preen, primp, prissy, pretty, and proper. Note the (often excessive) concentration on appropriateness of personal appearance and conventional behavior, and the sneering tone; most of these words can be at least as insulting as the pejorative terms in the BR2 class.

PR2 also contains a number of other terms with related references: prophet, priest, prelate, and prior refer to ecclestiastical privilege and authority; while praetor, privy, and prince have a similar civil reference; prosper, profit, price, and proxy have to do with wealth and its accumulation; and more general terms like private,

promise, proud, pride, prize, and precious relate to the concerns of the upper classes (at least as experienced and expressed -- no doubt in whis-

pers -- by the lower).

What is fascinating about the social terms in PR₂ is that they are so diametrically opposed in register to the roles exemplified in BR₂, despite the strong similarity of the dimensionality classes BR₁ and PR₁ (both of which are 1-D categories). One is tempted to look at this as a sociosemantic version of Grimm's Law, with the devoicing of the stop cluster an iconic representation of "devoicing" of the social connotations of the role stereotypes.

As for the other closely related assonance, BL-, it appears to be organized at least partially on the basis of an embodied cognitive model, like BR-, but unlike that assonance, the model that shows up with BL- has much closer relations with the human body than with social ex-

perience or roles.

There are three central categories in this assonance:

- BL₁, a normal classifier sense, Fluid, further focussed to Fluid [Contained]: blood, bloat, blister, blimp;
- BL₂, a class referring to Color and other optical properties: blue, black, blink, blot, blur, blank, bleach;
- BL3, an evaluative class, referring to Excess of various kinds: bloat, blank, blush, blurt, blast, blight, bluster, blabber.

The first two of these classes appear to be motivated by a simple embodied cognitive model: the \mathbf{Eye} . Color is rather clearly related to the eye, not just because that is the sense organ that perceives color, but also because it is the only reflective surface on the human body, and is distinctively colored as well. The majority of terms in BL_2 can be used either to describe the eye or to refer to the visual characteristics of another object.

There is a very strong conceptual linkage involved here; classical theories of visual perception typically posited rays of some sort that emanated from the eye, illuminated objects, then returned the visual information to the perceiving eye. We may scoff at these theories, but they appear to be reflected in the English vocabulary we use daily.

BL₁ can also be included in this model. The eye is a round, fluid-filled, distended or-

gan, and the **Contained** focus of BL_1 refers to **Fluid** (either liquid or gas) under pressure, with distinctive distention of its container, producing a natural roundness. In such a situation, release of the fluid is a significant event, with results that often have other effects, including audible ones; there are a number of words that echo explosions in this class. Finally, it should be noted that many colors have liquid prototypes (e.g., *blood*), and thus there is even further ground for overlap between BL_1 and BL_2 .

BL3 also has a very large overlap with the other classes. Its general sense, Excess, is evaluative in nature, and even in ordinary use, too much is context-sensitive. In this situation, there are many ways in which Excess can be combined with the senses of the words in the other classes. For instance, the explosion words referred to above include instances of release of Excessive Contained Fluid (blow, blam, blast), as well as some that refer to less dramatic releases (blurt, blubber,24 blare, blat). Then there are the words that refer not to release of the fluid, but rather to its excessive quantity: blush, bloat, blotto, blimp, blubber, and blister.

These last three words deserve some comment; blotto is a euphemism for 'drunk', and its perfect coherence with the phonosemantic sense of 'too much fluid contained' is amusing, and helps explain its acceptance. blimp is also a modern word, describing a vehicle whose most salient visual characteristic is a distended shape due to inflation. Finally, blubber in this sense refers not only to the fat itself as to the typically distended shape it connotes.

There are also several ways in which Excess can be combined with the Color class; the most obvious is the optical overload sense of blind, blank, bleach, bleak, blight, and blanch; in these cases, it is the lack of color that is the Excess. It is also possible to have an excess of color without overload; here the excessiveness can connote any of a number of situations: blemish, blur, and blot refer to the unsuitability of some visual image: either it is the wrong type, in the wrong place, or simply hard to see properly. Finally, Excess can refer to the Eye itself: blear, blench, and blink. Naturally, many of the words can be used in several of these senses.

Even when it is not combined with BL_1 or BL_2 , the BL_3 class has a very large range of convenience. There are 17 other instances of it in

the assonance class, in addition to its multiple overlaps25 with the other central categories. Most of these refer to communicational excesses of various sorts: blither, blather, blarney, bluff, bluster, blooper, bleep, blab, and blabber. The rest are more varied in their type of excess: blunder, blowsy, bland, blah, blunt, blitz, bludgeon, and bliss. All of these, even the last, have definite denotations or connotations of too much of something, and quite a few of them are in common metaphoric use referring to communication.26

All told, the BL- assonance class is surely as structured as BR-, though its structure is significantly different. There is an embodied model that accounts for roughly half the words, but the evaluative BL3 class has nothing resembling it in BR-, nor does the model account by itself for this class or the extent of its overlap with the others. Obviously, there is more here than meets the Eve.

We have now examined three assonance classes; one in great detail, the other two cursorily. We have seen a large amount of semantic structure in all of them, which is the norm for these classes.27 We have also seen that there are significant instances, even in this small case study, of regular correspondences between semantic and phonological patterns.

Armed with the analytic tools of Cognitive Linguistics (radial categories, linkages, cognitive models, range and focus of convenience, etc.) we have managed to discover and describe linguistic structure where none had been suspected. And if there is this much here, what might there be elsewhere?

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Notes

- In the summary above, and throughout this paper, which builds on a prior joint research project, I use the first person plural (exclusive) pronouns in perfective aspect [e.g, "We used..." to refer jointly to Rhodes & Lawler in the context of that project; later inclusive uses of these pronouns [e.g., "As we saw above..."] are instances of the usual textual convention of referring jointly to the author and the reader(s). Despite the difficulty of describing exactly the grammatical forms of these usages, there is rarely any confusion in context, an interesting linguistic fact in its own right. First person singular, of course, refers to the present author alone, who is solely responsible for any errors of inclusion, omission, or analysis.
- Every linguist is familiar with the phenomenon of onomatopoeia, of course, but since that is essentially a matter of describing a sound by using a sound, its symbolic nature doesn't seem completely unreasonable, and anyway, only a very small and insignificant portion of the vocabulary refers to sounds - or so the story goes.
- Indeed, the title of Lakoff (1987), from which the title of this article comes, refers to the contents of the set of items taking the classifier balan in Dyirbal (Dixon 1982).
- Henceforth I will use SMALL CAPS to refer to both assonances and assonance classes; BRthus is the name both of the assonance with phonetic realization /br-/ and orthographic realization br., and of the set of lexical items in

the data that begin with that assonance.

- These classes are obviously related phonologically in having assonance consonant clusters of the type [LABIAL] + [RESONANT]. See below (note 23) for more discussion about similar assonances.
- 6. At present, the corpus exists in the form of a computer database, with accompanying software tools to manage it. The entire package of database and management programs for PC-DOS, with source code in TurboPascal Version 3, is available gratis from the author, and may be freely distributed for research purposes. The program is designed to be used on IBM-PC's or true compatibles with a hard disk and at least 512K of RAM. Please enclose a formatted 5" floppy disk with each request.
- The other suffixes, which do not cooccur with the assonances treated here (BR-, PR-, and BL-), are:

-əb : cherub, scarab -ə : drama, villa -əŋ : darling, awning -əd : acid, fluid

-ək : panic, hammock

-əns : science (occurs only once) -əz : Mrs. (occurs only once) -1ı : sprightly (occurs only once)

- I emphasize single below because it is possible to have polysyllabic words and morphemes, as well as polymorphemic words and syllables.
- It was not accidental that Old English poetry based most of its effect on matching assonances.
- 10. By **primitive** here I mean both "not modern" and "unenlightened". Many of the concepts discussed here represent roles and symbols associated with a much earlier version of our own culture; some of the connotations will no doubt be distasteful to civilized members of Western society. However, it must be borne in mind that Language, for all its protean adaptability, possesses far greater resistance to change in its resources than does the larger material culture. The persistence of

such rude stereotypes as the ones discussed here is good evidence of the semantic inertia of English, and will come as no surprise to feminists and others who have devoted attention to the conceptual bases of language.

- 11. This is effectively equivalent to Lakoff's term linkage (see above), which he uses to refer to the motivated relations of non-central extensions to the central category. The difference in terminology reflects a difference in metaphor. Centrality is a property of oriented space, and links and extensions are compatible with such a container metaphor; on the other hand, focus uses a visual metaphor, with an implicit observer referent.
- I represent below the dimensionality of X (as 0-D, 1-D, or 2-D) by the formula **Dim(X)**, with integer values.
- Whose other ends may also form a plane.
- 14. There is one word, brad, that matches the phonological description yet does not belong to this semantic class, but rather the BR₁ class. This situation is typical of phonosemantic relations; it is uncommon for all the words in a given phonological class to share the same sense. A more typical pattern is for half or three-quarters of them to cohere; the residue may be arbitrary, or (as here) refer to a different sense.
- 15. There is also one extended monosyllable, bridle, historically related to braid (though not to bride), whose connotations of imposed control and restraint may, in this context, cause feminists to bridle in a somewhat different sense (for which see below). The pattern of coherence in this set of words is a fair example of the various ways phonosemantic senses can be related.
- 16. The duality here is produced, like many such cases (e.g., glasses, pants, trousers), by the bilateral symmetry of the human body. In this case the symmetry is that of the legs, which are an instance of the first (Dim(X) = 0) sense of Case A of BR_1 , as in Figure 2, thus providing more overlap with that category.

- 17. More precisely, a branch metaphor.
- 18. This description of the model may in fact be criticised as overly romantic; I am certainly making no substantive claims about details of the provenance of this image, nor am I claiming that this image is a conscious part of anyone's English competence. I am claiming that it integrates the categories; that it is coherent with all the semantics; and that, given what we know of the prehistory of our language and culture, the image is a plausible, valid, and motivated one that is capable of serving as a model for the category.
- 19. There are several assonances whose semantics involves this category; DR-, for instance, is the general classifier for **Fluid** in English (cf R&L 1981), while BL- (see below) is **Fluid [Contained]**. It is not, as it turns out, unusual for words coherent with one assonance to show up as members of a phonologically related class; thus there are a number of 1-D words in the PR- class (see below), and the phonological relation of BR- to both DR- and BL-makes this "leakage" doubly motivated. We return to this issue below.
- 20. brit refers to the young of the species, and may be related to brat. This is not enough to classify it with BR2, however.
- 21. bronze is, of course, related to brass and brazen, which are classified with BR2; however, the word itself does not have sufficient semantic coherence with the class. Similarly, there are masculine, even macho, connotations associated with bronco, but I do not judge it to be sufficiently coherent with the masculine sense of BR2 to be included.
- 22. Some more distant contrasts among assonances with labial initials are PL-, FL-, and FR-; their degree of phonosemantic structure varies considerably. FR-, for in-stance, appears to have no systematic semantics at all. On the other hand, the basic senses of PL- and FL- are both variant focussings of a Two-Dimensional classifier Two-Dimensional [Thick] for PL-[e.g. plush, plank, plate, plump, plaque, pleat]; and Two-Dimensional [Non-Extended] for FL-[flange, flake, flint, fleece, flail, flop], with an

- additional evaluative sense of **Inadequate** [flail, flop, flunk, fluster], a category that contrasts with the evaluative **Excess** sense of **BL**₃-(see below; cf. R&L 1981, p. 335 et passim for further discussion of the various senses of FL-). Interesting though these are, they fall outside the topic of this paper and I have therefore nothing more to say about them here.
- 23. Other members of this class are: privet, a Plant focus; prism, prison and prowl, which use a temporal Extension metaphor; prone, which emphasizes the orientational monodimensionality of the human body; and prowess, whose euphemistic use shows its phallic 1-D associations. PR1 is not nearly as large or well-developed as BR1, which suggests that it is not as central to PR- as BR1 is to BR-, and may in fact represent leakage from BR1.
- 24. In its sense of 'weep uncontrollably'; in its other sense of 'fat' (see below), blubber belongs to the second type of extension of Excess Contained Fluid, which does not refer to release of fluid.
- 25. To highlight the large degree of overlap in this assonance, I have not simply listed the BL- words by category in Appendix C, as with the other two classes, but have rather indicated their memberships in tabular form. Note the high degree of multiple membership.
- 26. Once again, we find that communication, in the form of language and sound, appears in the semantics. It is surely no surprise to find so many metalinguistic terms in one place; humans talk about talking constantly. Nevertheless, it is worth noting that the topic of **sound** is usually not very far from the surface in phonosemantic classes.
- 27. I would not have believed this before beginning the study of monosyllables. Nevertheless, highly structured sets like BR-, BL-, and PR- are the norm, while apparently arbitrary sets like FR- are very rare.

BR₁: 1-D [CONNECTED]

A: X CONNECT 1-D

(1) Dim (X) = 0
bristle
brush
bracken
bramble
briar

(2) Dim (X) =1
brand
bridle
braid
broom
branch
bract

(3) <u>Dim (X) = 2</u> browse brake

B: 1-D CONNECT X

(1) X Contiguous

broad brim brow brink breadth breach broach break brittle

(2) X Non-Contiguous

brace breech bracket bridge brad

BR2: HUMAN

A: Male

brandish britch bris brusque brash brabble brag bribe bren brevet bray brave brisk brawl brawn bruin bruit brute brutal bruise brass brothel brig braze brick brunt brother bre'r

B: Female

bro'

bran breast brunch brine bread braise

[GENDER ROLE]

B: Female (ctd.)

brisket broth broil brew bra brooch bride breed brat brood

RESIDUE

A: Fluid (cf BL-)

brandy brackish brant brit bream breeze brook breath breathe

B: Color (cf BL-)

brown bright brindle

C: Miscellaneous

bronze bronco breve braille bring brief brain broker brogue

PR₁: 1-D [EXTENDED]

prod pry pretzel prop prow prawn probe prong prickle prick practice privet prism prison prowl prowess praxis prone

PR₂: Human [SOCIAL ROLE]

proud prior prophet profit proxy prosper pride price private prize precious prelate prep praetor prince privy priest pro pray pram prance prattle proffer prom prude prompt proper prayer prate praise prig prim primp prink prissy pretty preach preen

promise

RESIDUE

prank prat prime primal preface premise prairie press pronto presto primer print preemie primo prole propyl prose prove proof prune prey

 BL_1 : FLUID [CONTAINED]

BL2: COLOR/EYE

BL₃: EXCESS

BL-	1	2	3	
BL-			3	-
blintz	x	_	-	
blob	x	-	-	
blood	x	x	-	
bloom	x	x	-	
blossom	x	x	-	
blaze	x	x	x	
bleed	x	x	x	
blush	x	x	x	
bloat	x		x	
blister	x	-	x	
blow	x	-	x	
blurt	x	-	x	
blam	x	-	x	
blast	x	-	x	
blat	x	-	x	
blotto	x	-	x	
blare	x	-	x	
blain	x	-	x	
blimp	x	-	x	
blubber	x	-	x	
blue	-	x	-	
blurb	-	x	-	
blip	-	x	-	
black	-	x	-	
blond	-	x	-	
blazon	-	x	-	
blind	-	x	x	
blink	-	x	x	
blank	-	x	x	
blemish	-	x	x	
bleb	-	x	x	
bleach	-	x	x	
bleak	-	x	x	
blear	-	x	x	
blench	-	x	x	

BL-	1	2	3
blot	-	x	x
blight	-	x	x
blanch	-	x	x
blotch	-	x	x
blur	-	x	x
bliss	-	-	x
blither	-	-	x
blowsy	-	-	x
blarney	-	-	x
bland	-	-	x
blather	-	-	x
bluff	-	-	x
bleep	-	-	x
bludgeon	-	-	x
blunder	-	-	x
blunt	-	-	x
bluster	-	-	x
blitz	-	-	x
blooper	-	-	x
blah	-	-	x
blabber	-	-	x
blab	-	-	x
blanket	-	-	-
blithe	-	-	-
blouse	-	-	-
block	-	-	-
blend	-	-	-
bless	-	-	-
blade	-	-	-
bloc	-	-	-
bleat	-	-	-
blame	-	-	-
blandish	-	-	-
bleacher	-	-	-
bloke	-	-	-