figurative language in a universalist perspective

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The past few years have brought increasing interest in lexical universals. Much of this interest has been stimulated by Berlin and Kay's (1969) widely cited study of uniformities in color classification, and by Berlin's (1972, 1976; Berlin, Breedlove, and Raven 1973, 1974) proposals of general principles of classification and nomenclature in folk biology. Numerous studies of color and folk biology, and of other domains, document additional regularities (for extensive citation, see Witkowski and Brown 1978a). Among the latter, the domain of human body part terms has proved rich in cross-language regularities.

Lexical universals described for the domain of human body parts have primarily involved nomenclatural uniformities. Studies by Brown (1976), Swanson and Witkowski (1977), and Andersen (1978), for example, all identify body parts (e.g., head, hand, foot, eye, ear) that are regularly labeled by simple lexemes, and other parts (e.g., fingernail, toenail, eyelid, earlobe) that are regularly labeled by complex lexemes. The latter studies and several others (e.g., Ellen 1977; Liston 1972; McClure 1975; Stark 1969) have also been concerned with patterns in the manner in which parts of the body are conceptually related to one another. In addition, attention has been given to the association between the general perception of space and shape and the naming of human body parts (e.g., Friedrich 1969a, 1969b; Stross 1976).

The present paper focuses on the semantic content of figurative names for certain body parts. More specifically, it deals with cross-language regularities in the use of figurative language in body part labeling. Evidence is assembled showing that certain metaphors for body parts occur with high frequencies in languages of the world. Their rates of occurrence

This paper assembles cross-language evidence documenting several high frequency, figurative labels for body parts: e.g., "child of the eye," for pupil of the eye; "mother of the hand," for thumb; "mouse of the arm," for biceps. These figurative expressions occur in languages at frequencies that greatly exceed chance. In addition, their distribution is discontinuous across genetic and geographic language boundaries, indicating frequent independent invention. Repeated invention of similar figurative expressions is due to universal naming tendencies. These tendencies relate to underlying marking principles, intralanguage lexical constraints, physical world/perceptual givens, and language context and use considerations. [anatomical terminology, cognitive anthropology, folk classification, language universals, marking principles, metaphor]

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greatly exceed chance, and they are not continuous in their distribution across genetic and geographic language boundaries. Consequently, it can be inferred that they have been invented over and over again in human languages.

Figurative language encompasses all areas of speech and behavior relating to the nonliteral, metaphorical, and rhetorical. Anthropologists in particular have recently been taking note of the pervasive role of metaphor, metonymy, synecdoche, and the like in the daily lives of people and are beginning to build useful typologies and theories of these ethnolinguistic phenomena (see especially Fernandez 1972, 1974, 1977; Sapir 1977; Crocker 1977; Sapir and Crocker 1977; Tyler 1978; Friedrich 1979). Figurative language has often been a focus of linguistic interest as well, especially in the area of language change (e.g., Brown 1979a; Ullmann 1957, 1962). This paper contributes to the expanding interest in figurative language by providing an additional framework, a universalist perspective, for its investigation.

Attention is focused here on metaphorlike expressions that have gained currency in languages as stable nonliteral names for body parts. For example, many languages equate pupil of the eye with a human being or a humanlike object, usually small in size, through use of established figurative expressions translating literally as "baby of eye," "girl of eye," or "doll of eye"—for instance, Spanish *niña del ojo* (literally, "the small girl of the eye"). An alternative, nonfigurative way of naming this part would involve an expression such as "small black spot of eye." This paper documents the occurrence and distribution of this figurative mode of identifying the pupil. It also documents several other metaphors, including one equating muscular parts of the body with small animals and one equating fingers and toes with people, usually kinsmen. Other documented figurative names for body parts involve more obvious associations, e.g., one equating human testicles with eggs.

This study is based on a survey of body part nomenclature from 118 languages. Data were gathered from published and unpublished works describing folk systems of human anatomical terminology and from dictionary sources (see Appendix). Included languages are from most of the world's major language phyla and are worldwide in distribution. Table 1 organizes the 118 languages according to genetic relationship and world area.

While documentation of universal tendencies in figurative naming of body parts is of interest itself, of equal importance are frameworks of explanation that can be brought to bear upon them. Such frameworks can play a role in developing a theory of shared cognitive processes underlying human behavior. With respect to the lexical regularities examined here, two phenomena require explanation: (1) why certain body parts are regularly designated by figurative labels while other parts are not, and (2) why figurative names of relatively constant semantic content are regularly resorted to in labeling certain body parts.

Our discussion of the first question draws on the framework of marking developed over the years by scholars such as Jakobson (1941) and Greenberg (1966, 1969, 1975). That regularities in figurative naming should trace to this framework is not surprising since marking has been shown to underlie many uniformities involving lexical data (Greenberg 1966, 1979; Kronenfeld 1974; Brown 1977, 1979b; Chase in press; Witkowski 1972; Witkowski and Brown 1977, 1978a; Witkowski, Brown, and Chase 1981). Our discussion of the specific semantic content of figurative names is somewhat tentative since consideration of this issue from a universalist perspective has not been undertaken to any significant degree before now (one notable recent exception being Canart 1979). Our treatment relates specific figurative content to intralanguage lexical constraints, physical world/perceptual givens, and language context and use conditions.

Table 1. 118 languages surveyed, organized by genetic relationship and world area.

Eskimo-Aleut: Aleut (1), Inupik Eskimo (2), Nunivak Eskimo (3)
Salish: Puget Salish (4)
Algonkian: Delaware (5), Natick (6), Ojibwa (7)
Siouan: Biloxi (8), Crow (9), Dakota (10), Osage (11)
Gulf[a]: Atakapa (12), Choctaw (13)
Iroquoian: Iroquois (14)
Athapaskan: Navajo (15)
Penutian:
  Miwok: Central Sierra Miwok (16), Lake Miwok (17)
  Maiduan: Maidu (18)
Yukian: Wappo (19)
Hokan: Achumawi (20), Diegueño (21), Tequistlatec (22), Yana (23)
Aztec-Tanoan:
  Kiowa-Tanoan: Kiowa (24)
  Uto-Aztecan:
    Numic: Shoshoni (25)
    Takic: Luiseño (26)
    Sonoran: Mayo (27), Papago-Pima (28), Tarahumara (29)
    Aztecan: Mexicano (30)
Tarascan: Tarascan (31)
Mesoamerican[b]:
  Otomanguean:
    Otomian: Mazahua (32)
    Mixtecan: Mixtec (33), Trique (34)
    Zapotecan: Chatino (35), Zapotec (36)
  Zoquean: Mixe (37), Sayula (38), Zoque (39)
  Mayan: Huastec (40), Tzeltal (41)
  Others: Huave (42), Totonac (43)
Macro-Chibchan:
  Chibchan: Brunka (44), Terraba (45)
  Barbacoan: Cayapa (46), Colorado (47)
Ge-Pano-Carib:
  Macro-Carib: Huitoto Muinane (48), Ocaina (49)
  Macro-Panoan: Tacana (50)
Andean-Equatorial: Aguaruna (51), Movima (52), Quechua (53)
Astronesian:
  Oceanic:
    Eastern Oceanic:
      Polynesian: Hawaiian (54), Maori (55), Nukuoro (56)
      Others: Ambrym (57), Eddystone (58), Fijian (59)
    Micronesian: Kusaiean (60), Marshallese (61), Mokilese (62), Woleaian (63), Yapese (64)
  Northwest Austronesian: Bikol (65), Bontok Igorot (66), Manobo (67), Maranao (68), Tiruray (69), Palauan (70)
    Papua Austronesian: Muyuw (71)
Indo-Pacific:
  Central New Guinea: Kewa (72), Tifal (73), Yareba (74)
North New Guinea: Gnau (75)
Australian Macro-Phylum: Pintupi (76)
Mon-Khmer: Chrau (77), Katu (78), Sedang (79)
Miao-Yao: White Meo (80)
Kam-Tai: Lao (81), Thai (82)
Sino-Tibetan:
  Tibeto-Burman: Ahi (83), Kham (84), Tibetan (85)
  Chinese: Mandarin Chinese (86)
Altaic: Japanese (87), Mongolian (88), Turkish (89).
Uralic: Finnish (90), Hungarian (91)
Indo-European:
  Indo-Iranian: Kotia Oriya (92), Pali (93), Pahlavi (94)
  Slavic: Polish (95), Serbo-Croatian (96)
  Baltic: Latvian (97)
  Italic: Latin (98), Portuguese (99), Spanish (100)
  Celtic: Cornish (101), Irish (102), Welsh (103)
  Germanic: Dutch (104), English (105)

Others: Albanian (106), Armenian (107)
Afroasiatic: Amharic (108), Galla (109), Moča (110)
Niger-Congo:
Benue-Congo:
Bantu Proper: Congo (111), Kikuyu (112), Zulu (113)
Cross River: Efik (114)
Kwa: Ibo (115), Yoruba (116)
West Atlantic: Dyola (117)
Mande: Mende (118)

[a] Springer and Witkowski (1980); Witkowski and Springer (1980).
[b] Witkowski and Brown (1978b).

figurative expressions for pupil of the eye

Tagliavini (1949) was the first to assemble cross-language data documenting a widely shared figurative label for a body part. This label equates pupil of the eye with a human being or humanlike object, usually small in size, e.g., a baby, a small girl, a doll. Tagliavini found this metaphor in both Indo-European and non-Indo-European languages, including those as remote from one another as Swahili, Lapp, and Samoan.[1]

Table 2 lists languages that equate pupil of the eye with a human being or humanlike object. Languages are organized in Table 2 by genetic relationship and world area, i.e., the order of listing follows that of Table 1. Parenthetical numbers are for easy identification of genetic affiliation through reference to Table 1. Subsequent tables are arranged in a like manner.

A literal translation is given for each expression of each language listed in Table 2. Most

Table 2. Languages surveyed having a "human/pupil of the eye" equation.

1. Tequistlatec (22): "little one of the eye" = pupil
2. Zapotec (36): "doll of the eye" = pupil
3. Mixe (37): "person of the eye" = pupil
4. Tzeltal (40): "baby of the eye" = pupil
5. Totonac (43): "saint (of the eye?)" = pupil
6. Quechua (53): "angel of the eye" = pupil
7. Hawaiian (54): "statue or doll of the eye" = pupil
8. Nukuoro (56): "infant ghost" = pupil
9. Ambryn (57): "child of the eye" = pupil
10. Fijian (59): "spirit master or spirit chief" = pupil
11. Yapese (64): "child" = pupil
12. Bikol (65): "person (of the eye?)" = pupil
13. Maranao (68): "person of the eye" = pupil
14. Tiruray (69): "person of the eye" = pupil
15. Thai (82): "black child of the eye" = pupil
16. Turkish (89): "baby or doll of the eye" = pupil
17. Latin (98): "orphan, girl, ward" = pupil
18. Portuguese (99): "young girl of the eye" = pupil
19. Spanish (100): "young girl of the eye" = pupil
20. Cornish (101): "son of the eye" = pupil
21. Irish (102): "son (of the eye?)" = pupil
22. English (105): "young student of the eye" = pupil
23. Armenian (107): "son, child" = pupil
24. Efik (114): "child of the eye" = pupil
25. Dyola (117): "dark father of the eye" = pupil

of these equate pupil of the eye with a small human (e.g., baby, child, son) or with a diminutive humanlike object or being (e.g., doll, infant ghost). In several cases, however, size is not significant (e.g., "person of the eye" and "man of the eye"). In four cases, the human or humanlike objects involved are associated with the spiritual realm: angel, infant ghost, spirit master, saint.

Languages with the human/pupil equation are worldwide in distribution and are affiliated with many different genetic groups. Despite absence from North American Indian languages, global distribution of this expression indicates independent innovation on numerous occasions by speakers of languages genetically and geographically distant from one another.

Not every occurrence, however, is due to independent invention. For example, Zapotec and Tequistlatec, neighboring but genetically unrelated languages in Oaxaca State, Mexico, borrowed the term *niño* (child) from Spanish and use it combined with native terms for eye to designate pupil. It is likely that both languages borrowed the human/pupil equation, as well as the term, from Spanish.

English "pupil," of course, means both "young student" and "pupil of the eye." The term and its meanings were borrowed from Latin through French. Although contemporary speakers do not usually think of the two meanings as connected, perhaps when the borrowing from French took place, the expression "pupil of the eye" was still alive as a metaphor.

Occurrence of the human/pupil metaphor in Spanish and Portuguese traces to their common descent from Latin. Both retain a reflex of the Latin word for pupil as a technical anatomical term. However, the everyday expression for the body part has developed through relexification of the Latin expression. Portuguese has *menina do olho* (young girl of the eye), and Spanish has *niña del ojo*. Relexification of the human/pupil equation in Spanish and Portuguese is evidence of the continuing vitality of the metaphor in these languages.

A label for pupil is found in 69 of the 118 languages surveyed. The relatively infrequent listing of a pupil term by lexicographers is a function of the marked status of this term, i.e., it is low in salience and infrequent in use across languages. Frequency of occurrence of the metaphor is 36.2 percent (25 of 69). Extrapolating from this figure, then, slightly over one-third of the languages of the world equate pupil of the eye with a human or humanlike object.

Most of the remaining 44 languages for which pupil terms were found also use figurative labels. Examples limited to single languages are "iron ore of the eye" (Amharic), "star of the eye" (Marshallese), "candle of the eye" (Welsh), "beetle of the eye" (Hungarian), and "hailstone of the eye" (Maori). Several metaphors occur more frequently, e.g., "stone of the eye" (three cases). Second in frequency to human/pupil is an expression equating pupil with

Table 3. Languages surveyed having a "seed/pupil of the eye" equation.

1.	Biloxi (8): "black seed of the eye" = pupil
2.	Dakota (10): "apple seed of the eye" = pupil
3.	Choctaw (13): "seed of the eye" = pupil
4.	Chatino (35): "seed of the eye" = pupil
5.	Brunka (44): "seed of the eye" = pupil
6.	Colorado (47): "seed of the eye" = pupil
7.	Huitoto Muinane (48): "seed of the eye" = pupil
8.	Chrau (77): "seed of the eye" = pupil
9.	White Meo (80): "kernel of the eye" = pupil
10.	Latvian (97): "acorn of the eye" = pupil
11.	Zulu (113): "berry or pit of the eye" = pupil

a seed or similar object (e.g., a kernel or acorn). Languages with this equation are listed in Table 3. The seed/pupil metaphor is worldwide and discontinuous in distribution with a frequency of 15.9 percent (11 of 69).

A seed/pupil analogy draws on shape and perhaps size similarities. Tagliavini (1949) notes that expressions equating small humans with the pupil are responses to the similarity between a child and the minute figures of persons reflected in the eye. Presumably, reflected human figures are more dramatic and fetching as source material for figurative naming than rather prosaic shape-size similarities. This might account for the greater frequency of the human/pupil equation compared to seed/pupil.

figurative expressions for fingers and toes

Occurring at the same frequency as human/pupil expressions are a group of usages equating one or more digits of the hand or foot with people, usually kinsmen. Table 4 lists 42 languages having such metaphors. The people/digits equation occurs at a 35.6 percent rate (42 of 118).

The basic design of the metaphor identifies thumb and big toe by use of a term for an older, ascending generation relative, usually a parent, while the remaining digits (fingers and toes) are labeled by terms for younger relatives, usually offspring. Few languages, however, apply this design in its entirety. Some languages, for example, denominate thumb or big toe by use of a mother or father term, yet do not use kin terms for fingers and toes. Conversely, a kin term may be applied to fingers and toes, but not to thumb or big toe. Table 4 lists the specific form of this metaphor in individual languages.

In addition to high frequency, the people/digits equation is worldwide and discontinuous in distribution, indicating frequent independent invention. It does not, however, occur in European languages. This is due to the extreme rarity of figurative labels of any kind for digits in these languages. European languages tend to utilize unitary lexemes for digits and, thus, do not use figurative language in naming these body parts.

Competing metaphors for digits are relatively uncommon. A few languages use a term for head of the body for toe or finger, e.g., "head of foot" and "head of hand," respectively. Five languages, all Amerindian (Osage, Mazahua, Mixtec, Cayapa, and Colorado), have this figurative usage. Another expression for digits occurs in two languages of the sample: Shoshoni and Tiruray designate finger by a label translating as "leaf of hand." Most of the remaining languages use unitary lexemes or nonfigurative descriptive expressions for digits.

The ubiquitous people/digits metaphor is interesting in its semantic content. There is, of course, some similarity between digits and kinsmen. Digits, like kinsmen, are grouped: digits on hands and feet, and kinsmen in families and larger groupings. In addition, among grouped digits the thumb and big toe are especially distinct. Similarly, kinship statuses are distinct: parents versus children, elder siblings versus younger siblings, and so forth. Finally, digits, like people, are individually animated.

figurative expressions for muscle or muscular body parts

Also widespread are figurative expressions applying terms for various small creatures to muscle in general or to particularly muscular parts of the body. The latter include thighs, biceps, and calves of the leg. Table 5 lists 23 languages having such expressions. Frequency of occurrence is 19.5 percent (23 of 118). This may be considerably less than the actual worldwide frequency due to missing data on some of the relevant body parts.

Table 4. Languages surveyed having a "people/digits" equation.

1. Puget Salish (4): "old finger" = thumb
2. Biloxi (8): "old of foot" = big toe, "old of hand" = thumb
3. Dakota (10): "mother of hand" = thumb
4. Choctaw (13): "mother of foot" = big toe, "mother of hand" = thumb, "son of foot" = little toe, "son of hand" = finger
5. Central Sierra Miwok (16): "old woman ?" = thumb
6. Lake Miwok (17): "old finger" = thumb
7. Wappo (19): "old man of hand" = thumb
8. Diegueño (21): "parent of foot" = big toe
9. Yana (23): "man's older brother" = thumb, "man's younger brother" = finger
10. Shoshoni (25): "grandfather of foot" = big toe, "grandfather of hand" = thumb
11. Mexicano (30): "child of foot" = toe, "child of hand" = finger
12. Mixe (37): "child of foot" = toe, "child of hand" = finger
13. Zoque (39): "mother of foot" = big toe, "mother of hand" = thumb, "child of foot" = little toe, "child of hand" = little finger
14. Huastec (40): "mother of foot" = big toe, "mother of hand" = thumb
15. Tzeltal (41): "mother of foot" = big toe, "mother of hand" = thumb, "baby of foot" = toe, "baby of hand" = finger
16. Huave (42): "mother of foot" = big toe, "mother of hand" = thumb, "child of foot" = toe, "child of hand" = finger
17. Totonac (43): "mother finger" = thumb
18. Cayapa (46): "child toe" = little toe, "child finger" = little finger
19. Ocaina (49): "child of foot" = toe, "child of hand" = finger
20. Aguaruna (51): "adult or old one of foot" = big toe, "adult or old one of hand" = thumb, "little boy of foot" = little toe
21. Quechua (53): "mother finger" = thumb
22. Maori (55): "old man parent" = big toe or thumb
23. Nukuoro (56): "parent of foot" = big toe, "parent finger" = thumb
24. Mokilese (62): "old person finger" = thumb
25. Woleaian (63): "child or infant" = toe or finger
26. Bontok Igorot (66): "father (of hand?)" = thumb
27. Manobo (67): "mother (digit?)" = big toe or thumb
28. Maranao (68): "father of hand" = thumb
29. Tiruray (69): "mother of leg" = big toe, "mother of arm" = thumb
30. Tifal (73): "mother of foot" = big toe, "mother of hand" = thumb
31. Pintupi (76): "father (digit?)" = big toe or thumb
32. Chrau (77): "child toe" = little toe, "child finger" = little finger
33. Katu (78): "mother of hand" = thumb
34. Thai (82): "head mother finger" = thumb
35. Mandarin Chinese (86): "mother finger" = thumb
36. Japanese (87): "parent finger" = thumb
37. Kotia Oriya (92): "female animal digit" = big toe or thumb
38. Amharic (108): "chief or head of family finger" = thumb
39. Kikuyu (112): "parent finger" = thumb
40. Ibo (115): "chief of foot" = big toe, "chief of hand" = thumb, "child of foot" = toe, "child of hand" = finger
41. Yoruba (116): "child of foot" = toe
42. Mende (118): "male of foot" = big toe, "male of hand" = thumb

Mice and rats predominate among animals entering into this metaphor, with other small mammals occurring next most frequently. Creatures such as toads and lizards occur third most frequently. The animals involved are always relatively small in size. These include creatures that are small in the adult state and the young of animals that may eventually acquire considerable size. They also tend to be creatures that hop or scurry about. Presumably, such movement is equated with the sometimes quick, tensing movements of muscle flexing.

English "calf of the leg" exemplifies the small animal/muscle equation. Few contemporary speakers, however, would consider this usage metaphorical. The *Oxford English Dic-*

Table 5. Languages surveyed having a "small animal/muscle" equation.

1. Choctaw (13): "toad of foot" = calf
2. Tequistlatec (22): "rabbit of arm" = arm muscle
3. Zapotec (36): "toad of arm" = biceps, "toad of leg" = calf
4. Mixtec (33): "small lizard" = muscle
5. Mixe (37): "rat or mouse of arm" = biceps
6. Zoque (39): "rat or mouse" = muscle
7. Huastec (40): "rabbit" = biceps
8. Tzeltal (41): "cat" = muscle, "cat of leg" = thigh, "cat of arm" = biceps
9. Cayapa (46): "lizard" = thigh
10. Colorado (47): "mouse of arm" = biceps
11. Quechua (53): "mouse" = muscle
12. Maori (55): "young of animal" = thigh
13. Tiruray (69): "bush rat" = calf
14. Gnau (75): "rifle bird" = thigh
15. Chrau (77): "rat of arm" = biceps
16. Katu (78): "pig of (arm?)" = biceps
17. Latin (98): "little mouse" = muscle
18. Spanish (100): "lizard" = biceps
19. Cornish (101): "mouse of shank" = calf
20. Irish (102): "young bull" = calf
21. English (105): "calf (i.e., young of cow)" = calf
22. Armenian (107): "mouse or rat" = muscle
23. Zulu (113): "calf (i.e., young of cow)" = biceps

tionary somewhat hesitantly derives "calf of the leg" from Old Norse, where a parallel semantic development presumably occurred. As it happens, English "muscle" also ultimately traces to a small animal/muscle equation: namely, Latin *musculus,* which translates literally as "little mouse."

The small animal/muscle equation is worldwide in distribution and found in languages of diverse genetic affiliation. While it occurs in widely dispersed European languages, variations in form (see Table 5) indicate that diffusion has not been extensive. For example, Spanish for biceps is *lagarto,* which also means "lizard." However, Latin American Indian languages—those most likely influenced by Spanish—have figurative labels for biceps that are radically different from Spanish: e.g., Tequistlatec "rabbit of arm," Tzeltal "cat of arm," and Mixe "mouse of arm."

figurative expressions for testicle

Semantic equations for testicle seem straightforward compared to other figurative expressions described. For example, 21 languages use egg for testicle. Languages with this equation are listed in Table 6 and occur at a frequency of 25.9 percent (21 of 81). Discontinuous but global distribution indicates frequent independent innovation.

The second most frequent label for testicle equates it with a stone or pebble. Languages with this usage are Central Sierra Miwok (16), Wappo (19), Huave (42), Mokilese (62), Tiruray (69), Finnish (90), and Welsh (103) (numbers refer to genetic affiliation, see Table 1). While the frequency of stone/testicle is only 8.6 percent (7 of 81), its occurrence is nevertheless due to independent invention since distribution is both global and discontinuous.

Egg/testicle is three times as frequent as stone/testicle. In shape, eggs resemble testicles about as closely as common smooth stones or pebbles. Eggs, however, may have an edge over stones and pebbles in frequency since eggs, like testicles, are associated with biological fertility.

Table 6. Languages surveyed having an "egg/testicle" equation.

1.	Aleut (1): "both eggs" = testicles
2.	Crow (9): "egg" = testicle
3.	Diegueño (21): "egg" = testicle
4.	Tequistlatec (22): "egg" = testicle
5.	Shoshoni (25): "egg" = testicle
6.	Luiseño (26): "egg" = testicle
7.	Brunka (44): "egg" = testicle
8.	Colorado (47): "egg" = testicle
9.	Hawaiian (54): "egg" = testicle
10.	Marshallese (61): "egg" = testicle
11.	Bikol (65): "egg-egg" = testicle
12.	Maranao (68): "egg" = testicle
13.	Palauan (70): "egg" = testicle
14.	Muyuw (71): "egg" + unknown element = testicle
15.	Gnau (75): "egg" = animal testicle
16.	Pintupi (76): "egg" = testicle
17	Chrau (77): "egg" + unknown element = testicle
18.	White Meo (80): "egg pertaining to male sex organ" = testicle
19.	Kham (84): "egg" = testicle
20.	Pali (93): "egg" + unknown element = testicle
21.	Efik (114): "egg" = testicle

common ancestry and diffusion

Some occurrences of figurative expressions for body parts are due to common ancestry and diffusion. Nevertheless, repeated independent invention is clearly the important underlying variable. If genetic relatedness were critical, closely related languages would share metaphors at high rates, less closely related languages at lower rates, and so forth. In the present case this is sometimes borne out and sometimes not. As noted, Spanish and Portuguese relexified the human/pupil equation inherited from Latin and presently share essentially the same construction. On the other hand, Mixe and Sayula, two languages of Mesoamerica not much more distantly related than Spanish and Portuguese, have different metaphors, "person of the eye" and "stone of the eye," respectively. Similarly, two closely related Mayan languages, Tzeltal and Tzotzil (Laughlin 1975), do not share figurative labels for pupil: Tzeltal has "baby of the eye" and Tzotzil has "mirror of the eye."

English and closely related Dutch used to share a pupil construction, namely, "apple of the eye," but English borrowed "pupil of the eye," which has become predominant, from French. English retains the expression "apple of someone's eye," but it no longer means pupil. The English example shows that borrowing can create dissimilarity between languages closely related genetically (e.g., English and Dutch) and similarity between ones not so closely related (e.g., English and French).

If diffusion were the critical variable underlying widespread distribution of figurative expressions for body parts, similar metaphors would occur at high rates in languages grouped in certain regions of the world and not at all in languages from other world areas. This, however, is not the case. Under either a diffusion or common ancestry interpretation, sharing should occur in large regional patches. A survey of Tables 2–6 reveals that this is not so. The distribution of widespread body part metaphors is consistently discontinuous. Consequently, the pervasiveness of these expressions is in large part attributable to repeated independent invention and, thus, to universal naming tendencies.

figurative naming and marking principles

The framework of marking has been applied in several recent studies treating lexical universals (Greenberg 1966, 1979; Kronenfeld 1974; Brown 1977, 1979b; Witkowski 1972; Witkowski and Brown 1977, 1978a; Witkowski, Brown, and Chase 1981). Marking principles have been developed over the years by Jakobson (1941), Greenberg (1966, 1969, 1975), and others, and relate to all components of language: phonology, grammar, and lexicon. Marking in the lexicon involves a distinction between marked and unmarked labels. Unmarked terms differ in systematic ways from marked ones. For example, unmarked names tend to occur more frequently in ordinary language use than do marked names. Similarly, unmarked terms tend to be simpler (phonologically or morphologically) than marked ones. Finally, unmarked labels tend to be acquired by children learning a language before marked labels are acquired.

What is especially important about marking is that lexical items unmarked in one language tend strongly to be unmarked in all languages. This has been demonstrated in the literature for terms of several lexical domains, including color terms (Berlin and Kay 1969), kinship terms (Greenberg 1966, 1979; Witkowski 1972), plant terms (Brown 1977), animal terms (Brown 1979b), geometric figure terms (Burris 1979), and adjectives (Greenberg 1966).[2]

Cross-language uniformity in marking of human body parts also occurs. Terms within this domain differ radically in marking value. Muscle, biceps, calf of the leg, pupil of the eye, testicle, and thigh, for example, are all highly marked cross-linguistically, compared to highly unmarked body parts such as eye, ear, hand, arm, mouth, and nose. Terms for these marked body parts tend to occur considerably less frequently in ordinary language use than do terms for unmarked parts (e.g., Eaton 1949; Carroll, Davies, and Richman 1971). In addition, they tend to be acquired by children learning a language at a much later time than do names for unmarked body parts (Andersen 1978; Grant 1915; Leopold 1939; Nelson 1973; Smith 1973). Finally, names for marked body parts tend to be more complex than do those for unmarked parts. The marked body parts treated here, which tend to be named figuratively, show this last marking characteristic especially strongly. Their tendency to be named metaphorically contrasts sharply with that of unmarked parts like hand, eye, etc., which are usually labeled with simple unitary lexemes.

Body parts, then, range cross-linguistically from highly unmarked parts (ear, eye, hand, etc.) to highly marked parts (pupil of the eye, calf of the leg, etc.). These divergent marking values are consistent with the finding that, again and again in human languages, certain body parts tend to be labeled by complex expressions such as those produced in figurative naming, e.g., "mouse of the arm," "child of the eye," etc., while others such as hand, eye, etc., are usually labeled by simple unitary terms.

constraints on figurative naming

Another question is, Why have so many languages independently developed similar figurative names for the universally marked body parts treated here? Apparently, constraints on human naming exist which channel production of labels for marked body parts along similar paths in many different languages. Three types of factors appear to be operative: (1) lexical constraints, (2) physical world/perceptual constraints, and (3) language context and use constraints. The following discussion is to be understood as a preliminary

and exploratory treatment of the influences of these factors, a treatment upon which future studies hopefully will build.

lexical constraints Figurative names are lexical constructions and, as such, their formation is influenced by general lexical considerations. Figurative labels tend to be complex expressions. Of those identified here, only the egg/testicle equation is regularly realized by use of a simple unitary label (see Tables 2–6). There are usually two main constituents in figurative labels for body parts, one a highly unmarked body part term and the second an imported term. For example, Spanish *niña del ojo* (pupil) consists of the body part constituent *ojo* (eye), which is highly unmarked, and a second main constituent, *niña* (small girl). Similarly, the Huave thumb label, "mother of hand," consists of the highly unmarked "hand" and a second main constituent, "mother." Figurative naming in these examples functions to bring terms into the body part domain from other domains (e.g., "small girl" and "mother") and to locate these imported terms in body part space through juxtaposition with an unmarked body part term. Most body part figurative labels share this lexical form. This construction is widely standardized and serves as a general constraint governing the formation of figurative labels.

Another general constraint involves the imported term in these figurative labels, e.g., "child" in "child of the eye" (pupil) and "mother" in "mother of the hand" (thumb). These terms tend to be highly salient and unmarked. Only rarely are marked names imported through use of figurative language, e.g., Hungarian "beetle of the eye" for pupil. The relatively low salience of "beetle" is consonant with the low frequency of this label, which occurs only once in the sample. High frequency figurative labels tend strongly to involve importation of highly salient, unmarked terms into the body part domain.[3]

Literal descriptive labels for marked body parts are also subject to the lexical constraints outlined above. A common descriptive expression for pupil of the eye is "black of the eye." The latter occurs, for example, in Osage, Navajo, Kiowa, Huave, Yareba, and Pahlavi. This label contains a highly unmarked body part term, i.e., "eye," and the very salient color word "black" as an imported term. On the other hand, Papantla Totonac (Aschmann 1973) has the descriptive label "center of the eye" for pupil. The imported term "center" is not as salient as "black," which may account for the rarity of this descriptive label (Eaton 1949; Carroll, Davies, and Richman 1971).

physical world/perceptual constraints Figurative labels for body parts are always built on perceived similarities and associations between body parts and other things in the physical world. In some cases, these are more or less self-evident, e.g., egg/testicle. In other cases, they are less so, e.g., small girl/pupil of the eye and mother/thumb. Even the latter equations, however, are built on physical bases. Thus, for example, "small girl of the eye" for pupil draws on the physical association of the pupil with the minute human image reflected in the center of the eye. The association of mother with thumb and children with fingers draws on the observation that mother and children form a group as do thumb and fingers. In these groupings mothers stand out from children as thumbs do from fingers.

The limited number of things in the physical world that resemble or are in some way regularly associated with body parts significantly constrains the types of figurative equations that can achieve currency in a language. Consider, for example, things in the natural world that are similar to muscular parts of the body. Muscular body parts are characterized by their ability to move rapidly by contraction and relaxation independently of one another. Human muscles as individual parts of the body are also relatively small. Few things in the physical world, other than small creatures such as mice, rabbits, frogs, and lizards, have enough in common with muscular body parts to enter into reasonable

figurative labels for them. These animals hop and scurry in a manner reminiscent of muscles that move by tensing and relaxing. Muscles move as if they were small creatures beneath the skin.

When lexical and physical/perceptual constraints are considered together, restrictions on the figurative naming of body parts are even more evident. In order for a physical object that resembles a body part to participate in figurative naming, it (1) must be lexically encoded itself, and (2) must be relatively salient or unmarked. For example, "peg of the hand" seems a suitable figurative label for the thumb. Such an expression does not occur among the languages we have surveyed, for two reasons. First, many languages do not have words for peg; and second, in those that do, this term is not very salient, i.e., it is highly marked (Eaton 1949; Carroll, Davies, and Richman 1971). As outlined above, highly marked lexical items are rarely used in constructing figurative labels which gain currency in languages.

language context and use constraints Use of literal descriptive labels for highly marked body parts is, of course, an alternative to figurative naming.[4] Given this, why is there often a preference for figurative naming over literal description? The answer may relate to the fact that figurative naming strategies are more interesting, fetching, and dramatic as compared to descriptive strategies. As a consequence, figurative names may come to mind more readily than descriptive ones on those rare occasions in everyday language use when labels for marked body parts are needed. Easy recall would, of course, give figurative labels an edge over descriptive ones in gaining currency in languages.

Fernandez (1974) points out that figurative naming generally involves more than simple designation. In addition to serving the function of identifying an object or concept, metaphor also calls notice to it by "imitating apt attention-getting objects" (Fernandez 1974:124). Furthermore, there are certain cultural contexts in which attention-getting naming may be especially appropriate, for example, games and rituals.

Marked body parts are sometimes especially important, often the center of interest, in games with children such as "here's the church, here's the steeple, open the door and there's all the people" and "this little piggy went to market." In these games, literal description would entirely miss the point: consider, for instance, "this little sticking out thing of the foot went to market." In such games one is not merely naming the central object, one is calling special notice to it by equating it with some attention-getting object.

Restricted contexts such as games and rituals involving body parts may serve as reservoirs to draw upon for names for marked body parts, should the need ever arise. For example, the parent-child interaction situation maintains "little piggy" in English and, consequently, it is always there to be pressed into service as an alternative "toe" term. Of course, if it should become the primary label for "toe," it would lose its dramatic value in the game context and would probably be replaced there by some new attention-getting device.

The special attention-getting function of figurative language also suggests why certain figurative labels are preferred over others. For example, in addition to the dominant metaphor equating people (usually kinsmen) with digits, there are the less frequent equations leaf/digit and head/digit. Assuming that figurative naming strategies regularly involve especially attention-getting things resembling or associated with the body part, it seems reasonable that the people/digits equation is preferred over "leaf of hand" or "head of hand." Reference to fingers as people certainly seems to us more dramatic and fetching than reference to fingers as leaves or heads.

In summary, three types of constraints appear to work simultaneously and in interrelated ways to channel production of labels for marked body parts along similar paths in different languages. Lexical considerations, physical world/perceptual givens, and context and use conditions combine to produce regularly occurring naming results. These factors, however,

only make certain results more likely than others cross-linguistically; they do not predetermine naming behavior. In any case, it is hoped that future studies will show more completely and explicitly how such factors and possible additional ones underlie universal tendencies in the naming of marked body parts.

Implications for the study of language change

Knowledge of especially likely lexical change paths could be very useful for comparative-historical investigation of language. This area of inquiry involves reconstructing lexical inventories of proto-languages ancestral to groups of genetically related modern languages. This study and others (e.g., Derrig 1978; Brown 1979c, 1980; Witkowski, Brown, and Chase 1981) indicate that it is possible to produce a thesaurus of regular semantic change paths. Such a compilation would be extremely helpful to historical linguists in making judgments of cognation when linguistic forms are phonologically similar but appear to have unrelated, radically different referents.

An examination of English and Spanish, for instance, would be unlikely to posit a relationship between English *mouse* (*mu:s* before the great vowel shift) and Spanish *músculo* (muscle) because of the wide meaning difference between the two. Knowledge of Latin, however, shows that its term for "mouse," with a diminutive ending (i.e., *musculus*), was used to designate "muscle." Latin *musculus,* of course, is the source of the Spanish *músculo.* Thus, English *mouse* is in fact cognate with the Spanish term. We are able to arrive at this interpretation because of a knowledge of Latin. However, even without this knowledge, figurative equations documented in this paper would support postulation of a semantic connection between "mouse" and "muscle."

In Proto-Polynesian of about 2,500 years ago, **moko* designated "lizard" (Biggs 1979). Reflexes of this form with the same referent are found in most contemporary Polynesian languages (Biggs 1979). While a reflex of **moko* does not occur with the meaning "lizard" in Nukuoro, a Polynesian outlier language, a reduplicated form, *mogomogo,* is found meaning "muscle" (Carroll and Soulik 1973). Biggs (1979), in his compilation of Proto-Polynesian, does not list the Nukuoro form among stems reflecting **moko,* presumably because the meaning relationship seemed too remote to indicate cognation. From evidence developed here, the change path "lizard" to "muscle," which without documentation would seem unlikely, is not only likely, but is highly probable. Nukuoro *mogomogo* (muscle), then, is almost certainly a reflex of Proto-Polynesian **moko* (lizard).

The somewhat surprising but frequently utilized lexical change paths documented here very likely are only a small sampling of those that exist. A compendium of change paths, including obvious ones such as "egg" to "testicle," in addition to less obvious ones such as "mouse" to "muscle," would provide important constraints on semantic reconstruction in historical linguistics comparable to those that presently guide phonological reconstruction. An additional advantage of such a compilation would be its usefulness in providing a basis for formulating regularities and testing theories of general lexical change processes (cf. Brown 1979a, 1979c, 1980; Witkowski, Brown, and Chase 1981). A more thorough understanding of these processes would contribute to a deeper knowledge of human cognition.

conclusion

This paper has documented cross-language uniformities in the figurative naming of a set of marked human body parts: pupil of the eye, fingers and toes, muscular body parts, and

testicles. These regularities are related to a framework of explanation including marking principles and other constraints. The body parts examined were not selected for any particular reason except that naming regularities involving them were the first to come to our attention in a preliminary cross-language survey. Investigation of other marked body parts will undoubtedly yield similar findings.[5] In addition, we anticipate that uniformities in figurative naming pertain to many other domains as well. Cross-language investigation of figurative and other types of naming behavior constitutes a vast research area of considerable potential. Results of such studies will contribute to the delineation of processes and mechanisms underlying not only the human language faculty, but the human culture-creating capacity as well.

notes

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[1] Tagliavini (1949) also documents several other frequently used metaphors for pupil.

[2] Since degree of marking can be roughly indexed by frequency of use counts, relative marking values of lexical items in English and other major European languages can be easily determined by consulting readily available word frequency source books (e.g., Eaton 1949; Carroll, Davies, and Richman 1971). Furthermore, since relative marking values tend to be uniform from language to language, marking values determined from major European languages can be assumed, with a reasonable degree of confidence, to apply to all languages. For a discussion of several instances where this generalization does not hold and where lexical items vary markedly in salience across languages, see Witkowski, Brown, and Chase (1981).

[3] In a few instances, the body part term does not appear as a constituent of a complex label, so that the imported word stands alone as a figurative body part term—for example, Spanish *lagarto* (lizard) also denotes "biceps." This figurative label is probably an ellipsed or truncated version of a more complex lexical construction such as "lizard of the arm." Documented examples of ellipsed figurative labels are common (Brown 1979a; Ullmann 1957, 1962). In the egg/testicle example, a single lexeme usually designates both referents (see Table 6). In some cases, egg/testicle polysemy may result from the ellipsis of "penis" from more complex expressions such as "egg of penis." Egg/testicle polysemy, however, may also develop by simply adding a "testicle" referent to an existing "egg" term. A further change can occur whereby the original referent is lost. In this way a word which originally designated "egg" comes to denote both "egg" and "testicle" and, finally, just "testicle." In this example, first euphemism and then taboo might serve as forces promoting change.

[4] Even allowing for the likelihood that literal descriptive names are underreported by our sources, high frequency rates strongly indicate that figurative naming of marked body parts is more common than descriptive naming of the same. Indeed, it is probably the case that figurative labels are underreported as well. For example, both Ralph Bolton and J. L. Fischer, in separate responses to the first draft of this paper, call attention to figurative names for body parts in languages surveyed by us that were not found in our sources: Quechua *runta* (egg/testicle) (Bolton 1980: personal communication) and Japanese *ko-yubi* (little finger; literally, "child-finger") (Fischer 1980: personal communication). Such responses suggest that our overall findings may be somewhat conservative.

[5] An interesting semantic equation is one identifying small furry or hairy animals with the female vulva. English, of course, has "beaver" and "pussy," while Mayan languages, for example, have variously "mouse" (Quiche) and "squirrel" (Jacaltec).

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appendix: language case sources

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