CHAPTER 2

A CASE STUDY OF *BIG*, *LITTLE*, *LARGE*, AND *SMALL*

2.1   Introduction

The case of *big*, *little*, *large* and *small* has been puzzling to many people looking at antonymy. Native speakers consider *big* and *large,* and likewise *small* and *little*, to be near synonyms, and everyone accepts *big/little* and *large/small* as antonym pairs while rejecting *large/little*. Opinion is mixed with regard to *big/small*, with some people considering them to be very good examples of antonyms (*OALD* even says that "*small* is the usual opposite of *big* or *large*") while others consider them only near-opposites. A simple dimensional model of antonymy cannot explain why these four adjectives pair up as they do. If all four are associated with the same semantic dimension, with *big* and *large* at one end and *little* and *small* at the other end, why aren't *large* and *little* considered antonyms?

Gross, Fischer and Miller (1988) consider this case to be evidence that antonymy is a relation between pairs of word forms, not between pairs of concepts because "*large/little* contrast conceptually just as sharply as do...*large/small*, and yet they are not direct antonyms" (Gross, Fischer, and Miller 1988, 3). Likewise Charles and Miller (1989) say that this case serves "to discount any proposal that antonymous pairing reflects some kind of conceptual or semantic generalizations" (Charles and Miller 1989, 374). Yet as I will show here, this case <u>can</u> be accounted for semantically--*big* and *large* are not identical in meaning, and neither are *small* and *little*, and the differences between them explain why the adjectives pair up as they do.

As was shown in sections 1.2 and 1.3, linguists and lexicographers have suggested several different aspects of meaning which might be involved in making two words near-opposites rather than antonyms. The aspects that seem most relevant in the case of *big*, *little*, *large*, and *small* are differences in "distribution" (Lehrer and Lehrer's term) and differences in "nonpropositional meaning" (Cruse's term),[1] or in Egan's terms, differences in "range of application" and "implications." In my own terms, I would say that *big* and *large* (and likewise *little* and *small*) are different in semantic range--because of differences in their basic meanings, as well as differences in connotations and register, they are not used with exactly the same types of nouns. These differences affect the extent to which the adjectives are able to contrast with each other. As I will show below, the good pairs of antonyms, *large/small, big/little* and *big/small*, are pairs which share a great deal of semantic range and therefore have a large area of potential contrast, while the two near-opposites, *large* and *little*, have almost no semantic range in common.

2.2   Clues from the learners' dictionaries

The usage notes in learners' dictionaries identify differences in meaning, collocations, register and connotation which distinguish *big* from *large* and *small* from *large*, differences which affect their semantic ranges. For example, a usage note under the entry for *big* in *LDOCE* says that "*large* (less often *great* or *big*) is used with these quantity words: *a large amount / scale / number /*

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[1]The other factors listed in 1.2.4 do not seem to be relevant: the dimension described by these adjectives is easily recognized (i.e. the dimension of SIZE), and it seems to be a single dimension rather than multiple related dimensions. The adjectives seem to be "pure" in that they describe size but nothing else, and none of the words is more "extreme" in meaning than the others.

quantity / extent / proportion / percentage / part / volume / area." This suggests that *large* regularly occurs with a whole range of words which *big* does not normally occur with. The dictionaries do not note whether *small* or *little* also occur with these words, but this is something that can be examined using the corpus data.

The usage notes also describe other differences that probably will be found in the corpus. *OALD* says that *large*, but not usually *big*, is used, along with *medium* and *small*, "to describe one of a range of sizes of clothing, food and household products," (*OALD*, s.v. "large") while both *OALD* and *LDOCE* mention that *big* is more likely than *large* to be used to describe people in sentences such as *He wasn't a very big baby.* Based on this, it could be predicted that in the *New York Times* corpus, *large* will be typically used to modify nouns such as *apple* and *dress*, while *big* will be used with nouns such as *guy* and *girl*.

There are also register differences between *big* and *large*. *OALD* says that *big* is used more often in speaking, while *LDOCE* and *LLA* say that *large* is slightly more formal than *big*. It is hard to predict how these register differences will show up in the corpus data because, with the exception of quotations, the corpus contains only written English and is thus rather limited in terms of style and register; however, there may be some differences in *big* and *large* evident even in this stylistically limited corpus.

Turning to *little* and *small*, the usage notes in the dictionaries suggest that the main difference between these two words is in their connotations. In a usage note under *little*, *LDOCE* says that "*small* simply describes the size of something," while *little* "often suggests that you are talking about someone or

something that you are fond of or feel sympathetic toward." *OALD* says that
little "is often used to show feelings of affection, dislike or amusement,
especially after other adjectives such as *pretty, ugly, nice, sweet,* etc." *LLA* adds
that *little*, in contrast to *small,* can be used "to show that something is
unimportant."[2] Thus it seems that *small* is more neutral than *little*, which has
many emotional overtones. The dictionaries do not give any details about
words which occur with *small* but not with *little* or vice versa, but the corpus data
(discussed below) shows that the added connotations of *little* severely restrict
the range of nouns with which *little* is normally used.

In addition to the usage notes, the individual definitions of the adjectives
can be compared to look for differences in semantic range, although this is
trickier because sometimes senses which are distinguished in the definition of
one word are lumped together in the definition of another word or in the
definition of the same word in another dictionary. For example, *CCED*
distinguishes two slightly different uses of *little* which the other dictionaries do
not, noting that in the phrase *a little child*, *little* means 'young', but in the phrase
my little sister, *little* means 'younger than me.' It's important for us to
distinguish the two because *small* can also have the meaning 'young', in
phrases such as *a small child*, but it cannot mean 'relatively younger' (that is,
the phrase *my small sister* will not be used to mean 'my younger sister').
Keeping in mind that the dictionaries sometimes conflate senses that it may be
useful to distinguish, it is still possible to identify some distributional differences
by looking at the definitions of individual words.

LDOCE, for example, lists several senses of *big* which *large* does not

[2]Actually, this is not accurate with regard to the usage of *small.* Section 4.1 will show that *small* can be used to show that something is unimportant in phrases such as *small talk.*

seem to share. These include the senses of *big* as 'successful or powerful' (e.g., *She's very big in the music business*), 'older' (e.g. *big siste*r), 'bad' (*It's such a big hassle*) and 'a lot' (*He's a big drinker*). The *OALD* definition adds the senses of *big* as 'ambitious or grand' (*big plans*, *big ideas*) and 'popular' (*Video games are big this year*). The definition of *large* in the four dictionaries does not show any equivalent senses, but corpus data should be checked to confirm that this is actually the case. The definitions also suggest an additional sense which *big* and *large* have in common but which was not mentioned in the usage notes: *LDOCE* and *OALD* say that *big* can mean 'important or serious' (e.g., *Buying a house is a big commitment*), while *CCED* says that *large* can be used in this way in phrases such as *a large problem with under-age drinking.*

The dictionaries provide a useful starting point for investigating the differences in meaning between *big* and *large* and between *little* and *small;* in the next sections, these differences are examined in more detail, using data from the *New York Times* corpus, to more fully understand the semantic ranges of each of these adjectives.

2.3   A comparison of *large* and *big*

2.3.1 Meanings shared by *large* and *big*

A look at the kinds of nouns which typically occur with both *large* and *big* in the corpus reveals more about the basic meaning shared by *big* and *large.* Given the fact that they are near synonyms, it is no surprise to find that there are many nouns which occur significantly often with both *large* and *big*. These nouns are listed in alphabetical order in Figure 2 below.

airlines	deficit(s)	ones
banks	drop	orchestra
block(s)	farm(s)	painting(s)
box	firms	producer(s)
business(es)*	gain(s)	profit(s)
carriers	hall(s)	project(s)
chain(s)	hole(s)	retailer(s)
chunk(s)	hotel(s)	screen(s)*
city(-ies)	house(s)	stake(s)
companies	increase(s)	stores(s)
corporation(s)	institution(s)	tree(s)
crowd(s)	investors	turnout
cut(s)	losses	

Figure 2. List of nouns occurring with both *big* and *large*[3]

To make it easier to see patterns in the data, I have combined singular and plural nouns into single entries, e.g., *crowd(s)*, because in most cases, there is no significant difference in meaning between the singular and plural forms. For example, both *crowd* and *crowds* occur significantly often with *large* and the meaning of *large* seems to be the same with both nouns. *Big* occurs significantly often in the corpus with the plural *crowds* but not with the singular *crowd*, but this seems accidental--the basic meaning of both *big* and *crowd* are the same in the singular phrase a *big crowd* and in the plural phrase *big crowds of fans*. There are only a few cases in which the singular and plural form are not always equivalent in meaning, for example, *business* and *businesses;* the singular *large business* and the plural *large businesses* are basically the same

[3]Both *big* and *large* are often used literally in this corpus to describe the size of television screens, especially in phrases such as *large screen televisions*. *Big screen* is sometimes used in this corpus metonymically to refer to the entire television (for example, if someone says,"I'm thinking about getting a big screen"), but I did not find any examples of *large screen* being used this way. Strangely enough, although *a big screen* and *big screens* can be used to describe a kind of television, with the definite article (*the big screen*), this phrase is used to refer to 'the cinema' (e.g., *a movie made for the big screen*) as opposed to *the small screen*, which refers to 'television'.

in meaning, but the singular form *big business* has an idiomatic sense[4] which is not available for the plural form *big businesses.* The cases in which the singular and plural forms are not equivalent are marked in the figures and the precise differences are mentioned elsewhere in the notes or text.

Although *big* and *large* both describe the attribute of SIZE, the list above shows that many different kinds of nouns can be modified by *large* and *big*. The nature of the size is not the same for all these nouns; for example, with nouns which name simple physical objects such as *box*, *hole*, *house*, and *tree*, the size that is described is a purely three-dimensional, physical size. For other nouns, however, it is not so simple. Some nouns describe collections or groups of things, e.g., *crowd* and *turnout* (groups of people) and *orchestra* (a group of musicians). With these nouns, *big* or *large* describes the number of members in the group, not the physical size of the group members or the amount of physical space the group takes up. As CCED puts it, "Something that is *big* consists of many people or things," and "A *large* amount or number of people or things is more than the average amount or number."[5] Other nouns, such as *airlines*, *banks*, and *carriers*, describe organizations, and with these nouns, *big* and *large* describe the scale of the organization, e.g., a *big bank* is one that lends money on a large scale and has many branches, and a *large airline* is one that has many airplanes, routes and passengers. As CCED describes it, "A big

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[4]*Big business* is listed as a separate entry in all of the learners' dictionaries; unlike the literal meaning ('a business which is large in scale'), the idiomatic meaning is a mass noun. The *LDOCE* defines it this way: "1. very large companies considered as powerful group with a lot of influence; 2 a product or type of activity that people spend a lot of money on: *Dieting has become big business."*

[5]*CCED* lists these senses of *big* and *large* separately from the purely physical size sense, but the other learners' dictionaries do not; the first sense of *big* listed in *OALD*, for example, is quite broad: "large in size, extent, or intensity."

organization employs many people and has many customers," and "A large organization or business does a lot of work or commercial activity and employs a lot of people." Actually, some of the nouns could be considered either examples of physical objects or examples of organizations, depending on the context. For example, a *hotel* is both a building and a business, so the phrase a *large hotel* could be used to describe either a large building or an organization with many guests and employees; *cities, farm(s)* , *banks,* and *stores* also work this way.

It is useful to classify the nouns which occur with both *big* and *large* in order to get a clearer understanding of the range of meanings expressed by these adjectives and also to see how the ranges of *big* and *large* compare with those of *little* and *small*.[6] Figure 3 presents the list of nouns from Figure 2 sorted according to the way *big* and *large* interact with them.

In addition to the categories of Physical Objects, Groups, and Organizations, there seem to be at least two other types of nouns which occur with *big* and *large*, although these types are not specifically mentioned in any of the dictionary entries. First, there is a category which I call Actors, people or businesses that perform some kind of action; with these nouns, *big* or *large* indicates that the action is carried out on a large scale. For example, *big* or *large investor* is someone who invests a lot of money, and a *big* or *large producer* is someone who produces a lot of something. Second, there are abstract nouns such as *cut*, *increase*, and *deficit* which seem to include a notion

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[6]For example, *small* often occurs with nouns that name Organizations, but *little* does not.

of 'amount' as a key part of their meaning.[7] With these nouns, *large* or *big*
describes the magnitude of the *rise*, *reduction,* or *difference. Blocks* and *chunks*
are also listed as Amounts--although they could also be used to describe
physical objects (e.g., *blocks of ice, chunks of cheese*), in this corpus, they are
mainly used to refer to *blocks of securities, stocks, loans,* or *space* and *chunks
of money, assets*, or *time;* for this reason, they are best categorized with the
abstract nouns such as *increase* and *gain,* since these nouns can also refer to
amounts of money and time.

Physical Objects	Organizations	Amounts
box	airlines	block(s)
city(-ies)*	banks*	chunk(s)
farm(s)*	business(es)	cut(s)
hall(s)	carriers	drop
hole(s)	chain(s)	increase(s)
house(s)	companies	gain(s)
painting(s)	corporations	losses
screen(s)	firms	deficit(s)
tree(s)	hotel*	profit(s)
	institution(s)	stake(s)
	stores*	
Groups		**Other Nouns**
crowd	**Actors**	ones
orchestra	investor(s)	project(s)
turnout	producer(s)	
	retailer(s)	

Figure 3. Nouns occurring with both *large* and *big*, sorted[8]

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[7] For example the *LDOCE* defines *increase* as "a rise in the amount, number, or degree,"
cut as "a planned reduction in size, amount, etc.," and *deficit* as "the amount by which something
is less than what is needed, esp. the amount by which money goes out is more than money that
comes in" (emphasis mine).

[8] As mentioned above, some nouns (those marked with asterisks) could be considered
either as examples of Physical Objects or Organizations, depending on the context. I have listed
them under the category that seems to be the most common interpretation.

There are two nouns listed under <u>Other Nouns</u>. *Ones*, of course, could replace any of the kinds of nouns that occur on the list, so it does not tell us very much about the particular meanings of *big* and *large*. *Project,* however, is more interesting. *Big* and *large* seem to interact with *project* much as they do with the nouns listed as <u>Organizations</u> in that a *large project* or *big project* is one that isundertaken on a large scale, just as a *large bank* is a bank that does business on a large scale. This noun will be considered again in the next section which focuses on nouns which typically occur only with *large* or only with *big*.

2.3.2 <u>Meanings not shared by *large* and *big*</u>

Since *big* and *large* are synonyms, it is not surprising that they can be used to describe many of the same nouns. However, they are not perfect synonyms, and previous work has suggested that there are some differences in the distribution of these two adjectives. Therefore, a comparison of the list of the words which occurred only with *big* and those which occurred only with *large* should reveal some differences.

For example, the *LDOCE* mentioned that *large* but not *big* is used with the nouns *amount*, *number*, and *quantity*, so it would be surprising to find these nouns on the list of nouns which occur significantly often with *big*, although it would not be surprising if they were on the *large* list. In fact, this is just what is found in the data from the *New York Times* corpus. Figure 4 below, which shows all the nouns which occurred significantly often with *large* but not with *big* in the corpus, lists many <u>Quantity Nouns</u> such as *amount* and *areas.*

Physical Objects		Groups	Amounts	Quantity Nouns
bag(s)	pot	audience	accounts	amount
bowl	potatoes	cast	award	areas
buildings	ring	collection	contributions	degree
cloves	rock	contingent	debts	extent
developments*	room(s)	demonstrations	donations	majority
eggs	saucepan	exhibitions	doses	measure
estates	screen(s)	families	fees	number
fields	sculpture	fleets	holdings	percentage
fireplace	shrimp	following	influx	population
flowers	skillet	groups	inventory	portion
garden	space	unions	loan	proportion
garlic	stones		margin(s)	quantity
kitchen(s)	structures	**Actors**	orders	scale
leaves	tanks	advertisers	purchases	section
letters	telescope	customers	reductions	size
objects	terrace	employers	reserves	sum
onion(s)	tomatoes	landowners	segment	volume
pan	tract(s)	operators	selection	
parcels	truck(s)	retailers	shipments	
photograph	window(s)	users	supply	
pieces			surplus	
pool(s)		**Organizations**	transaction	
		agencies		
		centers*		
		enterprises		
		hospitals		
		organizations		

Figure 4. Nouns occurring with *large* but not *big*[9]

However Figure 5 below, which shows the words that occurred significantly often with *big* but not *large,* shows that *big* does not occur significantly often with any <u>Quantity Nouns</u>. This is not to say that *big* <u>never</u> occurs with this sort of noun--a search of the entire corpus revealed, for example, one case of *big quantity* (while *large quantity* occurred 23 times) and

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[9]In this corpus, most of the occurrences of *large* with *centers* were in the phrases *large shopping centers, large service centers, large urban centers, and large feeding centers* (in famine relief efforts). *Large* occurred with *developments* mainly in the phrase *large housing developments*.

three cases of *big volume* (while *large volume* occurred 96 times)--but there are
not enough instances of co-occurrence to give a high mutual information value
for any Quantity Noun with *big*. It is clear that *large* is the preferred adjective for
nouns of this type.

Physical Objects	Amounts	Heads of Idioms	Important, Serious Things	Action Nouns
bar	change	band(s)	advantage	boost
boats	difference	bang	break	fight
boy(s)	discounts	[boy(s)]	contract	jump
fish	rise	brother	deal(s)	lead
gap	selloff	bucks	event	leap
grin		business	factor	lift
guard	**Actors**	deal	help	mark
guns	buyers	[fish]	improvement	impact
guy(s)	clients	[guns]	item	push
kid	contributor(s)	[guy]	mistake	rally
[mouth]	donors	leagues	moments	serve
[picture]	fans	money	news	splash
smile	loser(s)	mouth	powers	surprise(s)
stick	maker(s)*	name(s)	problem	swings
tent	seller(s)	picture	question	wave
[thing]	winner(s)	plus	step	
[toe]		science	success	**Popular Things**
		screen	test	hit(s)
		shots	trouble	play(s)
		talk	victory	star
		thing		
		toe		

Figure 5. Nouns occurring with *big* but not *large*[10]

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[10] *Maker* occurred with *big* in several different nouns phrases, including *big equipment
maker*, *big auto maker*, *big money maker* and *big movie maker*. Nouns which have two
interpretations, one literal and one idiomatic, are listed under both categories, with brackets
around the less commonly used sense. For example, when I examined the actual examples of
big+fish in the corpus, for example, I found that this phrase referred to an actual fish several times
and to an important person only a few times, so it is listed primarily as an example of a physical
object. *Big picture*, in contrast, described an actual picture in only a few cases; it had an idiomatic
interpretation most of the time (meaning 'an overall view of a situation' in most of the examples and
'a successful movie' in a few other examples), so it is listed primarily as an idiomatic case and
secondarily as a physical object.

Figure 5 also shows four new categories of nouns, Actions, Popular Things, Important, Serious Things and Head of Idioms, which all occur significantly often with *big* but not with *large*. With all of these nouns, *big* is describing something other than physical size. For example, with the nouns listed under Actions, *big* describes the intensity of the action, that is, the amount of energy involved and/or the strength of the effect. *A big lift* is one that lifts something very high and *a big push* is one that involves a lot of energy and which moves something a long way. The meaning of *big* with the Action nouns is quite similar to the meaning with some of the Amount nouns, such as *change* and *drop;* in fact, most of the Amount nouns which occur with *big* could probably be considered Actions rather than (or in addition to) Amounts. I have distinguished the two types here mainly because the Amounts are somewhat more abstract in meaning than the Actions and because some of the Amounts (e.g, *cut, drop, increase*) also occur significantly often with *large*, but *large* does not occur significantly often in the corpus with any Actions. Although there are some contexts in which *large* may be able to modify some of the Actions nouns (e.g., *a large boost in the polls*), it sounds quite strange with most of them (e.g, *?a large jump*, *?a large splash*).

The nouns listed under Important, Serious Things name things which are not necessarily important or serious in themselves, but which are interpreted as such when modified by *big*; in other words, it is *big* that contributes the meaning of 'important' or 'serious' to phrases such as *big news* and *big factor*. *Project*, one of the nouns which was not categorized in Figure 3, seems to belong to this category--a *big project* is a project that is important.

Project, of course, was listed in Figure 3 because it occurred significantly

often with *large* as well as *big*. Looking at the examples of *big project* and *large project* in the corpus, it seems that when *large project* is used, the scale of the project in quantitative terms is emphasized (e.g., the amount of money being spent or the number of new buildings that will be constructed), as in example (1a) from the corpus, while when *big project* is used, some qualitative aspect is being stressed, as in example (1b).

(1)   a.   He has spent more than $1 million stripping walls and woodwork, rebuilding chimneys, raising sunken floors, rerouting heating pipes and replacing plumbing and electrical systems. One large project remains unfinished: the cast-iron porches are crumbling with rust. (Eve Kahn. 1990. How to restore a Victorian mansion: Slowly, very slowly. *New York Times*, 21 June, section C, 16)

      b.   "The public will be able to buy a little food and sit out at tables and relax," said Tupper Thomas, the Prospect Park administrator. "This has been one of our big projects." (Susan Heller Anderson and David Dunlap. 1985. New York day by day: Boathouse rescued. *New York Times*, 3 July, section B, 3)

Unlike *project*, most of the nouns categorized as Important, Serious Things cannot easily be quantified in terms of dollars or other units of measurement, which may explain why phrases such as *?large news* and *?large test* do not occur. The same kind of explanation can account for the fact that *large* does not sound especially awkward with a few Action nouns such as *large boost* and *large impact;* in some contexts, at least, these nouns describe things that can be easily quantified, as in the examples in (2) below.

(2)   a.   From top to bottom, every player wants a pay boost. In the case of Favre, a very large boost, maybe as much as $50 million over seven years. (Gordon Forbes. 1997. *USA Today,* 24 January, Bonus section, 9E)

      b.   Because of its enormous size, price movements in the

secondary market for government securities have a large
impact on corporate and tax-free municipal bond rates as well
(Kenneth N. Gilpin. 1987. Market-place; bond futures' 10-year
climb. *New York Times,* 27 August, section D, 6)

In these two examples, the size of the boost or impact can be measured in

dollars, so *large* sounds fine. However, with the *Action* nouns that cannot be so

easily quantified (e.g., *surprise* and splash), *large* cannot be used.

Another category found in Figure 5 but not Figure 4 is <u>Popular Things</u>.

The nouns *hit* and *star* describe things that are inherently popular, and with

these, *big* intensifies this meaning. A *hit song* or *hit movie* is a song or movie

that is popular, but a *big hit* is more popular than the average hit. *Item* and *play,*

on the other hand, name things which are not inherently popular but which are

clearly potentially popular.

The final category shown in Figure 5 which did not appear in Figure 4 is

<u>Heads of Idioms</u>. While *large* did not occur significantly often in any idiomatic

adjective+noun phrases in the *New York Times* corpus, *big* forms idioms with

several nouns, for example, *big band* (a band that plays a particular kind of

music, not a band with a lot of members) and *the big bang* (the explosion that is

supposed to have created the universe). Some nouns have both literal

interpretations (usually as <u>Physical Objects</u>) and idiomatic interpretations with

big. For example, *big picture* can be used to refer to a drawing, painting or

photograph which is large in size, and it also has two idiomatic interpretations; it

can mean something like 'an overall view or understanding of a situation' (this

was the most common use of *big picture* in the *New York Times* corpus), and it

can be used to refer to a successful movie. Obviously, *large* cannot take the

place of *big* in any of the idiomatic phrases. With many of these nouns *large*

sounds extremely awkward, e.g., *??large bucks*, *??large name, ??large talk;* In the cases where large sounds fine, the noun is always interpreted literally (e.g., *large fish*, *large band,* and *large business*).

In some of the idiomatic phrases, the meaning of *big* is quite similar to its meaning with the Important, Serious Things (e.g., the phrases *big fish*, *big leagues*, and *big shots*), while in others, the meaning of *big* is more like the meaning found with Popular Things (e.g. *big picture*, *big thing*). With the rest, the meaning is more idiosyncratic, but it bears a relationship to the meaning of *big* in more literal phrases. For example, *big band* referring to a style of music, probably arose from the fact that bands which play this style of music usually have many members, while *big science* refers to scientific projects which cost a great deal and which involve many people. However, there is at least one idiomatic meaning of *big* not found with any other types of nouns, namely the meaning of 'older' which is found in the phrase *big brother.*[11]

As Figure 3 showed, both *big* and *large* occur with nouns in the categories of Physical Objects, Actors, Groups, Organizations, and Amounts; however, Figures 4 and 5 show that there are many nouns from these categories which occur only with *big* or only with *large.*   Perhaps the most striking pattern is that *large* occurs significantly often with many more Physical Objects than *big* does. This is somewhat surprising given the dictionary descriptions of *big* and *large;* since the basic meaning of both *big* and *large* seems to involve physical size, it might be expected that all of the Physical

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[11]When this phrase is capitalized, it has yet another idiomatic meaning derived from the character of Big Brother in George Orwell's novel *1984. Big* can also mean 'older' in big *boys* (which contrasts with *little boys*); *big boys* also has a second idiomatic interpretation in which it refers to people with a lot of power.

Objects nouns on the *large* list could also occur with *big*. Certainly, *big* does not sound as awkward with these nouns as it does with the Quantity Nouns. That is, although *bag*, *bowl*, and *buildings* do not occur on the *big* list, the phrases *big bag*, *big bowl*, and *big building* do not sound very strange, and they sound more natural than *big quantity* or *big degree*. The question here, then, is why *large* is preferred with nouns of this type. In many cases, it may be because *large* is used (along with *small* and *medium*) to describe a standard size of food and household items. Many of the nouns which occur with *large* but not *big* fall into this category (e.g., *bowl, eggs, onions, skillet,* and *tomatoes*), while none of the Physical Objects nouns which occur with *big* in Figures 3 and 5 do.[12] However, this does not explain why *large* is preferred with nouns such as *flowers*, *garden*, and *rock.* Register differences may play a role here; if, as dictionaries suggest, *large* is more formal than *big*, then perhaps *large* is chosen over *big* because this written corpus is relatively formal.[13]

Another difference between *big* and *large* with the Physical Objects nouns is that many of the nouns that occur with *big* but not *large* seem to be describing something other than purely physical size. Many of these nouns describe people (*boy(s)*, *guard*, *guy(s)*,and *kid)* or parts of people (*mouth* and *toe*). While big can describe purely physical size with these nouns, all of them

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[12]*Fish* and *bar* seem as if they could be exceptions, but a look at the way they are actually used in the corpus shows that they are not. From the examples I looked at, when the phrase *big fish* is used in its literal meaning instead of its idiomatic meaning, the fish is being talked about as a living fish rather than as an item of food. *Big bar* is used in the corpus in the sense of 'a tavern' or 'a counter in a tavern'rather than in the sense found in *a bar of soap*.

[13] Of course, one should then ask why *big* occurs with so many nouns that are related to banking and finance (e.g., *banks*, *investors*, *deficit*); since these are fairly serious topics, it might be expected that articles on these topics would use more formal language, but *big* occurs significantly often with many nouns in this area. The possible difference in registers between *big* and *large* with Physical Objects and nouns related to finance in other types of corpora (e.g., fiction, spoken language) is a potential area for further research.

except *guard* also have idiomatic interpretations, e.g., *big kid* meaning 'older kid', *big toe* referring to a particular toe, and *big mouth*, in sentences such as *He's got a big mouth*, used to talk about someone who says something he should not say. With *grin* and *smile*, *big* seems to be describing intensity rather than, or in addition to, physical size, so these two nouns seem similar to the nouns in the Actions category. If all of these nouns are weeded out, there are only a few nouns with which *big* has a purely physical interpretation, i.e., *bar, boats*, *gap*, *guard*, and *tent*. *Large*, in contrast, occurs with many nouns of this type, which strengthens the impression that in this corpus at least, *large* is preferred over *big* for describing purely physical size, especially for non-human things.

Figures 4 and 5 show many new examples of nouns listed as Amounts.[14] As was shown in Figure 3, both *big* and *large* occur with Amounts, but the additional data in Figures 4 and 5 suggests a slight semantic distinction between *big* and *large* when used with nouns of this type. The amount nouns which occur with *big* but not *large--change, difference, discounts, rise,* and *selloff*--are "dynamic" in meaning in that they describe changes in an amount; in contrast, most of the amount nouns which occur with *large* describe amounts of money or products which are relatively "stable" (although they can potentially undergo an increase or decrease), e.g., a *fee* is a set amount of money that is charged for a service, and an *inventory* is a listing of the amount of products that are in stock at a particular time. This difference between *big* and *large* is not absolute--as was shown above, *big* occurred with "stable" amounts such as

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[14]The Amounts are distinguished from the Quantity Nouns mainly in that they have some additional meaning in addition to just 'amount' or 'quantity;' for example, LDOCE defines *debt* as "a sum of money that you owe" (emphasis mine).

profits and *stakes*, while *large* occurred with "dynamic" amounts such as *cut* and *increase*---but there is a tendency for *big* to be used to describe amounts of change.

The learners' dictionary definitions also support this generalization. *LLA* lists many different senses of *big,* giving synonyms for each. It says that one of uses of *big* is for "describing changes that are very big or have important effects" in sentences such as *There are going to be big changes around here when the new chairman takes over.* This is just the kind of meaning *big* has with the nouns listed as Amounts in Figure 5. *LLA* lists *major*, *sweeping*, *radical,* and *fundamental* as having a similar meaning to *big* in this regard, but it does not list *large* as having this kind of meaning.

Turning to the category of Actors, both *big* and *large* occur significantly often with several additional nouns; *big* (but not *large*)occurs significantly often with *buyers, clients,* and *contributors,* for example, and *large* (but not *big*) occurs with *advertisers, customers, employers,* and four other nouns. There may be a subtle difference in the meanings of *big* and *large* with nouns of this type, but it is hard to be sure with such a small amount of data. Comparing the examples of Actors listed in Figures 4 and 5, the generalization seems to be that *big* is more likely to be used with nominals derived from verbs whose meanings involve the transfer of an object (*e.g., buyers*, *donors, sellers*), while *large* is more likely to be used with nominals derived from other kinds of activities, especially business activities (e.g., *advertisers*, *employers, landowners*). However, it should be noted that although *big* does not occur significantly often with the Actors on the *large* list, it does not sound especially awkward with most of them (consider *big advertiser* and big *customer,* for example). And although

large sounds a bit unusual with some of the nouns that occur with *big*, e.g,
?large losers and *?large sellers*, it sounds fine with some others, particularly
contributors and *donors*. In fact, it is *large*, not *big*, that modifies the related
nouns *contributions* and *donations* in this corpus.

A final difference between *large* and *big* can be seen in comparing
Figures 3, 4, and 5. In Figure 3, there are several examples of nouns
categorized as Groups and Organizations which can be modified by both *big*
and *large.* Several more examples of Groups and Organizations are listed in
Figure 4, showing that they occur with *large* but not *big*, but there are no
additional examples listed in Figure 5; in other words, all of nouns listed as
Groups and Organizations which occur with *big* also occur with *large,* but the
converse is not true--there are many which occur with *large* but not *big*. These
include Groups such as *audience*, *collection,* and *families,* and Organizations
such as *agencies* and *enterprises*. It does not seem impossible for *big* to modify
these nouns (that is, *big families* and *big agencies* do not sound especially
awkward), but in this corpus at least, *large* is preferred over *big* with these types
of nouns.

It has been shown so far that when the overall uses of *big* and *large* are
compared, they have many uses in common, but there are also a lot of
differences; in particular, there are entire semantic categories of nouns which
occur with *big* but not *large* and vice versa. One way to visualize the similarities
and differences is to make a "map" of the semantic range of the two words as
shown in Figure 6 below. The map shows the overall range of *large* and *big*
across the various categories and indicated the areas of overlap in meaning. A
few examples are given of each type of word, along with numbers indicating the

total number of words from the corpus data which fit into each category.

LARGE

Quantity Nouns
amount
areas
degree
extent
(13 more)

audience
cast
collection
contingent
(7 more)

agencies
centers
enterprises
hospitals
organizations

advertisers
customers
employers
landowners
(3 more)

bag
bowl
buildings
cloves
(38 more)

accounts
awards
debts
donations
(19 more)

Groups
crowd
orchestra
turnout

Organizations
airlines
banks
businesses
(6 more in
 common)

Actors
investors
producers
retailers

Physical Objects
box
cities
hall
(6 more in
 common)

Amounts
blocks
cut
drop
increase
(6 more in
 common)

buyers
client
contributors
(6 more)

bar
boats
boys
fish
(10 more)

change
difference
discounts
rise
selloff

BIG

Important, Serious
advantage
break
contract
deal
(16 more)

Idiomatic
band
bang
brother
bucks
business
(13 more)

Popular Things
hit(s)
play(s)
star(s)

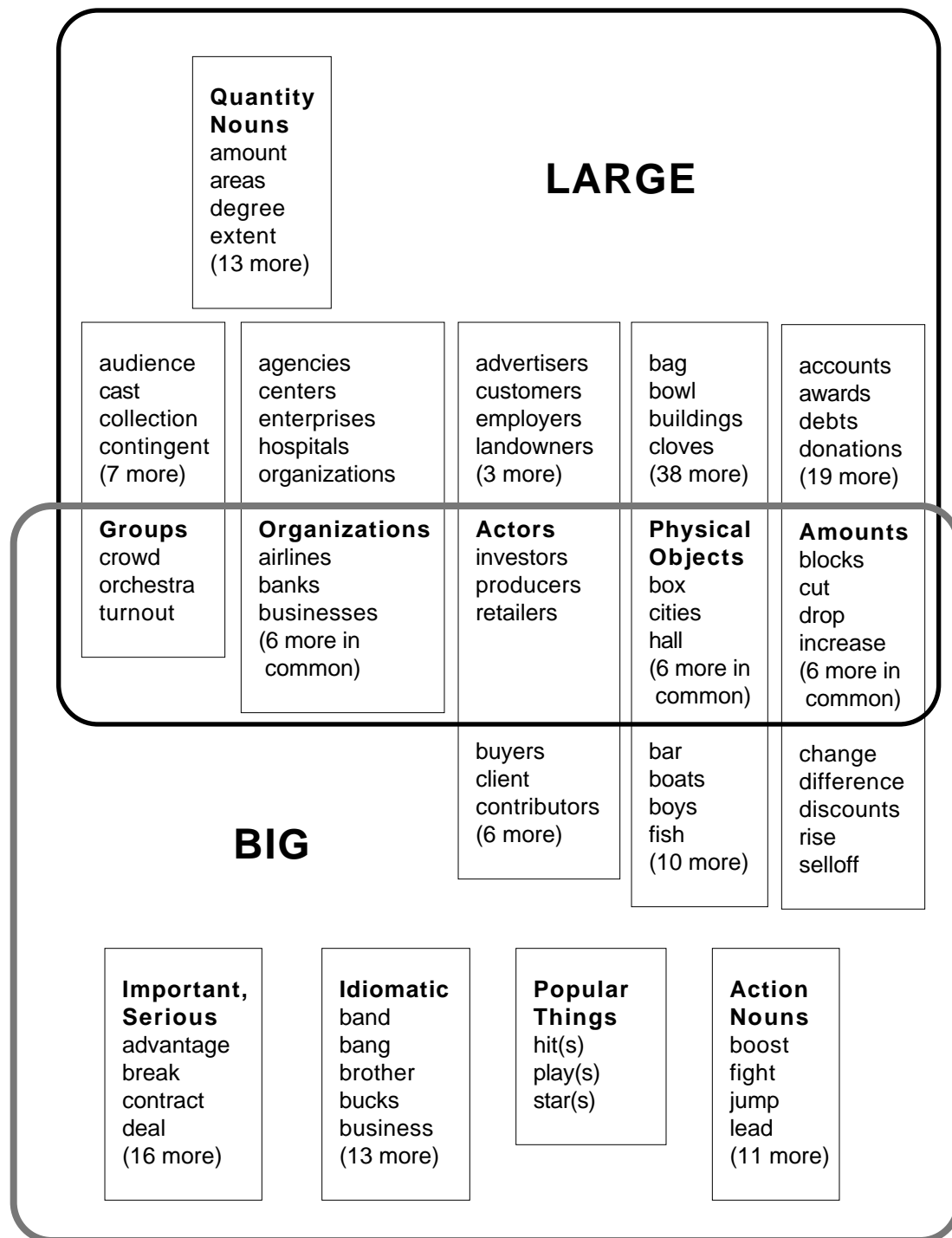**Action Nouns**
boost
fight
jump
lead
(11 more)

Figure 6. Comparison of the semantic ranges of *large* and *big*

Figure 6 represents much of the information discussed above, including the fact
that *big* does not usually occur with Quantity Nouns (the ring representing the
range of *big* does not include this category) and the fact that *large* occurs with
many more Physical Objects than *big* does (as shown by the numbers in each
section of the graph--*large* occurs with 51 Physical Objects nouns in total, the 9
it has in common with *big* and the 42 which are not shared, while *big* occurs
with only 23 Physical Objects nouns in total). The diagram also shows that most
of the nouns which occur with *big* belong to one of the categories (Head of
Idioms, Popular Things, Important, Serious Things and Action Nouns) in which
big does not refer to physical size or number.

Having gained some idea of the differences between *big* and *large*, the
next step is to look at the data for *small* and *little* and compare the meanings of
these adjectives with each other and with *big* and *large*.

2.4   A comparison of *small* and *little*

Since *small* and *little* are synonyms, it is expected that, like *big* and *large*,
they will modify many of the same kinds of nouns, but also that like *big* and
large, their semantic ranges will not be exactly the same. Based on the way
they pattern with their antonyms, some predictions can be made about the kinds
of nouns they are likely to modify. Since *small* is a good antonym for *large*,
small should be able to modify many of the same categories of words as *large*
does, that is, Quantity Nouns, Amount Nouns, Groups, and so on. *Small* is also
sometimes paired with *big*, so *small* and *big* are also likely to modify some of
the same categories of words. *Little*, on the other hand, is paired with *big* but

not *large*, so *little* would not be expected to modify the kinds of nouns which occur more often with *large* than with *big*, e.g., the Quantity Nouns. The corpus data will show that these predictions about *small* and *little* are borne out.

2.4.1   The meaning of *small*

A look at the kinds of nouns which occur significantly often with *small*, shown in Figure 7, reveals some familiar patterns. Most of the nouns can easily be categorized under one of the headings used in the previous sections, namely Physical Objects, Groups, Organizations, Actors, Amounts (categories of nouns which occurred with both *big* and *large*) Quantity Nouns (which occurred with *large*) and Heads of Idioms (which occurred with *big*). There is also one new category, Minor Things, a category which is in a sense the "opposite" of the category of Important, Serious Things, a category which occurred with *big*. Thus, as will be discussed below in more detail, the semantic range of *small* overlaps the ranges of both *big* and *large,* and this explains why both of these adjectives can be considered antonyms of *small.*

Starting with the largest category of nouns that occurs with *small*, namely Physical Objects, it is apparent that *small* occurs with many nouns which also occurred with *large*, in particular, the nouns which name food or household items which are purchased in standard sizes, e.g., *bowl*, *potatoes*, and *skillet*, as well as some nouns which name other non-human objects, such as *buildings*, *flowers,* and *pool*. Unlike *large,* however, *small* occurs with a few nouns related to people, e.g., *boy(s)*, *children*, and *smile*, a type of noun which also occurs with *big*. However most of the particular Physical Objects nouns which occur with *small* do not occur significantly often with either *large* or *big*; this is

also true with the nouns listed as Groups and Organizations. In some cases, it

is because the noun describes something which is inherently small and thus

unlikely to be described as either *big* or *large*, e.g., *chapel* and *cadre.*

Physical Objects		Groups	Amounts	Minor Things
aircraft	onion(s)	army	contributions	comfort
airport	paintings	band	dose(s)	consolation
animals	park	cadre	fee	detail(s)
apartment(s)	patch	clusters	fortune	feat
appliances	piece(s)	communities	gain	step(s)
bag	plane(s)	crowd	grants	
bar	plots	ensemble(s)	margin	**Heads of**
boat(s)	pond	group(s)	profit	**Idioms**
bowl(s)	pool	orchestra	sample	arts
box	potatoes	parties	sampling	claims
boy(s)	print		selection	craft
buildings	properties	**Organizations**	stocks	[fish]
chapel	restaurant	businesses		forward
children	rockets	college		label(s)
chunks	room(s)	companies	**Quantity**	[potatoes]
circle	satellites	enterprises	**Nouns**	print
city	saucepan	factory(-ies)	amount(s)	screen
cracks	[screen]	firms	fraction	talk
[craft]	shop(s)	industries	minority	wonder
cubes	sign	museum	number(s)	
engines	skillet	presses	percentage	
gallery	smile	store(s)	portion(s)	**Other Nouns**
farm(s)	spaces		proportion	ones
fires	speakers	**Actors**	quantity(-ies)	
fish	square(s)	employers	scale	
flowers	stage	farmers	size	
garden(s)	stones	investor(s)	sum(s)	
hall	table(s)	manufacturers		
hole(s)	tear	producers		
hotel(s)	theaters	publisher(s)		
house(s)	town			
island(s)	trees			
lake(s)	type			
leaves	village(s)			
lots	window(s)			
objects				

Figure 7. Nouns occurring with *small*

With many of the other nouns, including *airport, army*, *college* and *factory*, *large* and r *big* would sound fine (e.g., *big airport* and *large army*); the reason that these combinations do not occur in the corpus is probably that the default size value associated with these nouns is relatively large and so *large* or *big* would be redundant (except when the thing is much larger than usual). *Small* is used with these nouns to express the fact that the thing is smaller than expected.

The fact that *small* occurs with many particular nouns that *big* and *large* does not should not be surprising; as Charles and Miller (1989) showed, people can usually distinguish the context of antonymous adjectives, even when the context is as small as a noun phrase, probably because of factors such as default or inherent values for size.[15] However, although particular nouns may be more likely to occur with *small* than with *large* or *big*, what is important for the model of antonymy developed here is whether or not *small* can describe the same types of nouns as either *big* or *large*. So although *chapel* is more likely to occur with *small* than with *large*, both *small* and *large* are often used to describe the size of other kinds of buildings (e.g., *small house* and *large/small buildings*) and other non-human Physical Objects.

In addition to Physical Objects, Groups, and Organizations, *small* occurs with nouns which name Actors. Two of the particular nouns which occur with *small* (*investors* and *producers*) also occur with both *large* and *big*, while *employers* occurs only with *large*.

In the category of Amounts, the nouns which occur significantly often with

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[15]For example, if people were given the contexts "a _____ chapel" and "a _____ cadre of soldiers" and asked to fill in the missing adjective, most people would probably choose *small* as being more likely than *large*.

small are more like those that occur with *large* than those which occur with *big.* *Small* occurs with five nouns which also occur with *large* (*contributions*, *dose, fee*, *gain*, and *selection*); these, along with the others which occur only with *small* (*fortune, grants, sample, sampling* and *stocks*), describe relatively "stable" amounts of the type which were seen with *large* above. *Small* occurs with only one noun that names a change in amount (the type of Amounts noun which occurred with *big*), namely *gain*, a noun which occurs with both *big* and *large*. So overall in the category of Amounts, the meaning of *small* contrasts more strongly with *large* than with *big.*

The category of Quantity Nouns is another area of semantic range which *small* and *large* have in common. As was seen above, *big* does not occur significantly often with words of this type, but both *small* and *large* do. In this corpus, *small* occurs with 11 nouns of this type, and 9 of those 11 particular words also occur with *large.* Only *fraction* and *minority* do not occur significantly often with *large*, although *large* does occur significantly often with *majority*, the opposite of *minority*. *Small* sounds fine with the other Quantity Nouns which occurred significantly in the corpus with *large* but not *small* (e.g., *small areas, small degree, small population*); perhaps these combinations did not occur significantly often because people are more interested in writing about *a large population* or *large areas* than about *a small population* or *small areas*.

Although *small* contrasts with *large* in area of Quantity Nouns, and contrasts more strongly with *large* than *big* in the areas of Physical Objectsand Amounts, there are two other categories in which the meaning of *small* seems to contrast with the meaning of *big* rather than *large.* One of these is the

category of Minor Things. The meaning of *small* with these nouns is in some sense the opposite of the meaning of *big* with the nouns listed as Important, Serious Things; with these categories of nouns, *big* means something like 'important', while *small* means something like 'trivial, unimportant.' *Big* occurs significantly often with only one of the nouns listed as Minor Things (*big step*), but it sounds fairly good in the phrases *a big comfort*, *a big consolation*, and perhaps even *a big feat*.[16] However, the overlap in semantic range seems to be one way--while *big* sounds fine with most of the nouns listed as Minor Things, *small* does not sound very good with most of the nouns listed as Important, Serious Things (e.g.,*?small advantage*, *?small break, ?small help, ?small event*). As will be shown below, several of the nouns listed as Important, Serious Things occur significantly often with *little* rather than with *small*, although it is the quantifier *little* rather than the adjective *little*.

The second category in which *small* contrasts with *big* is the category of Heads of Idioms; three of the nouns in this category also occur with *big*, namely *fish, screen* and *talk. The small screen* (referring to 'television') directly corresponds to *the big screen* (referring to 'the cinema') and *small fish* (meaning 'an unimportant, powerless person') directly corresponds to *big fish* ('an important, powerful, person'). There is also a partial contrast in meaning between *big talk* (meaning 'exaggerated, boastful talk') and *small talk* (meaning 'conversation about trivial, everyday topics'), although these are not clearly opposites in the way that *big fish/small fish* and *big screen/small screen* are. The meaning of *small* in *small fish, small potatoes*, *small talk* and perhaps *small claims* is quite similar to its meaning with the Minor Things. However, with

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[16] *Big detail* sounds a little strange, perhaps because a detail is an inherently small thing.

the other nouns listed as <u>Heads of Idioms</u> (*small arts, small crafts, small forward* and *small print*), *small* does not seem to have the sense of 'minor' and does not clearly contrast with either *big* or *large.*

Overall, the semantic range of *small* is wider than that of either *big* or *large*, overlapping both of them. The semantic maps in Figures 8 and 9 below show the range of *small* as compared to *large* and as compared to *big*.

SMALL			Heads of Idioms arts label crafts (8 more)	Minor Things comfort consolation detail feat step	
fraction minority	army band cadre (4 more)	college factory industries (2 more)	farmers manufactur- ers publishers	aircraft animals children (56 more)	fortune grants sample (2 more)
Quantity Nouns amount number scale (6 more in common)	**Groups** crowd orchestra groups	**Organ-izations** businesses companies enterprises firms stores	**Actors** employers investors producers	**Physical Objects** box bowl flowers (18 more in common)	**Amounts** dose fee gain (4 more in common)
areas degree extent (5 more)	audience cast collection (8 more)	agencies airlines banks (9 more)	advertisers customers landowners (3 more)	cloves eggs estates (30 more)	accounts blocks cuts (25 more)

LARGE

Figure 8. Comparison of the semantic ranges of *small* and *large*

Figure 8 shows that every category of noun that *large* modifies is also modified by *small*. In some categories, *large* and *small* occur with many of the same tokens (for example, in the categories of Quantity Words and Physical Object Nouns), but in other categories, the number of particular words which occur with only *small* or only *large* is larger than the number that occur with both. Figure 8 also shows that the range of *small* extends beyond the range of *large* to the categories of Minor Things and Heads of Idioms.

Figure 9 below shows that the semantic range of *small* also overlaps that of *big* to a large extent, with several categories in common. It should be noted, however, that in a few of the categories, the contrast is rather weak; as described above, there are only two Amounts nouns which occur significantly often with both small and *big,* and the rest of the Amount nouns which occur with *small* seem semantically more like the kinds that occur with *large* than the kinds with occur with *big.*

Similarly, although both *big* and *small* occur with nouns to form idiomatic phrases, the contrast here is only partial; with nouns such as *fish* and *screen*, there is a strong contrast between *small* and *big*, but others (*big bang*, *small arts*) do not show any contrast at all. The arrow from the categories of Minor Things towards Serious Important Things indicates that these two categories show a certain amount of contrast. Figure 9 also shows there are two categories that *small* and *big* do not have in common, namely Quantity Nouns, and Popular Things.

All in all, *small* has a very wide semantic range. The next section focuses on *little*, the adjective with the narrowest range of the four in this study.
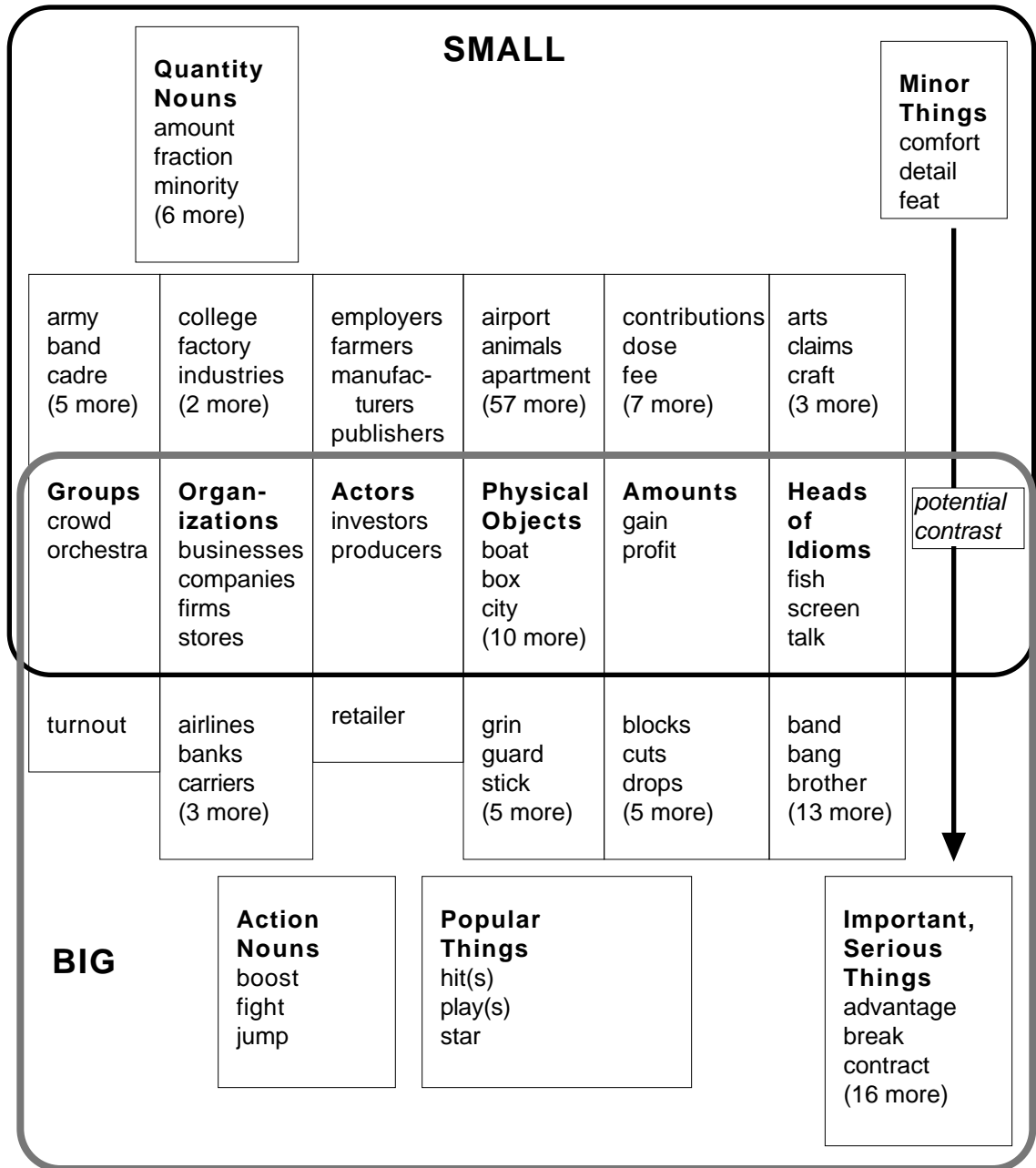
SMALL

Quantity Nouns amount fraction minority (6 more)					**Minor Things** comfort detail feat
army band cadre (5 more)	college factory industries (2 more)	employers farmers manufac- turers publishers	airport animals apartment (57 more)	contributions dose fee (7 more)	arts claims craft (3 more)
Groups crowd orchestra	**Organ- izations** businesses companies firms stores	**Actors** investors producers	**Physical Objects** boat box city (10 more)	**Amounts** gain profit	**Heads of Idioms** fish screen talk
turnout	airlines banks carriers (3 more)	retailer	grin guard stick (5 more)	blocks cuts drops (5 more)	band bang brother (13 more)

potential contrast

BIG

Action Nouns boost fight jump	**Popular Things** hit(s) play(s) star	**Important, Serious Things** advantage break contract (16 more)

Figure 9. Comparison of the semantic ranges of *small* and *big*

2.4.2 <u>The meaning of</u> *little*

Of the four words examined in this case study, *little* is the only one that has two grammatical functions--it is used both as an adjective of size (in combinations such as *little dog*) and as a quantifier for mass nouns (in combinations such as *little relevance* and *little respect*). These functions are quite distinct; all the learners' dictionaries list the quantifier and adjective under separate headings and point out that the opposite of the adjective *little* is *big*, while the quantifier contrasts with *much* and *a great deal*. It is the adjective *little*, not the quantifier, which is the main focus of this section, although it will be shown below that *little's* meaning as a quantifier also has an effect on the choice of *little* as an antonym of *big*.

The part-of-speech parser used on the *New York Times* corpus did not distinguish the quantifier *little* from the adjective *little*, so the raw mutual information data had to be sorted to determine which nouns were occurring with the adjective *little* and which were occurring with the quantifier. The sorting was done mainly on the basis of the status of each noun as either a count noun or a mass noun. With count nouns, *little* generally functions as an adjective (e.g., *little dog, little kids, little town*), while with mass nouns, it is generally a quantifier (e.g., *little damage, little enthusiasm, little headway*).   Many of the nouns which occurred significantly often with *little* can be used as either count or mass nouns, for example, *benefit*, *consequence*, *emotion* and *faith*, but with most of them, only the mass interpretation is possible with *little*,[17] so these were categorized as examples of the quantifier use of *little*. With others, both

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[17]In the case of *emotion* for example, we can easily make a sentence using the quantifier use of *little*, for example, *She showed very little emotion.* It is difficult, however, to imagine a context in which the adjective *little* could be used with the count noun; the following sentence, for example, sounds quite strange: *?Jealousy is such a little emotion.*

interpretations are possible (e.g., *difficulty* and *disagreement*);[18] since I did not have the opportunity to check the interpretation of these ambiguous nouns in the corpus, I sorted them according to the use that seemed most likely to me.

little as an adjective		*little* as a quantifier
Physical Objects	**Heads of Idioms**	attention
bar	finger	alternative
bits	brother	chance
box(es)	guy(s)	choice
boy	lady(-ies)	confidence
dog		consequence
dresses		contact
fellow		cream
[finger]	**Abstract Nouns**	damage
girl(s)	secret	difficulty*
[guy(s)]	things	disagreement*
island		discussion*
kid(s)		distinction
[lady(-ies)		doubt*
ones**		(55 more)
room*		
shop		
town(s)		
village		

Figure 10. Nouns occurring with *little[19]*

Figure 10 above shows the nouns which occurred significantly often with

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[18] In the sentence, *There was little open disagreement over the proposal, disagreement* is a mass noun and *little* is functioning as a quantifier, but in *We had a little disagreement over what to do with the donation, disagreement* is a count noun and *little* is an adjective.

[19] As was seen with *big* and *small*, some Physical Objects nouns are often interpreted idiomatically; these nouns are listed in brackets. The nouns marked with one asterisks have two readings, one as a count noun and one as a mass noun; I've placed them in the category that seems most likely to me.   Finally, although I placed *ones* in the Physical Objects column, it could, of course, substitute for other count nouns (Idiomatic Nouns or Abstract Nouns) as well.

the adjective *little*, as well as showing some of the 69 nouns with which *little*

functions as an quantifier. (As in the studies of the other adjectives, the nouns

that belong to more than one class are marked and explained in the footnote.)

The most striking thing about the list of nouns that occur with *little* is that it is so

short and that the variety is so limited. In all, *little* occurs significantly often with

21 different nouns in only three categories, Physical Objects, Heads of Idioms,

and Abstract Nouns; it does not occur significantly often in this corpus with any

nouns in the categories of Groups, Organizations, Actors, Amounts or Quantity

Nouns.

Even within the Physical Objects, the largest category of *little* nouns, the

range is relatively limited compared to the range of *large* or *small* with nouns of

this type. Seven of these nouns are people-related, and three of those seem

more likely to be used with an idiomatic interpretation (i.e. *little finger* used to

refer to a specific finger, *little lady* used to refer to girls or women regardless of

their physical size, and *the little guy* used to refer to 'the average person'). With

the other three nouns, *boy*, *girl(s)* and *kid(s)*, *little* conveys an impression of

young age in addition to small physical size. Unlike *small*, *little* is not one of a

range of standard sizes, so it does not usually occur with nouns that name food

or household items.

Why does the adjective *little* occur with so few nouns? This may be due

in part to its connotations. *LDOCE*, like the other learners' dictionaries, includes

a lot of information about the connotations of *little* in its definition and the

accompanying usage notes. It lists the meaning 'small in size' as the first

sense, and then lists a second sense, saying that *little* is "used about something

or someone that is small to show that you like or dislike them or that you feel

sorry for them."[20] The usage note adds, "*Little* often suggests that you are talking about someone or something you like or feel sympathetic towards: *What a sweet little dog,*" and "*Little* can also suggest that someone or something is unimportant: *What a silly little man.*"[21] Since the size of all of the <u>Physical Objects</u> nouns listed in Figure 10 could also be described using *small*,[22] *little* is most likely chosen over *small* in order to take advantage of some of these added connotations of *little*. Even in a fairly formal corpus such as the *New York Times*, it seems that there are opportunities for people to write affectionately of things such as *dogs* and *dresses*; however, things such as *airports*, *engines*, and *farms* are more likely to be described in objective terms using *small*. I checked the occurrences of *little* in a few novels available in electronic form,[23] and I found that in these works of fiction, *little* occurs with a

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[20]It may at first seem contradictory that *little* can be used to show both 'like' and 'dislike', but Taylor (1989) finds that that in many languages, both kinds of meanings are associated with a single diminutive affix.   He explains that are these extensions from the central, physical size sense of the diminutive: "Human beings have a natural suspicion of large creatures; small animals and children on the other hand can be cuddled and caressed without embarrassment or fear. The association of smallness with affection is thus grounded in the co-occurrence of elements within an experiential frame" (Taylor 1989, 145-6) and "[S]mallness also goes with lack of worth. The experiential base is obvious: superior worth is correlated with increased size, decreased size with diminished worth"(Taylor 1989, 146,) and finally, "Things which are small are of little importance. This association gives rise to what we may call the dismissive sense of the diminutive." Although *little* is not an affix, its connotations are similar to the kinds of meanings found with diminutive affixes in many languages; for example, the phrase *little lady* can be used either to show affection or to address or refer to someone dismissively.

[21]The same usage note in *LDOCE* says that, in contrast to *little*,"*Small* simply describes the size of something," but as was shown above, *small* too can sometimes be used to suggest that something is unimportant. However, unlike *little,* this sense seems to be found only with a few particular lexical items. For example, *a small detail* is 'an unimportant detail,' but *a small company* is not necessarily 'an unimportant company.'

[22]In fact, *bar, box, town* and *village* all occur significantly often with *small* in the *New York Times* corpus.

[23]The novels were *Alice's Adventures in Wonderland* by Lewis Carroll, *Anne of Avonlea* by Lucy Maud Montgomery, and *The Time Machine* by H.G. Wells.

wider range physical objects. In *Anne of Avonlea*, for example, *little* occurs with *boat*, *building*, *clouds*, *coat*, *door*, and many others. Presumably, stylistic differences between novels and newspapers can account for this.

In Figure 10, *little* also occurs with two abstract nouns, *secret* and *things*. With these two nouns, the meaning of *little* is similar to the meaning of *small* with the nouns listed as <u>Minor Things</u>. If you describe a secret as *a little secret*, or if you speak of some matter as being *a little thing*, you are downplaying its importance.

In addition to connotations and stylistic factors, though, it seems that there is another factor which limits the semantic range of the adjective *little*-- unlike the other adjectives in this study, *little* is not normally used to describe amounts or scales of operation. In this corpus, *little* did not occur with any <u>Amounts</u> or <u>Quantity Nouns</u> and in fact, it sounds quite awkward with nouns from these categories; consider, for example, *?a little fee, ?little grants,* and *??a little percentage*. It is possible to imagine *little* being used with some of the <u>Amounts</u> nouns in order to make use of the 'minimizing' meaning of *little* (e.g., *Can't you make just a little donation to our fund raising campaign?*), but I cannot imagine any circumstance in which a person would use *??a little percentage.* I did not find any examples of such uses in the Project Gutenberg sources I looked at.

The connotations of *little*, taken together with the fact that is usually not used to modify nouns which name amounts, probably explain why *little* is not found in this corpus with nouns which name <u>Groups</u>, <u>Organizations</u>, and <u>Actors</u>. For example, with <u>Groups</u>, *big, large*, and *small* refer to the number of members in the group; since *little* is not usually used to express numbers of things, *small*

would most likely be chosen over *little* to describe Groups with only a few members. Similarly, with Organizations, *big, large*, and *small* describe the scale of the organization; *a small bank* would be one which handles a relatively low volume of money and has only a few customers and employees. This kind of interpretation is not readily available for *a little bank* and so it sounds rather odd. I think that most people encountering this phrase would take it as referring to a bank building (especially one that is "cute" or "quaint" in some way) rather than to a bank as a business.

Figure 10 also reflects the fact that the quantifier *little* is used much more often in this corpus than the adjective *little*. The quantifier occurs significantly often with about 70 different nouns; all of them are mass nouns, and most name abstract things, e.g., *attention*, *chance*, *choice,* and *emotion*, although a few name physical substances, e.g., *butter, cream*, and *rain*. *Big* sometimes occurs with some of the same abstract nouns (for example, *change* and *difference*), but when *big* occurs with them, they are always count nouns rather than mass nouns.

2.5   Antonymy and overlap of semantic range

Having examined in detail the kinds of nouns these four adjectives modify and having gained some idea of the their semantic ranges, it is time to return to the question of why *large* is paired with *small*, not *little*, and why *little* is slightly preferred over *small* as a match for *big*. The answer starts to become clear when the question is cast in terms of the kind of semantic overlap shown in the semantic maps in Figures 8 and 9 above and Figures 11 and 12 below. Opposites are words whose meanings contrast strongly, so in order for two

words to be good antonyms, they need to have a lot of shared semantic range in which to contrast. In the case of adjectival antonyms, this means that the two words need to be able to modify the same kinds of nouns.

2.5.1 An antonym for *large*: why *small* is better than *little*

When the overall semantic ranges of *large* and *little* are compared as in Figure 11 below, it is clear that these two adjectives share very little meaning. As was discussed above, the semantic range of the adjective *little* is restricted both because its connotations make it unlikely to be used with some kinds of nouns (e.g., nouns related to business) and because the literal meanings of *little* seem to be restricted to physical size.

The only area of meaning in which *little* might be expected to contrast with *large* is in describing the size of Physical Objects, but the corpus data shows that even within this area, stylistic differences between *little* and *large* keep them from being used to describe the same kinds of things.

For example, *little* is often used with nouns that name people (e.g., *girl, guy*), but *large* does not often occur with nouns of this type; on the other hand, *large* is used with nouns that name things sold in standard sizes (*eggs, skillet*), and *small,* rather than *little,* is the conventional label for a small standard size. In this corpus, there were only two nouns which occurred significantly often with both *large* and *little*, namely *ones* and *box.* With such a limited area of semantic range in common, there are few opportunities for people to use *little* and *large* together to indicate contrast. This is a likely explanation for the fact, noted by Charles and Miller (1989), that *large* and *little* co-occurred at only chance levels in the Brown corpus--people do not use *little* and *large* together in the same

sentences because there is little reason or opportunity to do so.
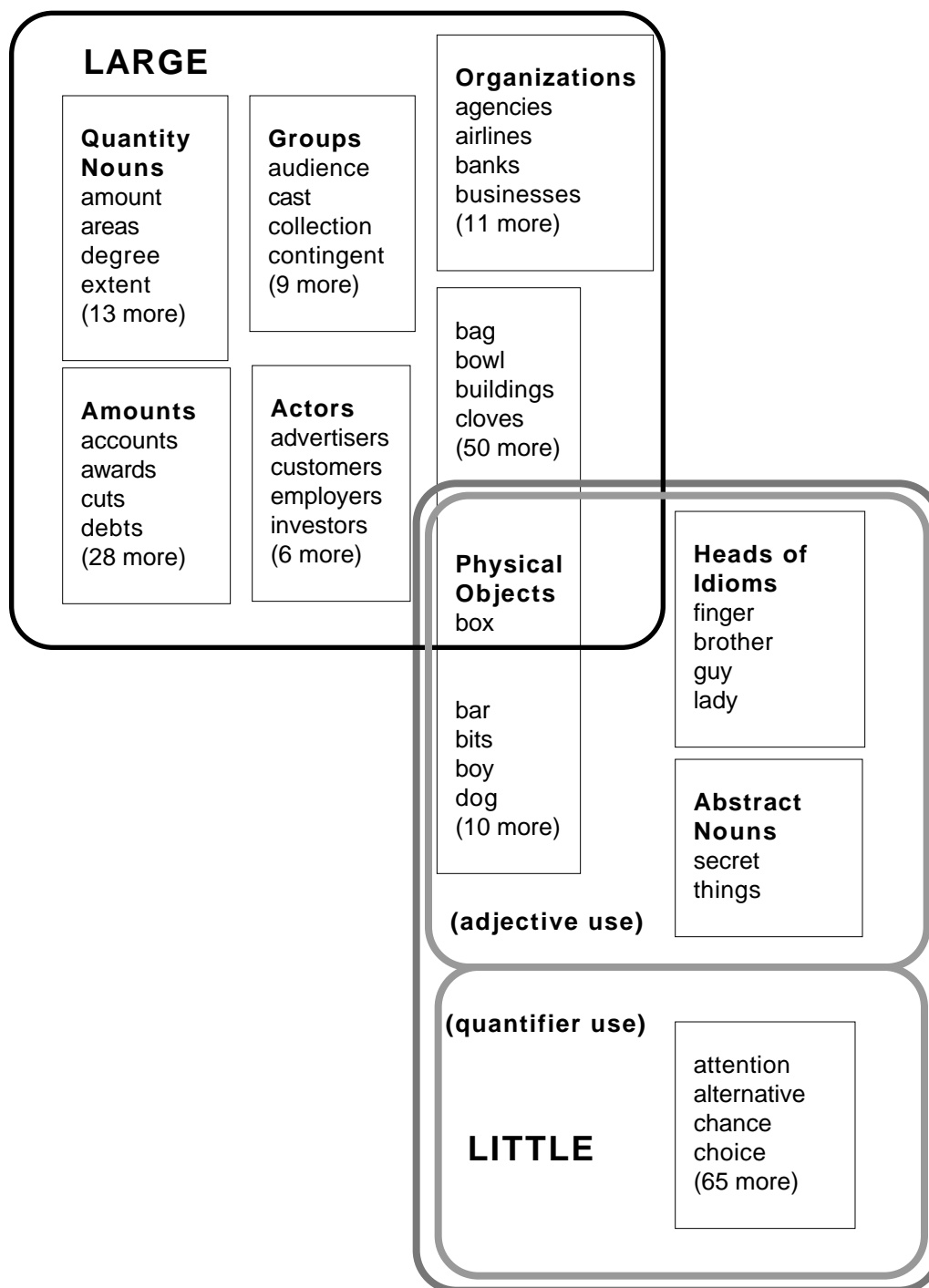

Figure 11. Comparison of the semantic ranges of *large* and *little*

Turning to *small*, it is clear that the meaning of *small* is a much better match for the meaning of *large.* Unlike *little*, *small* not only occurs significantly often with many different nouns that name Physical Objects, it also occurs with nouns in all the different categories that *large* can occur with: Groups, Organizations, Actors, Quantity Nouns, and Amounts. Not only do *large* and *small* modify the same kinds of nouns, in this corpus they occur significantly often with many of the same particular nouns.[24] Figure 8 above shows that there is a great deal of overlap between of the semantic ranges of *large* and *small*--whatever type of *large* noun we choose, it seems that *small* can also modify nouns of that type. In other words, *small* potentially contrasts with *large* across the entire range of *large's* meaning. Of the words which occurred significantly often with *large* but not *small*, *small* sounds fine with almost all of them. As just a few examples, consider *small amount*, *small cast*, *small agencies*, *small operators*, and small *bowl*. With this extensive shared semantic range, there are many opportunities for people to use *large* and *small* together, and thus these two adjectives are often found to co-occur together. Charles and Miller (1989) reported finding higher than chance levels of *small* and *large* co-occurrence within sentences in the Brown corpus, and although I did not specifically look for co-occurrences of *large* and *small* in the *New York Times* corpus, I accidentally came across many examples while checking on particular nouns. The examples below in (3) show just a few examples of the sentences I found.

(3)   a. For those who like two sinks but don't have the space for both a large and a small sink, Vance makes a combination double-

[24]There were 58 nouns which occurred with both *large* and *small;* many of them are shown in the overlapping sections of Figure 9.

single sink in stainless steel. (Mary Smith. 1984. Helpful hardware; space saving sinks. *New York Times* , 1 March, section 2, 2)

b. Basically, this kind of annuity would allow a person who has acquired a nest egg in Savings Bonds--either through a single large purchase or a series of smaller ones--to redeem a portion each year after retirement as required. (Leonard Slocene. 1984. Your money; saving bonds as annuity. *New York Times,* 3 March, section 1, 30)

c.   More small shops and a limited number of large stores, where such major purchases as furniture and appliances can be bought, are along Liberty Avenue. (Shawn G. Kennedy. 1984. If you're thinking of living in: Ozone park. *New York Times,* 29 July, section 8, 9)

In (3a), *large* and *small* are both describing *sinks*, which are Physical Objects; in (3b), they are describing *purchase*, which falls under the category of Amounts; and in (3c), *large* and *small* are modifying *stores* and *shops* respectively, nouns which fall under the category of Organizations. It is the shared semantic range of *large* and *small* which allow them to be used to indicate contrast in this way, and thus it is the shared semantic range that allows them to be antonyms.

2.5.2   *Big*: a good antonym for *little*

It was shown above that *large* is not a very good candidate as an antonym of *little* because *large* and *little* share almost no semantic range. What then is the situation with *big* and *little?* Given the fact that these two adjectives are considered to be good examples of antonyms by native speakers, under the model of antonymy being developed here, *little* and *big* should be expected to share a great deal of semantic range. However, just like *large, big* occurs with nouns that name Groups, Organizations, and Amounts, categories of nouns

which *little* does not occur with. Why then is *big* such a good antonym for *little?* I think the answer involves two factors. First, as will be discussed in the next section, the fact that *small* is the only possible antonym for *large* strengthens the reciprocal relationship between *large* and *small*, making *small* in some way "less available" as an antonym for *big*. Second, although *little* does not extend over the whole semantic range of *big, big* does contrast with *little* across the whole range of nouns that *little* occurs with. That is, although from the point of view of *big*, *little* is not a particularly good candidate as an antonym, from the point of view of *little*, *big* is a very good candidate. This is shown in Figure 12 below.

While looking at Figure 12, it should be noted first that although neither *big* nor *little* occur with a wide range of Physical Objects in this corpus, the kinds of objects they do occur with are similar. *Little* occurs with several nouns related to people, (e.g., *boy*, *girl*, and *guy*). Since *large* does not usually occur with nouns that name people, it is not available as an opposite for this sense of *little*, but *big* can and does contrast with *little* with these nouns. Second, and perhaps more important, *little* and *big* have undergone parallel semantic extensions so they contrast in several senses that do not involve physical size. In idiomatic phrases, both *big* and *little* often describe age when used with nouns that name people, so that *a big girl* is older than *a little girl. Small* also can be used to mean 'young' (for example, in *small children*), but it cannot mean 'younger' as *big* and *little* do in phrases such as *big sister* and *little brother.* The sense of *little* as 'young' or 'younger' is found with 4 of the 16 Physical Objects nouns which occur with *little*, namely *little boy*, *little brother*, *little girl* and *little kid*. I am not sure of the overall frequency of these uses, but

they certainly are very familiar and they were specifically listed in all of the learners' dictionaries.

BIG

Organizations
airlines
banks
businesses
(7 more)

Popular Things
hit(s)
play(s)
star(s)

Actors
buyers
client
contributors
(9 more)

Action Nouns
boost
fight
jump
lead
(11 more)

boats
fish
grin
(15 more)

band
leagues
toe
(13 more)

Important, Serious
advantage
break
contract
deal
(16 more)

Amounts
change
difference
increase
(12 more)

Physical Objects
bar
box
boy

Heads of Idioms
brother
guy

potential contrast

potential contrast

dog
dresses
island
shop
(8 more)

finger
lady

Abstract Nouns
secret
things

change
difference
improvement
(65 more)
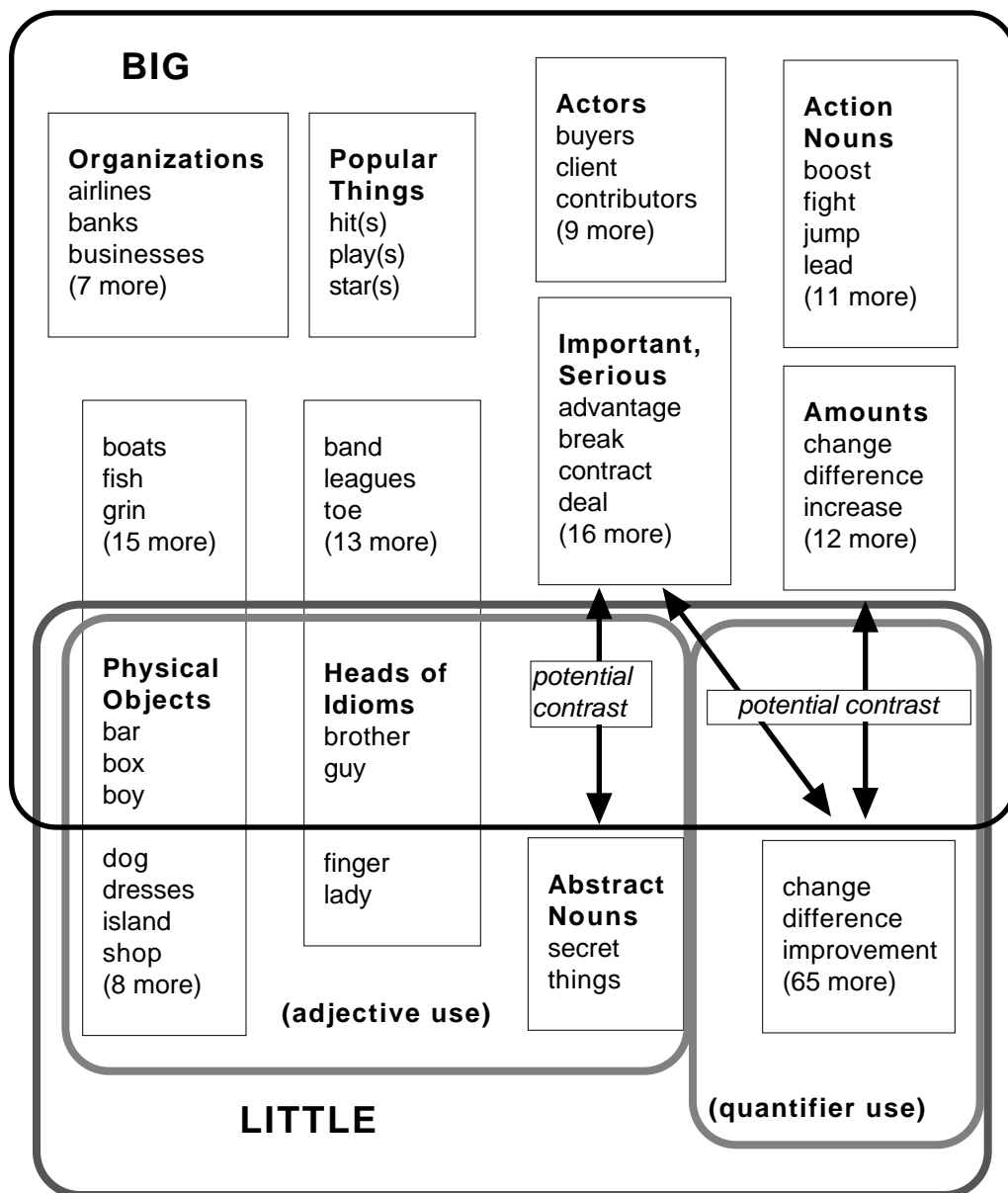
(adjective use)

LITTLE

(quantifier use)

Figure 12. Comparison of *little* and *big*

The other idiomatic meanings of *little* also seem to have a counterpart in

the idiomatic senses of *big*. Contrasting with *the little guy* ('an average person without much power'), there is *big guy* ('a powerful, important person'), and the use of *little finger* to refer to a particular finger is similar to the use of *big toe* to refer to a particular toe. These related idiomatic uses of *big* and *little* indicate a degree of shared semantic range. Next, although *big* does not occur significantly often with either *secret* or *things*, it sounds fine with both of these nouns, and when *big* is used with *secret* and *things*, its meaning is parallel to that of *little*,[25] as shown in the examples in (4) below from recent issues of the *New York Times.*

(4) a "The only thing they don't know about me is that I have AIDS. It's my little secret." His smile is weary, resigned. "It's my big secret, actually." (Barbra W. Cosentino. 1995. Robbie's secret. *New York Times*, 23 July, section 13, 13)

b. The Scots have an old tongue twister of an adage that says "many a mickle make a muckle," or, little things add up to big things. (Michael Specter with Gina Kolata. 1997. A new creation: The path to cloning. *New York Times,* 3 March 1997, section A, 1)

Unlike *big*, *large* cannot occur with *secret* at all, and the phrase *large things* would most likely be interpreted as referring to physical objects.

Finally, as mentioned briefly above, the meaning of *little* when it is used as a quantifier contrasts with some of the uses of *big* with Important, Serious Things and Amounts (at least, the Amounts that describe amounts of change). This is another case of the kind of antonymic contrast across word class boundaries noted by Fellbaum (1989) and discussed in section 1.5.4 above. The quantifier *little* and the adjective *big* occur in the corpus with several of the

[25]The plural *big things* is parallel to *little things*, but the singular *big thing* has an additional interpretation (as 'fad, popular thing') which has no parallel with *little.*

same nouns: *change, difference, help, impact, improvement, success, surprise,* and *trouble.* With *little*, these nouns are interpreted as mass nouns and with *big*, they are interpreted as count nouns, but there are many contexts in which the meaning of *big+count noun* makes a good contrast with the meaning of *little+mass noun.* For example, consider the following examples from the *New York Times* and *The San Diego Union-Tribune.*

(5) a. Personality types make little difference, he says, except that
         people who are "self-motivators" are more likely to keep on
         exercising. The attitude of your friends or spouse toward
         exercise--better yet, their joining in--makes a big difference, as
         several research projects point out (Steve Lohr. 1994, Good
         health: An exercise high that lasts. *New York Times,* 2 October,
         section 6, 66)

     b. The outcome of the case, as well as pending legislation in
         Congress, could have a big impact on the types of retirement
         benefits available to workers...Actuaries agree that unisex
         tables would have little impact on defined-benefit plans...
         (Deborah Rankin. 1983. Personal finance: What's sexual
         equality in a pension. *New York Times,* 10 April, section 3, 11)

     c   And that should come as little surprise to anyone who's tried to
         sell or refinance in the last three years. The big surprise:
         homes in some areas have actually increased in value (Tom
         Blair. 1993. If elected, I would not serve. *San Diego Union-
         Tribune.,* 6 October, Local section)

These examples show that the adjective *big* can be and is used in contrast with the quantifier *little*.

The semantic map in Figure 12 above shows that the range of big extends across the categories of nouns typically modified by both the adjective and the quantifier *little* (although, of course, it extends far beyond that). This overlap in range makes *big* a good choice as an antonym of *little*.

2.5.3   A good antonym for *big*

It has been shown why *big* is chosen as the opposite of *little*, but what happens when we are looking for a word that contrasts in meaning with *big?* In that case, there is not one clear candidate. *Little* is a possible candidate because the range of the adjective *little* is overlapped by *big* and because *big* and *little* contrast in specific idiomatic senses. In addition, the use of *big* with some Amounts and Serious, Important Things contrasts with some of the uses of *little* as a quantifier. On the other hand, *small* is also a good candidate because *small* also contrasts with *big* across a wide range of meanings, as shown in Figure 9 above. In fact, the overall number of particular nouns which occur in the corpus with both *small* and *big* is larger than the number which occur with both *little* and *big*. This probably explains why many speakers consider *big* and *small* to be antonyms. However, most people seem to feel that *little* is a "better" antonym for *big* than *small* is. Why should this be?

A plausible explanation for this lies in the fact that antonymy is a reciprocal relationship. As Deese (1965) found, on word association tests, the most common response to a word with an opposite is its opposite; e.g., the most common response to the word *hot* was *cold* and the most common response to the word *cold* was *hot.* This reciprocity gives the combination *large/small* the edge over *big/small*. *Large* overlaps over a larger range of the meaning of *small* than *big* does and so there are more opportunities to use *large* to make a contrast with *small*. Also, unlike *big*, *large* has only one possible antonym; it shares almost no range with *little*, and so unlike *big*, it cannot form a pair with *little*. *Large* can only select *small* as its antonym, and that makes it more likely that *large* rather than *big* will be chosen as *small's* opposite in cases where

both are available. Not only that, most of the categories with which *big* contrasts with *small* are also categories where *large* contrasts with *small*.[26] Thus there not much semantic area in which *big* alone contrasts with *small* with no competition from *large*, but there is quite a bit of range in which *large* is the only possible contrast for *small*. Similarly, *big* is the only antonym available for *little*, a fact which strengthens the reciprocal relationship between *little* and *big.*

2.6   Conclusion

This case study began with the question of why the four adjectives, *big*, *little*, *large,* and *small*, form the antonym pairs that they do. In looking for an answer, it was found that the characterization of these words as 'adjectives of size' was not entirely adequate because the four words are not used to describe exactly the same kinds of things. For example, while *large* and *small* are often used to describe the size of abstract quantities (named by nouns such as *amount* and *area*), *big* and (especially) *little* are not used in this way. And while *big* can be used to describe the size of actions named by abstract nouns (e.g.,*leap* and *push*) the other adjectives of size, in particular *large*, are not usually used in this way. This research showed that although *big* and *large*, and likewise *little* and *small*, are near synonyms, this does not mean they are identical in meaning; they are synonyms by virtue of the fact that they are associated with the same semantic dimension, but they are differentiated by the fact that the modify different kinds of nouns. It showed that good opposites are adjectives that not only occupy opposite ends of a shared semantic dimension, but also describe the same kinds of things and thus share a lot of semantic

[26]Most of the particular nouns which co-occur with both *small* and *big* in the *New York Times* corpus also co-occur with *large*.

range in which to contrast.

Why does a language have synonyms of this type? That is, why isn't there just one word to describe the 'large' end of the dimension of size and another to describe the 'small' end? Of course, this kind of question is probably impossible to answer, but this study does provide some useful clues. For example, once two words start to be used to describe different kinds of nouns, they no doubt start to take on slightly different connotations; this is turn, may cause the use of the two words to be distinguished even further. Take *big* and *large* for example. Now that *big* is used with nouns such as *break*, *news*, and *problem*, it has acquired some connotations that *large* does not have, namely, connotations of 'importance' or 'impressiveness.' I think these connotations may make *big* the less likely choice in cases where an 'objective' description of size is desired, in which case *large* will be preferred, but *big* would be more likely to be chosen when these connotations are desired.

This case study has involved a rather unusual set of adjectives in that all four are very frequently occurring words, and that none of the four name extreme points along the dimension of size (i.e., points named by words such as *minuscule* or *huge*). However, the approach taken here would be useful for investigating the properties of other sets of antonyms and near-antonyms. The next case study focuses on the set of words related to *wet* and *dry*, including *wet*, *damp*, *moist*, *arid*, and *parched*, again showing that the notion of semantic range is useful in understanding antonymy. Under the standard semantic approach, an explanation of why only *wet* and *dry* (but not *wet* and *arid* or *dry* and *damp*) are antonyms would probably rely on the notion of symmetricality described in section 1.2.1. The argument would go like this: *damp* describes a

less extreme value along the dimension of 'wetness' than *wet* does, and *arid*
names a more extreme value than *dry* does. Since *damp* lies closer to the
center than *dry* does, it can not be paired with *dry*, and since *arid* lies farther
from the center than *wet* does, it cannot be paired with *wet*. In the next chapter, I
examine this type of argument using the corpus data to get a better idea of the
meanings of the adjectives in this set, and I show that in this case too, a model
of antonymy based on shared semantic range is more useful for accounting for
the data than the standard semantic approach.