

## **Conceptual Categories and Linguistic Categories VIII: Nouns and Individuation**

### **1 Approaching the nominal domain**

- The notion of lexicalized meaning applies equally to nouns.

LEXICALIZED MEANING: Those components of a noun's meaning that are specified and entailed in all uses of the noun, regardless of context.

- The points made with respect to the verbal domain about the relation of lexicalized meaning to the world carry across to the nominal domain.
- Just as verbs help pick out events, nouns help pick out entities, typically the event participants.
- Just as identifying verb's meaning requires distinguishing its MEANING from the happening(s) in the world that it describes in a particular use, so does identifying a noun's meaning requires distinguishing its MEANING from the entity/entities in the world that it describes in a particular use.
- A particular noun meaning can be viewed as a collection of attributes, and these attributes must be shared by those entities in the world which the noun can refer to.
- When we choose a noun to describe an entity (or entities) in the world, we focus on certain attributes of what is being referred to by this noun though it may also have other attributes.
- A noun presents a construal of the entity in the world it is describing by selecting the attributes used to single out this entity.
- As illustrated in Lecture I, since any entity in the world is constituted of many attributes of which a noun lexicalizes only some, two nouns may refer to the same entity, but in lexicalizing different attributes, they may construe it as an entity in different ways (e.g., *forest* vs. *trees*).

### **2 What types of attributes might be relevant to the morphosyntactic behavior of nouns?**

- Just as some attributes lexicalized by verbs are privileged by grammar in constraining their morphosyntactic behavior (i.e. argument realization), so too are some attributes lexicalized by nouns.
- Again as in the domain of verbs, the attributes should be relevant to a wide range of nouns.
- For nouns, the relevant facets of morphosyntactic behavior fall under the rubric of countability and include number morphology, determiner use and choice, and modification by numbers.
- The accompanying conceptual distinction, which largely lines up with morphosyntactic behavior, is between individuable vs. nonindividuable entities (cf. Bloom 1994, Middleton et al. 2004, Mufwene 1980, Quine 1960, Wierzbicka 1988).

- GOALS OF THIS LECTURE:

- To show that the notion of individuation, like other lexicalized notions, is not always clear cut.
- To identify some of the interacting factors that contribute to individuatability.
- To show that in terms of individuation nouns fall into more than the two classes taken to underlie the well-known mass/count distinction, and that each one is relevant to morphosyntactic behavior.
- To show how the mass/count dichotomy is imposed on this finer-grained classification.

### 3 A case study in the nominal domain: Mass/count introduced

- Though the distinction between count and mass nouns is hard to characterize precisely, it largely separates those entities that are construable as individuatable from those that are not (e.g., Mufwene 1981, Wierzbicka 1988).
- Individuation is a grammatically relevant semantic component of meaning: the morphosyntax of nouns reflects countability, which in turn depends on individuatability. Individuatability is then a semantic notion which groups together many entities in terms of shared grammatical behavior.

Count nouns (e.g., *dog*, *chair*, *tree*):

- (1)
  - a. permit plural marking (*dogs*, *chairs*)
  - b. permit modification by cardinal quantifiers (*one dog/chair*)
  - c. permit modification by determiners implicating plurality (*many dogs*, *several chairs*)
  - d. do not permit modification by *much* (*\*much chair(s)*)

Mass nouns (e.g., *sand*, *tar*, *water*):

- (2)
  - a. do not permit plural marking (*\*tars*, *\*sands*)
  - b. do not permit modification by cardinal quantifiers except on kind interpretations (*\*one tar*, *two sands*)
  - c. do not permit modification by determiners implicating plurality except on kind interpretations (*\*several sands/tars*)
  - d. may allow modification by *much* (*much sand/tar*)

- As illustrated particularly through the use of the dative alternation and the notion of possession in the verb domain, it is not always clear how to apply a grammatically relevant distinction in meaning to particular chunks of reality.

— In such instances, it is necessary to investigate how language treats the clear instances, and then use the grammatical behavior established in these instances as a baseline in figuring out the analysis of more difficult cases.

— In the nominal domain, morphosyntactic countability can be used to probe for what languages construe as individuatable in the noun domain.

## 4 Mass/count across the English noun inventory

AN ILLUSTRATION: An exploration of the entities which qualify as individuated in English.

THE METHOD: Examine which nouns have mass or count morphosyntax.

### 4.1 The basic distribution of mass/count in English

- Liquids—and other undifferentiated materials—and substances, which are all homogeneous and do not come in individuated units, are invariably mass, and pattern morphosyntactically as mass.

- (3) LIQUIDS AND HOMOGENEOUS MATERIALS: blood, cream, dye, gas, glue, honey, lemonade, lotion, milk, oil, shampoo, soup, tar, vinegar, water, wine, ...; butter, ice cream, mud, pudding, soap, ...
- (4) a. vinegar, \*a vinegar, \*vinegars, \*two vinegars (except on the kind reading)  
b. mud, \*a mud, \*muds, \*two muds (except on the kind reading)
- (5) SUBSTANCES: basalt, coal, copper, corian, granite, iron, paper, plastic, quartz, silver, slate, steel, wood, wool, ...
- (6) granite, \*a granite, \*granites, \*two granites (except on the kind reading)

- Physical objects, which have clear physical boundaries and often consist of a variety of distinct, but connected parts that stay together as the object is moved, are individuable (Kellman & Spelke 1983, Markman 1991, Soja, Carey & Spelke 1991), and, countable; further, they invariably pattern morphosyntactically as count.

Physical objects can be further subdivided into natural kinds and artifacts, two semantic classes which themselves are grammatically privileged (e.g., Brown 1999, Wisniewski & Love 1998).

- (7) NATURAL KINDS: dog, cat, horse, lion, snake, spider, tiger, ...; eagle, parrot, robin, sparrow, swan, ...; beech, elm, maple, oak, pine, ...; apple, banana, mango, orange, peach, pear, tangerine, ...
- (8) a spider, spiders, two spiders, \*spider
- (9) ARTIFACTS: bottle, chair, flute, hammer, mug, pen, pencil, plate, violin, table, ...
- (10) a bottle, bottles, two bottles, \*bottle

- The classification of a noun as mass or count is not always a priori evident beyond these types of entities; rather, it is necessary to see how English treat such instances.

- Grains and other granular aggregates are usually encountered in multiple, tiny—sometimes even imperceptibly small—units. Thus, the individual “grains” are not easily perceivable or even useful.

— The nouns that refer to such entities are typically morphosyntactically mass: that is, in these instances, nouns lexicalize the aggregate rather than the unit.

(11) GRANULAR AGGREGATES: barley, corn, dirt, dust, flour, glitter, gravel, rice, rye, salt, sand, sugar, sawdust, soap powder, wheat, ...

(12) sawdust, \*a sawdust, \*sawdusts, \*two sawdusts (except on the kind reading)

— Although these nouns are morphosyntactically mass, they are still different from liquids and homogeneous materials: they can combine with a “unitizer” to single out a naturally occurring unit.

(13) a grain of rice/salt/sand, a speck of dirt, ...

• Yet other entities that may be encountered as aggregates are treated morphosyntactically as count.

(14) bead, bean, grape, lentil, noodle, pea, pearl, pebble, sequin, ...

(15) a bead, beads, two beads, \*(much) bead

Wierzbicka (1988) and others have suggested that there are reasons for this:

- the individual units of the aggregate are larger and more easily perceptible;
- they may be interacted with individually: e.g., sequins are sewn on clothing separately; compare glitter, which is usually sprinkled or brushed on surfaces.

## 4.2 Unit or aggregate?

• Grains such as millet, rye, and wheat are typically encountered in aggregates composed of individual units; this is a fact about the world.

• A noun can refer to an individual unit or to the aggregate; this is a linguistic fact about lexicalization (cf. the availability of verbs referring to various phases of dying and death; Lecture I).

QUESTION: Is it possible to predict whether a noun will refer to an individual unit of an aggregate or to the aggregate (and, thus, be count or mass)?

• Wierzbicka (1988) claims COGNITIVE/PERCEPTUAL and CULTURAL factors influence a noun’s classification as mass or count:

— MODE OF INTERACTION with the relevant entity

— DISTINGUISHABILITY of any constituent element, as influenced by SIZE and CONTIGUITY  
(See also Middleton et al. 2004)

• An example of these factors at work: Plant names (Zwicky 1997)

— Plants that cover areas of ground in a garden are usually mass nouns, as *ice plant* is, yet *petunia* is count, though petunias can be used as ground cover.

— The reason for the difference is distinguishability:

As with a typical ground cover, not only is it difficult to distinguish individual plants in an expanse of ice plant, but it is difficult to actually separate them out.

But a comparable expanse of petunias is actually easily divisible into individual plants.

- In most instances, these criteria determine whether a noun lexicalizes a unit or an aggregate.
  - A residue of arbitrariness is predicted to arise precisely where the criteria do not make clear cuts.
- Indeed, there is some arbitrariness in where the line is drawn: e.g., mass *rice*, but count *lentils*.
- The differential status of these nouns might follow because the relevant unit size is on the boundary between what qualifies an entity for lexicalization as a unit vs. an aggregate (Cruse 2004).
- There are also nouns that have crossed the mass/count divide as the most prominent construal of the chunk of reality being described has changed.

AN EXAMPLE: The mass noun *pease* (as in *pease porridge*, roughly thick pea soup) became the count noun *pea*, as cooking methods changed.

ANOTHER EXAMPLE: The mass noun *chad*, referring to the bits of paper that once filled the holes in computer punch cards, became a count noun after the 2001 US elections, occurring in such infamous phrases as *a bulging chad*, *a hanging chad*, *a pregnant chad*, *a swinging chad*, and *a dimpled chad*.

### 4.3 The distribution of mass/count expanded: Collective aggregates

- In English nouns naming berries and other small fruits are treated as count.

(16) bilberry, blackberry, blueberry, cherry, chokecherry, cloudberry, cranberry, currant, elderberry, gooseberry, grape, huckleberry, lingonberry, loganberry, marionberry, mulberry, olallaberry, raspberry, red currant, strawberry, ...

(17) a cranberry, cranberries, two cranberries, \*(much) cranberry

- Yet, in some languages such as Russian and Welsh (Stolz 2001, Wierzbicka 1988), berry names behave morphosyntactically as mass; that is, such nouns are uncountable and in their unmarked form, they refer to a collection of the fruit.

(18) RUSSIAN: *čeresnja* ‘sweet cherries’, *černika* ‘blueberries’, *eževika* ‘blackberries’, *klubnika* ‘strawberries’, *malina* ‘raspberries’, *smorodina* ‘currants’, *višnja* ‘sour cherries’, *vinograd* ‘grapes’, *zemljanika* ‘wild strawberries’, ...

- In terms of their morphosyntactic classification, then, such fruits are treated like granular aggregates, which are also morphosyntactically mass in these languages.

This parallel treatment is not surprising given the criteria for mass/count classification: berries are eaten in multiple units and the units are not distinguishable.

- “Collective” aggregates like berries and granular aggregates are still different grammatically from liquids and substances, even if none show count morphosyntax.

— Both Russian and Welsh have singulative suffixes, *-inal/-inka* and *-en*, respectively, which can be used to pick out one unit from granular and collective aggregates.

<b>Russian</b>	čeresnja	‘cherries’	čerešina	‘one cherry’
	černika	‘blueberries’	černičina	‘one blueberry’
	eževika	‘blackberries’	eževičina	‘one blackberry’
	gorox	‘peas’	gorošina	‘one pea’
	grad	‘hail’	gradina	‘a hail-stone’
	pesok	‘sand’	peščinka	‘one grain of sand’
	pyl’	‘dust’	pylinka	‘a grain of dust’

— Singulative suffixes may not attach to liquid and substance nouns.

<b>Russian</b>	grjaz	‘mud’	*grjaz-ina
	moloko	‘milk’	*molok-ina
	sup	‘soup’	*sup-ina
	muka	‘flour’	*muč-ina
	voda	‘water’	*vod-ina

— As already mentioned, English, too, shows a reflex of this phenomenon: the grains of granular aggregates can be individuated through the use of unitizers like *grain/speck*, contrasting with liquids and substances, which lack such unitizers.

- The class of collective aggregates extends to include nuts, small animals and insects, especially swarming insects, as shown with Welsh data (primarily from Stolz 2001).

afan	‘raspberries’	afan-en	‘one raspberry’
mwyar	‘blackberries’	mwyar-en	‘one blackberry’
clor	‘ground-nuts’	clor-en	‘one ground-nut’ (like a peanut)
cnau	‘nuts’	cneu-en	‘one nut’
cnau almon	‘almonds’ (i.e. ‘almond nuts’)	cneu-en almon	‘one almond’ (i.e. ‘one almond nut’)
cylion	‘flies’	cylion-en	‘one fly’
gwenyn	‘bees’	gwenyn-en	‘one bee’
llygod	‘mice’	llygod-en	‘one mouse’
malwod	‘snails’	malwod-en	‘one snail’
mogrug	‘ants’	mogrug-en	‘one ant’
pilcod	‘minnows’	pilcod-en	‘one minnow’

- Particularly interesting are some Welsh names for collective and granular aggregates that have been borrowed from English, with what is an English plural being treated as the basic, uncountable form in Welsh; that is, the Welsh noun lexicalizes the aggregate instead of the unit.

- (19) a. ceirios ‘cherries’; cf. ceirios-en ‘one cherry’  
b. cols ‘cinders’; cf. cols-yn ‘one cinder’  
c. gwsberys ‘gooseberries’; cf. gwsberys-en ‘one gooseberry’  
d. pys ‘peas’; cf. pys-en ‘one pea’  
(Stolz 2001: 68, (13))

- Thus, in Russian and Welsh collective aggregates are treated like granular aggregates morphosyntactically, while in English they are treated like individual entities.

- The phenomena falling under the label “mass/count” reflect not a two-way “individuable” vs. “nonindividuable” distinction; rather, nouns lexicalize one of a range of individuation types.

## 5 The significance of mass and count nouns with the same extension

- The literature on the mass/count distinction often points to DOUBLETS consisting of a mass and a count noun that are taken to be near-synonyms.

- (20)
- change* is mass, but *coins* is count
  - foliage* is mass, but *leaves* is count
  - luggage* is mass, but *suitcases* is count
  - mail* is mass, but *letters* is count

- Based on such doublets, researchers have suggested there is no logic to mass/count classification:

- (21) “Nor can I see anything that would explain the count/mass difference between ‘footwear’ and ‘shoe’, ‘clothing’ and ‘clothes’, ‘shit’ and ‘turd’, or ‘fuzz’ and ‘cop’. These are normally mass nouns and count nouns for basically the same thing.” (Ware 1979: 22)

- THE NEXT STEPS:

— To show that in (20) and comparable pairs, each noun lexicalizes a distinct set of attributes, one consistent with mass morphosyntax and the other with count, though each may be used in the description of the same real world referent. Thus, the doublets are NEAR-synonyms, not synonyms.

— To then show that the same factors mentioned in Section 4.2 which favor an aggregate, and thus, noncount, lexicalization apply to these doublets too.

### 5.1 The doublets reexamined

- *Leaves* AND *foliage*:

— While both *leaves* and *foliage* might be used in reference to the greenery on a particular tree, these two nouns lexicalize distinct construals of this referent.

— Only *foliage* refers directly to the ensemble of leaves on the tree, treating them as a collection of interconnected and indistinguishable entities.

— Concomitantly, the two nouns need not always be coextensive in reference.

- (22) Kerry raked the leaves/\*foliage.

- *Mail* AND *letters*

— On a certain day, someone could describe their mailbox as holding either *mail* or *letters*.

— However, not every pile of mail may be described as *letters*: mail can include many other things: e.g., bills, CDs, flyers, magazines, newsletters, packages, postcards.

— The choice between using the words *letters* and *mail* cannot simply be made on perceptual grounds. That is, not all the attributes relevant to determining the extension of a noun are perceptual attributes; some may be functional.

Mail must go through the postal system, while a letter need not: a letter can be hand-delivered, and only becomes mail, if it goes through the postal system.

— THE KEY POINT: Not all letters are mail, nor is all mail letters.

- *Luggage* AND *suitcases*

— *Luggage* is the ensemble of items that one is travelling with, and may include suitcases, hat boxes, duffle bags, make-up bags, and more.

— *Suitcases* is the most prototypical and frequent form of luggage, though a suitcase could be used for storage rather than travel.

- *Change* AND *coins*

— *Change* is the leftover money received after a sale, and may include (but is not limited to) coins.

— *Coins* is a narrower class of entities that need not have been received after a financial transaction.

## 5.2 Factors favoring a mass vs. a count classification for nouns in doublets

- In the doublets, each noun lexicalizes a distinct set of attributes, though each may sometimes be used in the description of the same real world referent, giving rise to the (near-)synonymy claim.

- In each pair, a difference in lexicalized meaning gives rise to a difference in individuation status, which in turn is directly reflected in morphosyntax: one member lexicalizes an individual and has count morphosyntax, the other lexicalizes an aggregate and has mass morphosyntax.

- Roughly the same factors as identified in Section 4.2 are at work here.

— MODE OF INTERACTION with the relevant entity

— DISTINGUISHABILITY of any constituent element, as influenced by SIZE and CONTIGUITY

Specifically, similarity and contiguity of constituent elements favor mass morphosyntax.

- THE TWIST: With the exception of *leaves* and *foliage*, the doublets lexicalize artifact names, and the mass member of the doublet lexicalizes what might be called a “functional” aggregate, in that similarity among members is defined in functional rather than perceptual terms.

- Functional similarity applies to:

— Nouns that name sets of entities that participate together in an event and whose members are identical with respect to their role in this associated event (cf. Nichols 2008).

EXAMPLE: *mail* names a set of entities that travel together through the postal system.



— Nouns that name sets of entities arise together as a result of an event:

EXAMPLE: *change* is a result of a monetary transaction.

In fact, the association with an event is reflected in the deverbal nature of many of these nouns.

- Functional similarity is the analogue of the more familiar perceptual similarity among elements of granular aggregates, as reflected in the common need for unitizers:

(23) grain of rice/sand, piece of luggage/mail

- The role of contiguity/connectedness:

— Some nouns provide a holistic perspective on a co-occurring, contiguous and normally connected aggregate of things.

EXAMPLE: *foliage* (compare *leaves*): the collectivity and the interconnectedness of leaves with one another rather than individual leaves.

EXAMPLE: *plumage* (compare *feathers*): the ensemble of feathers on a bird, but not the contents of a down pillow, which may be referred to as *feathers*.

— Further reflected in allowable adjective combinations:

(24) dense foliage vs. ?dense leaves

### 5.3 The lesson from mass/count doublets

- Doublets are significant because they demonstrate the existence of nouns that lexicalize distinct but largely overlapping attributes of objects in the world.
- Precisely those objects open to multiple construals which align with those components of noun meaning that contribute to mass vs. count status may show both mass and count names.
- The key meaning components entering into such doublets include:

— spatial and temporal contiguity and connectedness of aggregate members (e.g., *foliage*, *plumage*).

— similarity of form (e.g., *foliage*, *plumage*) or function (e.g., *mail*, *luggage*) of aggregate members.

## 6 Beyond English: Nominal morphosyntax is constrained by a scale of individuation

(Clausen et al. 2010, Grimm 2010)

- Languages differ in the number of morphosyntactic countability classes they make available and, thus, in the way they lump ontological types of nouns together.
- Three classification systems will be surveyed:
  - English: 2 morphosyntactic classes
  - Welsh: 3 morphosyntactic classes
  - Dagaare (Gur; Niger-Congo): 4 morphosyntactic classes

QUESTIONS: Are there constraints on the possible classification systems?

THE ANSWER: Yes, possible classification systems are constrained by a scale of individuation.

## 6.1 English

### 6.1.1 The morphosyntactic classes: A two-way split

- Class 1: Nouns allowing the plural affix
  - individuated things (e.g., *apple*, *pencil*)
  - collective aggregates (e.g., *bees*, *grapes*)
- Class 2: Nouns having one form
  - liquids (e.g., *water*, *oil*)
  - substances (e.g., *granite*, *wood*)
  - granular aggregates (e.g., *flour*, *rice*, *sand*, *sugar*)

### 6.1.2 The distribution of marked and unmarked forms in the morphosyntactic classes

Class 1 members show a markedness distinction:

- The singular interpretation is found with the morphologically unmarked (i.e. 0) form; it reflects simply the meaning in the noun.
- The plural interpretation is found with the morphologically marked (i.e. affixed) form; the affix contributes meaning over and above the meaning lexicalized in the noun.

Language	liquids/ substances	granular aggregates	collective aggregates	individual entities
English	0		0/Plural (–s)	

## 6.2 Welsh (Stolz 2001)

### 6.2.1 The morphosyntactic classes: A three-way split

- Class 1: Nouns allowing the plural affix
  - primarily animates and other individual entities
- Class 2: Nouns allowing the singulative affix
  - granular aggregates (e.g., *turf*, *sand*)
  - collective aggregates: small animals and insects, vegetables/fruits/nuts, inherently plural body parts (e.g., *ribs*) (cf. Acquaviva’s 2008 “inherent plurals”)
- Class 3: Nouns having one form
  - liquids and substances

### 6.2.2 The distribution of marked and unmarked forms in the morphosyntactic classes

Class 1 members show a markedness distinction:

- The singular interpretation is found with the unmarked form
- The plural interpretation is found with the marked form

Class 2 members show a markedness distinction:

- The aggregate interpretation is found with the unmarked form
- The singulative interpretation is found with the marked form

NOTE: Class 1 and Class 2 differ as to whether the morphologically simple form lexicalizes a unit or an aggregate.

Language	liquids/ substances	granular aggregates	collective aggregates	individual entities
Welsh	0	0/Singulative (– <i>yn</i> )		0/Plural (– <i>od</i> )

## 6.3 Dagaare (Grimm 2009, to appear)

### 6.3.1 The morphosyntactic classes: A four-way split

- Class 1: Nouns allowing the plural affix –*ri*
  - individual entities (e.g., *child*, *dog*)
- Class 2: Nouns allowing the singulative affix –*ri*
  - collective aggregates, such as vegetation, insects, or inherently plural body parts
- Class 3: Many nouns have one form, but some may take the singulative affix –*ruu*
  - granular aggregates (e.g., *pepper*, *straw*, *grass*)
- Class 4: Nouns having one form
  - liquids and substances

NOTE: Dagaare has been said to have an “inverse” number marking system since the affix –*ri* marks the plural with some nouns and the singular with others.

### 6.3.2 The distribution of marked and unmarked forms in the morphosyntactic classes

Class 1 members show a markedness distinction:

- The singular interpretation is found with the unmarked form
- The plural interpretation is found with the marked form

Classes 2 and 3 members show a markedness distinction:

- The aggregate interpretation is found with the unmarked form
- The singulative interpretation is found with the marked form

NOTE: Class 1 differs from Classes 2 and 3 as to whether the morphologically simple form lexicalizes a unit or an aggregate.

Language	liquids/ substances	granular aggregates	collective aggregates	individual entities
Dagaare	0	0/Singulative ( <i>-ruu</i> )	0/Singular ( <i>-ri</i> )	0/Plural ( <i>-ri</i> )

## 6.4 Mapping the overall terrain

Ordering the morphosyntactic classes from those most unmarked in the singular to those most unmarked in the plural imposes an order on the ontological types of nouns.

Language	liquids/ substances	granular aggregates	collective aggregates	individual entities
English	0		0/Plural ( <i>-s</i> )	
Welsh	0	0/Singulative ( <i>-yn</i> )		0/Plural ( <i>-od</i> )
Dagaare	0	0/Singulative ( <i>-ruu</i> )	0/Singular ( <i>-ri</i> )	0/Plural ( <i>-ri</i> )

## 6.5 The scale of individuation

The picture that emerges suggests that the types of nouns form a scale (Grimm 2010):

(25) liquids/substances < granular aggregates < collective aggregates < individual entities

QUESTION: What semantic property organizes the scale?

ANSWER: The scale can be viewed as organized by individuation.

Factors bearing on the propensity for a chunk of reality to be taken to be an individual unit:

- ease of distinguishability of elements
- size of elements
- spatial and/or temporal contiguity among elements
- canonical mode of interaction with the elements

### 6.5.1 Understanding the ordering of individuation types in the scale

- The ends of the scale are liquids/substances vs. individual entities
- This opposition corresponds to minimally and maximally individuated entities:
  - LIQUIDS/SUBSTANCES: minimal elements are continuous and not distinguishable; one does not interact with individual elements at all.
  - INDIVIDUAL ENTITIES: the inverse holds.

This fundamental opposition appears early in child development (Soja et al. 1991).

- GRANULAR AGGREGATES: these have individuation properties similar to liquids and tend to pattern with them morphosyntactically:

They often have minimal elements (e.g., *a grain of sand*), which are small and not easily distinguishable; one does not typically interact with these minimal elements.

- **COLLECTIVE AGGREGATES:** they represent an intermediate category.

Their minimal elements are more accessible and are larger than for granular aggregates; interaction with their minimal elements is also more frequent.

### 6.5.2 Relating the scale to the morphosyntax

- For a given language, entities are realized in the manner that their location on the individuation scale determines for them in that language.
- A particular individuation type can be assigned:
  - a unique morphosyntactic class (e.g., Dagaare liquids)
  - the same class as the type to its left (e.g., English granular aggregates), right (e.g., English collective aggregates), or (presumably) both
- The morphosyntactic classes respect the structure of the scale in that no morphosyntactic class spans two individuation types that are not contiguous on the scale.
- Entities of a given individuation type may receive distinct treatments in different languages.
- Even in languages that collapse more than one individuation type into a single morphosyntactic class there are morphosyntactic clues that more than one type has been collapsed.

EXAMPLE: A corpus study of English reveals that collective aggregate nouns are found in the plural much more frequently than nouns naming individual entities (Grimm 2009: 178-179).

## 7 How much meaning does a noun lexicalize?

- In Lectures VI and VII, we supported a lexical approach to verb meaning, proposing that a verb lexicalizes considerable meaning.
- Comparably, we propose nouns lexicalize considerable meaning despite claims to the contrary. In particular, we suggest that nouns lexicalize their individuation type.
- In the noun domain, claims that nouns lexically specify very little meaning have often been made in the context of the “Universal Grinder”.
- These claims are now evaluated and shown to support the lexical approach to noun meaning.

### 7.1 The Universal Grinder Introduced

- **UNIVERSAL GRINDER HYPOTHESIS:** Every count noun can have a mass interpretation.

- (26) a. There is apple in the salad. (cf. There is cheese in the salad.)  
b. There is squirrel all over the highway. (cf. There is oil all over the highway.)

- (27) Consider the ‘Universal Grinder’, a device that takes in an object corresponding to the count term and spews out the finely ground matter of which it is made. A hat, for instance is fed into it and afterwards there is hat all over the floor. This is so despite the fact that there is another word we might have used (for example, *felt* or *straw*). So for any word one would wish to call a count term, there is a related mass term designating, roughly, the stuff of which it is made. (Pelletier 1991: 497)

Compare the Universal Packager, which results in count interpretations for typically mass nouns: *three beers* ‘three servings of beer’.

- Relevance to how much meaning is lexicalized: The lexicalized individuation status of a noun correlates with the ease with which the Grinder can grind it.

## 7.2 Investigations into the universality of the Grinder (Djalali et al. 2011)

- Although the Grinder may be universal, it is more likely to apply to members of some semantic noun classes than others, and grinding may be more acceptable with the members of some noun classes than others.

EXAMPLE: Highly individual objects, especially artifacts, resist grinding (Chierchia 2010: 106).

- (28) a. There is dog all over the highway.  
b. # There is mug/toaster on the table.

(See also Cheng et al. (2008) on limitations of the Grinder in Mandarin.)

- Further, Djalali et al. (2011) present a pilot study of grinding across a variety of nominal types and constructions that confirms that the outputs of the Grinder may differ considerably in acceptability.

### • THE COMPONENTS OF THE STUDY:

— THE CONSTRUCTIONS: All represent what might be called ‘paste’ constructions.

- (29) a. There is NOUN in the **bread/concrete**.  
b. There is NOUN all over the **floor/highway**.  
c. A **robot/termite** eats NOUN.

— THE NOUNS: chosen to capture a spectrum of individuation based on complexity, animacy and size including: 5 shapes (*sphere, cube*), 5 simplex artifacts (*hammer, pencil*), 5 complex artifacts (*car, computer*), 5 animals (*squirrel, butterfly*), and 5 foodstuff terms (*steak, pea*).

— EXPERIMENTAL DESIGN: Participant rated Grinder and filler sentences on a 7 point Likert acceptability scale. 290 subjects saw a counterbalanced subset of the total 210 stimuli.

### • THE STUDY RESULTS:

— Although Grinder sentences are cited as acceptable in the literature, they were on average given quite low acceptability ratings: 2.3/7 (SD 1.8), cf. an average of 5.7/7 (SD 1.85) for filler sentences.

— Acceptability was affected by the noun types, as shown in (30), with the types arranged from lowest to highest acceptability ratings.

(30) shapes, simplex artifacts, complex artifacts < animals < foodstuff

— In contrast, neither the constructions in (29), nor their variants reliably influenced acceptability.

- Reasons the felicity of grinding may depend on noun type:

— Foodstuff and animals are more felicitous due to their conventional associations:

- the dual life of food nouns as natural entities and processed food stuff;
- the dual life of animate nouns as natural entities or their flesh (see Jakobson 1936).

— Nouns of other types were rejected most likely because they lack such dual associations.

- The results suggest that the overall felicity of Grinder sentences reflects the relationship between situational contexts and the type of noun at issue: these in turn reflect both the lexicalized meaning of nouns and world knowledge conventionally associated with the referents of these nouns.

- CORROBORATING EVIDENCE: A Google search of what fills the X position in a ‘paste’ context.

(31) There is X all over the wall.

PREDICTION: If grinding is freely allowed, then there should be attested examples where X is filled by a basically ‘count’ noun.

RESULTS: The X position is overwhelmingly filled by nouns designating liquids/mush or granular aggregates; no instances of true grinder readings are attested.

— Liquids/mush: *blood, water* (50%)

— Granular aggregates: *sugar, salt* (31%)

— Other: *meat, love* (19%)

- KEY POINT: Positive evidence of speakers using grinding constructions to grind something is difficult to come by.

## 8 In conclusion

- An English noun’s classification as morphosyntactically mass or count reflects the construal it lexicalizes of an object (or objects) in the world; it is not directly determined by the object itself.

- In instances where objects in the world do not come clearly individuated, the availability of mass and count lexicalizations, as with *leaves* and *foliage*, is not unexpected.

- Certain properties of objects in the world determine whether the noun describing them will lexicalize individuatedness; there are “levels” of individuation, which translate into the morphosyntactic countability class that this noun belongs to.

- Although languages may show different systems of morphosyntactic classification for these levels of individuation, these systems respect the individuation scale.

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