Squib 2: wagons, negative space, not all

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sortal, mensural readings of *load*

In class, we went over this pair of examples:

load the hay into the wagon
load the wagon with hay

These examples describe two actions, hay-loading and wagon-loading, which are bounded by the amount of hay and the size of the wagon respectively. Hay-loading is complete when the hay is loaded, and wagon-loading is complete when the wagon is loaded. Compare:

I completely loaded the hay into the wagon.
I completely loaded the wagon with the hay

The first entails that all the hay is loaded, but that the wagon is not necessarily full. In contrast, the second entails the wagon is full. However, in addition to this distinction, the two interpretations can be thought of in sortal (count) and mensural (mass) terms. Observe *hay* and *the hay* versions of the above:

(1) *I completely loaded the hay into the wagon.*

(2) **I completely loaded hay into the wagon.*

(3) *I completely loaded the wagon with the hay*

(4) *I completely loaded the wagon with hay*

As we can see, in examples (1) and (2), only the count version with *the hay* (1) makes sense; the mass version (2) with *hay* is ungrammatical. In examples (3) and (4), we may be loading *the hay* (3) or *hay* (4): both count and mass nouns are acceptable. Why is this the case?

one explanation from the semantics of *load*

Some languages have numeral classifiers between numerals and nouns. One example is Mandarin Chinese, where *three people* is translated as *san* ***ge*** *ren*. In the context of numeral classifiers, we have two basic types, "sortal classifiers" (count) and "mensural classifiers" (measure, mass). The first "individuates whatever it refers to in terms of the kind of entity that it is", and the second "individuates in terms of quantity". [1]

Strictly speaking, English doesn't have numeral classifiers, but the sortal/mensural distinction can still be observed. To borrow an example from Hsiao-Wecksler, we may interpret the sentence "Mary put four cups of water on the table" in two different ways.

- In the partition (sortal) context, Mary put four different cups of water on the table, each filled with water.
- In the measure (mensural) context, Mary took a cup from the cupboard and filled it with water four times, each time dumping the water into a bowl. She then put the bowl on the table.

I think it can also be observed in the semantics of *load*. There are two distinct actions here: when we are "loading hay into the wagon", we are *hay-loading*. When we are "loading the wagon with hay", we are *wagon-loading*.

In examples (1) and (2), the focus of the sentence is the action of *hay-loading*. Because *hay-loading* is done with respect to the "kind of entity that it is" (the hay), we have only the sortal reading in (1).

In examples (3) and (4), the focus of the sentence is the action of *wagon-loading*. Because *wagon-loading* is done with respect to the "quantity", the capacity of the wagon, we may have either the sortal or the mensural reading.

These examples touch at something profound in the meaning of *load*: the existence of valid interpretations as *hay-loading* or *wagon-loading* means that *load* may reference positive space (in the loading of the hay) or negative space (in the loading of the wagon).

completely vs *finished*

Our explanation above may have a problem. That is, in contrast to *I completely loaded hay into the wagon*, all versions of *I finished loading hay into the wagon* seem good and have indistinguishable meanings from the above:

I finished loading the hay into the wagon.

[1] Lyons 1977 as cited in Aikhenvald 2000, p. 115, as cited in Hsiao-Wecksler

I finished loading hay into the wagon.

I finished loading the wagon with the hay

I finished loading the wagon with hay

However, I think this does not contradict my earlier claim that *hay-loading* is only sortal, while *wagon-loading* is both sortal and mensural. We notice that unlike *completely*, which is only acceptable with discrete quantities, *finished* is acceptable with both discrete (count) and continuous quantities (mass):

**I completed the water.*
I finished the water.

I completed packing the items on the list.
I finished packing the items on the list.

If *finished* were to be acceptable only with continuous quantities (mass), and all four examples worked, then there would be no basis for claiming that *hay-loading* is only sortal (count). But because *finished* is compatible with both count and mass nouns, this construction does not pose a problem.

negative space

The explanation given above raises some really interesting questions about the semantics of *wagon*: is it to be seen as an object, e.g. positive space, or interpreted *instrumentally* as negative space, e.g. something to be filled? Clearly, *wagon-loading* constitutes filling space on a wagon.

Widening the scope a little, I am interested in how we talk about negative space in general. One very nice example of negative space is the word *seat*: "only three seats remaining", which is the negative space of an individual on a plane, concert, expedition etc. More generally, this might be encompassed by *spot*.

These terms seem fundamentally similar to the negative space in *wagon-loading*. Just as the wagon will presumably move the objects to-be-loaded, these terms imply an experience for the potential takers of the seat or spot.

not all denotes negative space

Here is an interesting problem. The Horn Gap asks why we have words for *none*, *some*, and *all* but not for *not all*. My personal explanation was as follows: let's say we want to pick out some number of things from n total things. In the cases where we use *not all* to refer to $n-k \in \{0, 1, \dots n-1\}$, we can equally talk about *some*, or $k \in \{1, 2, \ldots n\}$ of the opposite [2]. Compare "not all the sailors died" to "some of the sailors survived". Assuming we are naturally conditioned to talk about presence and not absence, this solution makes more sense. [3]

However, there are cases where using "not all" packs additional semantics into an statement, and it seems that most have to do with negative space. A *spot* implies more than an absence, but also that there is space is waiting to be filled. In a similar way, "not all" implies negative space more than "some".

Imagine there is a vacation trip that you believe is full. Now suppose I make one of the following statements. Notice that the implication of availability follows a scale [4]:

(1) "Some of the people are not going"
(2) "Not all the people are going".
(3) "There are spots left".

In (1), vacancy may or may not be entailed. In (2), vacancy is entailed. In (3), vacancy and availability is entailed. I will attempt to justify this (although I have to concede that formally *not all* A is equivalent to *some* A^c).

Let A be the set of potential-trip-goers and B be the set of trip-goers, and $f : A \to B$ be a typically bijective confirmation from A to B.

Then, (3) "there are spots left" implies that the function from individuals to trip-goers is not surjective: that is, there are still $b \in B$ available, or unassigned.

Similarly, (2) "not all the people are going" implies that not all potential-trip-goers are in-fact trip-goers. We remove a, but not $f(a)$, so that there are still in fact $b \in B$ available.

However, (1) "some of the people are not going" implies only that there exist potential-trip-goers who have decided not to go. We may be removing both a and $f(a)$, so that $f : A \to B$ is still bijective.

I hypothesize that although (1) and (2) are formally the same quantification about $f : A \to B$, the processing of "*not all* of the people are going" emphasizes the quantity as a subtractive $n - k$, while "*some* (k) people are not going" does not have that same emphasis.

Although both (1) and (3) reference k individuals, it seems that by the principle

[2]This is the core concept behind combinatorial proof: counting a set in two different ways.

[3]What is so interesting about *spot* and related terms is that they denote the presence of an absence, and can be very specific about who or what it is.

[4]I find it very difficult to talk about a *spot* in positive terms, and I don't think (1) and (2) are exactly analogous to (3). It's possible that there's a better alternative.

of cooperative conversation they have taken on distinct meanings: that the trip has simply decreased in number, or there are spots available. Another example of this availability scale with *seat*:

Some of the seats are not taken.
Not all the seats are taken.
Some seats are left.

left

However, it should be noted that in "There are spots left", *spot* only implies the negative space, where *left* implies the subtractive process. More specifically, *left* seems to imply a decreasing quantity, e.g.:

(4) There are three slices of pizza left.
(5) There are a few days left until the festival.

Note that the special case with *nothing* requires a very specific reference context (e.g. having gone bankrupt, house destroyed, or more optimistically, finished with the day's tasks):

(6) There is nothing left.

As with the terms *none, some, all*, *left* implies that the quantity has a lower bound of zero, and must apply to count nouns.

until

Consider a simple example, with bisentential *until*:

(7) "The dog barked until the door opened"

We can see that here, *until* establishes a casual relationship between two events: the first repeats until the second occurs.[5] Because it implies a repetitive action, the first event must be a atelic state or activity, not an achievement, while the second must be telic:

(8) *I was cold until the rain stopped.*
(9) *We stayed up until dawn.*
(10) *I played until I got tired.*
(11) *I swam until one o'clock.*
(12) **I won until one o'clock.*

If as some have theorized about *cause*, *until* is implicitly bisentential, we might

[5] This is following imperative programming syntax. Given that X and Y are events, X UNTIL Y may be expressed as DO X WHILE $\sim Y$.

have (5) as denoting a relation between future events:

A few days will pass until the festival happens.