Lexical Neutrality

Composite Meanings

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Examples of Lexical Neutrality

- **Mass Count**
  
  
  Mary had a little lamb, which would have been a sheep among sheep.

- **Collective/Distributive**
  
  Each of the horses that ate all the hay also ate some grass.

- **Adicity**
  
  The baby kicked, I kicked a stone that was kicked, and Mother Hubbard kicked the dog a bone.

- **Other Polysemeies**
  
  This book is heavy, but it got a good review in the paper.
  Torcello is where Venice used to be.
  Deep greens and blues are the colors I choose.
  We painted brown dogs with brown paint.
Composite Meanings

“things” that

- words and phrases “have”
- compose in certain ways
- humans use, in communication and intrapersonally
- Human Languages pair with pronunciations
  --languages that human children can naturally acquire
  --procedures that generate
    boundlessly many meaning-pronunciation pairs
    in accord with certain substantive constraints
Human Languages: *unbounded and constrained*

- Bingley is ready to please
  (a) Bingley is ready to *please relevant parties*
  (b) Bingley is ready to *be pleased by relevant parties*

- Bingley is eager to please
  (a) Bingley is eager to *please relevant parties*
  #(b) Bingley is eager to *be pleased by relevant parties*

- Bingley is easy to please
  #(a) Bingley can easily *please relevant parties*
  (b) Bingley can easily *be pleased by relevant parties*
Lexical Neutrality amid Systematic Constraints

• The dragon ate a large pizza yesterday
• The dragon ate a pizza yesterday
• The dragon ate a pizza
• The dragon ate some pizza
• The dragon ate something
• The dragon ate
Lexical Neutrality amid Systematic Constraints

- The dragons ate a large lamb yesterday
- The dragons ate a lamb yesterday
- The dragons ate a lamb
- The dragons ate some lamb
- The dragons ate something
- The dragons ate
Lexical Neutrality amid Systematic Constraints

- The sheep ate a large dragon yesterday
- The sheep ate a dragon yesterday
- The sheep ate a dragon
- The sheep ate some dragon
- The sheep ate something
- The sheep ate

We eat fish, and this fish is one of the fish we fish for.
Lexical items can be combined in ways that suggest neutrality with regard to various conceptual distinctions that seem to reflect real distinctions.

Maybe the meanings of 'lamb' 'eat', 'kick', 'Venice', 'pizza', 'fish', 'green', 'idea', 'sleep', 'furious', ... are so combinable because acquiring a lexicon lets us efface many typological distinctions.
• Mass Count
  Singular Plural

• Collective/Distributive

• Adicity

• Other Polysemies

In acquiring lexical items, kids may label some old concepts and introduce some “neutral” concepts
- Mass Count
  - Singular Plural
- Collective/Distributive
- Adicity
- Other Polysemies

$\sqrt{\text{lamb}} \rightarrow \text{LAMB(\_)}$

$\sqrt{\text{kick}} \rightarrow \text{KICK(\_)}$

$\text{KICK}(x, y)$

$\text{KICK}(e, x, y)$

$\text{KICK}(e)^{\text{AGENT}(e, x)^{\text{PATIENT}(e, y)}}$

$\text{LAMB-BEASTS}(xx)$

$\text{LAMB-BEAST}(x)$

$\text{LAMB-STUFF}(\mu)$

$\text{KICKED}(x)$

$\text{WAS-KICKED}(y)$
a few uses of lamb

Language Acquisition Device

- prelinguistic concepts
- various cognitive modules
- Human Faculty of Language

Lexical Item
a Pronunciation paired with a Meaning (and maybe some other information)
a few uses of **lamb**

Language Acquisition Device

- prelinguistic concepts
- various cognitive modules
- Human Faculty of Language

<PHON: √lamb (other info) SEM: √lamb>

a few uses of **eat**

<PHON: √eat (other info) SEM: √eat>

a few uses of **kick**

Venice

book

green

...
a few uses of lamb

Language Acquisition Device

- prelinguistic concepts
- various cognitive modules
- Human Faculty of Language

a few uses of eat

lexical items are remarkably COMBINABLE in meaningful ways

but these presumably VARY along many dimensions, including...

- mass/count
- singular/plural
- collective/distributive
- adicity
- type/token
- intentional/spatial
- etc.

a few uses of kick book Venice green ...

...
What are Human Linguistic Meanings?

• What are the meanings of *atomic* HL-expressions?
  – easy, eager, ready
  – lamb, eat, Venice
  – dog, brown, paint

• What are the meanings of *complex* HL-expressions?
  – Easy guests eagerly please those who are ready for them.
  – Little lambs eat ivy in Venice, whose residents eat lamb
  – We painted brown dogs with brown paint.

• How can atomic meanings be so *neutral* while complex meanings are so *constrained*?
What are Human Linguistic Meanings?

- **Representations** of a special sort
  - Meaning[$Fido$] = the concept $FIDO$
  - Meaning[$dog$] = the concept $DOG(_)$
  - Meaning[$brown dog$] = $*[BROWN(_), DOG(_)]*$

- **Representeds** of a special sort
  - Meaning[$Fido$] = the dog $Fido$
  - Meaning[$dog$] = the Fregean Begriff $IS-A-DOG(_)$
Meanings as Instructions for How to Build Concepts

Meaning[dog] = fetch\@address:dog
\implies DOG(\_)

Meaning[brown] = fetch\@address:brown
\implies BROWN(\_)

Meaning[brown dog] =
\text{Join}(\text{Meaning}[brown], \text{Meaning}[dog]) =
\text{Join}(fetch\@address:brown, fetch\@address:dog)
\implies BROWN(\_)^{\text{DOG}(\_)}

executing a lexical instruction accesses a concept that can be combined with others via certain (limited) operations
Meanings as Instructions for How to Build Concepts

Meaning[dog] = fetch@address:dog
  ➞ DOG(_)

Meaning[brown] = fetch@address:brown
  ➞ BROWN(_)

Meaning[brown dog] = Join(Meaning[brown], Meaning[dog])
  ➞ BROWN(_)^DOG(_)
  ➞ MORE RESTRICTED THAN TARSKIAN CONJUNCTION

executing a phrasal instruction builds a concept that is combinable with others via certain (limited) operations
Meanings as Instructions for How to Build Concepts

Meaning[dog] = fetch@address:dog
  → DOG(_)

Meaning[book] = fetch@address:book
  → SPATIAL-BOOK(_)
  → CONTENT-BOOK(_)

Meaning[water] = fetch@address:water
  → FUNCTIONAL-WATER(_)
  → SCIENCE-WATER(_)

a fetchable concept must be combinable with others, but...
a “lexical address” need not be the address of exactly one concept

an instruction may be executable in two or more ways (perhaps including ad hoc ways)
Meanings as Instructions for How to Build Concepts

Meaning[dog] = fetch@address:dog

⇒ DOG(_)

Meaning[book] = fetch@address:book

⇒ SPATIAL-BOOK(_)
⇒ CONTENT-BOOK(_)

Meaning[mimsy] = fetch@address:mimsy

a “lexical address” need not be the address of exactly one concept

and some instructions may not be executable (there might be nothing to fetch)
Meanings as Instructions for How to Build Concepts

in some cases,

executing a Meaning will yield

a CONCEPT that has

an extension relative to

a “situation” in which

the Meaning was executed

in other cases, not so much
Meanings as Instructions for How to Build Concepts

Meaning[\sqrt{\text{lamb}}] = \text{fetch}@\text{address:}\sqrt{\text{lamb}}
\Rightarrow \text{LAMB}(\_)
\text{more permissive than LAMB-BEAST}(x)

Meaning[\sqrt{\text{eat}}] = \text{fetch}@\text{address:}\sqrt{\text{eat}}
\Rightarrow \text{CONSUME}(\_)
\Rightarrow \text{EAT}(\_)
\text{more “natural” more permissive}

ROOM FOR TWO (related) KINDS OF NEUTRALITY
--two or more fetchable concepts at one lexical address
--fetchable concepts may be introduced as neutral
• *restrict* EAT(_) to get CONSUME(_)
• *relax* CONSUME(_) to get EAT(_)
• *build* both concepts from more basic concepts
• take both concepts as basic
**compare:**

\[\text{EAT}(\_)^\text{PAST}(\_)^\exists[\text{THEME}(\_, \_)^\text{LAMB}(\_)]\]

\[\text{compare:}\]

\&[\text{CONSUME}(\_, \mu); \text{LAMB-STUFF}(\mu)]

\&[\text{INGEST}(\_, \mu); \text{LAMB-STUFF}(\mu)]

**compare:**

\[\text{EAT}(\_)^\text{PAST}(\_)^\exists[\text{THEME}(\_, \_)^\exists[\text{ONE}(\_)^\text{LAMB}(\_)]]\]

\[\text{compare:}\]

\&[\text{CONSUME}(\_, x); \text{LAMB-BEAST}(x)]

\&[\text{SHARE}(\_, x); \text{LAMB-BEAST}(x)]
executing $\sqrt{\text{eat}}$ this way
yields a more restricted concept
EAT(_)^PAST(_)^∃[THEME(_, _)^LAMB(_)]

CONSUME(_)^PAST(_)

EAT(_)^PAST(_)^∃[THEME(_, _)^[ONE(_)^LAMB(_)]]
CRUCIAL: the “neutral” concepts need not be \textit{primitive} even if they are fetched via lexical \textit{roots}.

\textit{Don’t} analyze beast-\textit{concepts} in terms of neutral-\textit{concepts} just because $\sqrt[\text{v}]{\text{lamb}}$ is a component of a $\sqrt[\text{v}]{\text{lamb}}$ and $\text{LAMB}(\_)$ is a component of $\text{ONE}(\_)^\text{LAMB}(\_)$
Another Route to the Same Conclusion

Meaning[$dog$] = $\text{fetch}@\text{address:dog}$

$\Rightarrow$ DOG-BEAST(_)

Meaning[$brown$] = $\text{fetch}@\text{address:brown}$

$\Rightarrow$ BROWN(_)

Meaning[$paint$] = $\text{fetch}@\text{address:paint}$

$\Rightarrow$ PAINT-STUFF(_)

**DOG(_)** applies to **an entity** iff **that entity** is a dog

**BROWN(_)** applies to ??? iff that ?? is ...

**PAINT(_)** applies to **some stuff** iff **that stuff** is paint
Believe, if you like, that

• any “stuff” is a portion/quantity of stuff
• *paint/PAINT(_)* applies to things of a special sort: paint-portions
• there are some “minimal” paint-portions that are the basic elements of a lattice whose supremum is the totality of paint

Metaphysics is not the *solution*
Without Neutral Nouns, *Adjectives* are Puzzling

If the meaning of *brown* is...

- a **concept**, does it apply to certain dogs *and* paint (portions)?
  - Meaning[*brown*] = \texttt{BROWN(\_)}
  - Meaning[*brown dog*] = \texttt{BROWN(\_)} \& \texttt{DOG(\_)}
  - Meaning[*brown paint*] = \texttt{BROWN(\_)} \& \texttt{PAINT(\_)}

- a **function**, what does it map to (truth) values?
  - Meaning[*brown*] = \texttt{\lambda e . T \equiv Brown(e)}
  - Meaning[*brown dog*] = \texttt{\lambda e . T \equiv Brown(e) \& Dog(e)}
  - Meaning[*brown paint*] = \texttt{\lambda \pi . T \equiv Brown(\pi) \& Paint(\pi)}
Double Bookkeeping for Adjectives?

Meaning[$dog$] = $\text{fetch}@\text{address:dog}$

$\Rightarrow$ $\text{DOG}(E)$

$\text{DOG}(E)$ applies to

an entity iff

that entity is a dog

Meaning[$brown$] = $\text{fetch}@\text{address:brown}$

$\Rightarrow$ $\text{BROWN-THING}(E)$

$\Rightarrow$ $\text{BROWN-STUFF}(\pi)$

Meaning[$paint$] = $\text{fetch}@\text{address:paint}$

$\Rightarrow$ $\text{PAINT}(\pi)$

$\text{PAINT}(\pi)$ applies to

some (portion of) stuff

iff that stuff is paint
One Response: Double Bookkeeping for Adjectives

Meaning[$\text{dog}$] = $\text{fetch@address:dog}$

$\rightarrow$ $\text{DOG}(E)$

$\text{DOG}(E)$ applies to an entity iff that entity is a dog

Meaning[$\text{brown}$] = $\text{fetch@address:brown}$

$\rightarrow$ $\text{BROWN-SURFACED-THING}(E)$

$\rightarrow$ $\text{BROWN-STUFF}(\pi)$

Meaning[$\text{paint}$] = $\text{fetch@address:paint}$

$\rightarrow$ $\text{PAINT}(\pi)$

$\text{PAINT}(\pi)$ applies to some (portion of) stuff iff that stuff is paint
The brown dog is expensive.
The brown dog_{\text{Sing}} is expensive.
The brown dog_{(-\text{Count})} is expensive.
The brown dogs are expensive.
Every one of the brown dogs is expensive.

The brown paint is expensive.
The brown paint_{\text{Sing}} is expensive.
The brown paint_{(-\text{Count})} is expensive.
The brown paints are expensive.
Every one of the brown paints is expensive.

Singular

Plural

Noun Neutrality: Mass/Count

The rabbit_{\text{Sing}} is brown.
The rabbit_{(-\text{Count})} is brown.

Most of the rabbit_{\text{Sing}} is brown.
But it has a white tail.
Most of the rabbit_{(-\text{Count})} is brown.
It has been overcooked.

The banana_{\text{Sing}} is brown
The banana_{(-\text{Count})} is brown.
Meaning[$brown$] = $\textbf{fetch}@\text{address:} brown$

$\rightarrow$ BROWN-THING($E$)

$\rightarrow$ BROWN-STUFF($\pi$)

Meaning[$brown$ $\textit{dog}$] =

\textbf{Join}(Meaning[$brown$], Meaning[$\textit{dog}$])

$\rightarrow$ $\&[\text{BROWN-THING}(E), \text{DOG}(E)]$

$\rightarrow$ $\&[\text{BROWN-STUFF}(\pi), \text{DOG}(\pi)]$

Meaning[$brown$ $\textit{paint}$] =

\textbf{Join}(Meaning[$brown$], Meaning[$\textit{paint}$])

$\rightarrow$ $\&[\text{BROWN-THING}(E), \text{PAINT}(E)]$

$\rightarrow$ $\&[\text{BROWN-STUFF}(\pi), \text{PAINT}(\pi)]$
But Less Redundancy Would be Nice

\[ \sqrt{\text{dog+s}} \quad \sqrt{\text{dog+}\varnothing} \quad \sqrt{\text{dog}} \]

\[ [+\text{PL (+CT)}] \quad [-\text{PL (+CT)}] \quad [-\text{CT}] \]

Meaning[\text{brown } \sqrt{\text{dog+s}}] = 
\textbf{Join}(\text{Meaning[\text{brown}]}, \text{Meaning[\sqrt{\text{dog}]}, \text{Meaning[+\text{PL}]})}

\[ \Rightarrow \text{BROWN(}_\_\text{)^[\sqrt{\text{DOG(}_\_\text{)^PLURAL(}_\_\text{)}]} \]

Meaning[\text{brown } \sqrt{\text{paint}}] = 
\textbf{Join}(\text{Meaning[\text{brown}]}, \text{Meaning[\sqrt{\text{paint}]})}

\[ \Rightarrow \text{BROWN(}_\_\text{)^[\sqrt{\text{PAINT(}_\_\text{)}]} \]
Meaning[$\sqrt{dog}$] = 

`fetch@address:√dog`

Meaning[$\sqrt{dog}+count$] = 

`Join(fetch@address:√dog, fetch@address:+count)`

Meaning[[√dog+plural]] = 

`Join(Meaning[√dog], fetch@address:+plural)`

One is free to add...

Meaning[dog] = Meaning[√dog+count] = `fetch@address:dog`
Meaning[dogs] = Meaning[dog+plural]

= `Join(Meaning[dog], Meaning[+plural])`
Meaning[$\sqrt{paint}$] =
\[\text{fetch}@\text{address}::\sqrt{paint}\]

Meaning[$\sqrt{paint}$+$\text{count}$] =
\[\text{Join(fetch}@\text{address}::\sqrt{paint}, \text{fetch}@\text{address}:+\text{count})\]

Meaning[$\sqrt{paint}$+$\text{plural}$] =
\[\text{Join}($\text{Meaning}[$\sqrt{paint}$], \text{fetch}@\text{address}:+\text{plural})\]

One is free to add...
Meaning[$\text{paint}$] = Meaning[$\sqrt{paint}$]

Lexicon as stock of atomic elements vs.
Lexicon as memorized list
Examples of Lexical Neutrality

- **Mass Count**
  - Singular
  - Plural
  - *Mary had a little lamb, which would have been a sheep among sheep.*

- **Collective/Distributive**
  - Each of the horses that ate all the hay also ate some grass.

- **Adicity**
  - *The baby kicked, I kicked a stone that was kicked, and Mother Hubbard kicked the dog a bone.*

- **Other Polysemmies**
  - This book is heavy, but it got a good review in the paper.
  - Torcello is where Venice used to be.
  - Deep greens and blues are the colors I choose.
  - We painted brown dogs with brown paint.
Very Little Evidence for Semantic “Supradyadicity”

**fetch**@address:*give*

- GIVE\((E, A, R, P)\)
  - She gave the museum a painting
- GIVE\((E, A, P)\)
  - She gave (to) the museum a painting
  - She gave a painting to the museum

**fetch**@address:*kick*

- GIVE\((E, A, R, P)\)
  - She kicked the dog a bone
- KICK\((E, A, P)\)
  - She kicked (to) the dog a bone
  - She kicked a bone to the dog
Very Little Evidence for Semantic “Supradyadicity”

<table>
<thead>
<tr>
<th>fetch@address: sell</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>➔ SELL(E, A, R, P)</td>
<td>She sold the museum a painting.</td>
</tr>
<tr>
<td>➔ SELL(E, A, R, P, ??)</td>
<td>She sold the museum a painting for $1</td>
</tr>
<tr>
<td>➔ SELL(E, A, P, BEN)</td>
<td>She sold the painting for Bob</td>
</tr>
<tr>
<td>➔ SELL(E, A, P)</td>
<td>She sold the painting</td>
</tr>
<tr>
<td>➔ SELL(E, P)</td>
<td>The painting was sold to Bob</td>
</tr>
</tbody>
</table>
for some lock \( y \),
e was a jimmying by \( x \) of \( y \\
& for some knife \( z \),
e was (done) with \( z \\

\text{‘jimmy’} \rightarrow \lambda y . \lambda x . \lambda e . T ≡ \\
e is a jimmying by \( x \) of \( y \\

\text{a thief (}x\text{)} \quad \text{jimmied a lock (}y\text{)} \quad \text{with a knife (}z\text{)}
Why not...

And why is passivizing OK?

The lock was jimmied.

'a thief jimmied a lock' → λz. λy. λx. λe. T ≡ e is a jimmying by x of y with z
for some thief $x$, e was (done) by $x$ &

for some lock $y$, e was a jimmying of $y$ & for some knife $z$, e was (done) with $z$

\[
\text{'jimmy' } \rightarrow \lambda y.\lambda e.\text{JimmyOf}(e, y)
\]

\[
\# \lambda y.\lambda x.\lambda e.\text{JimmyByOf}(e, x, y)
\]

\[
\# \lambda y.\lambda z.\lambda e.\text{JimmyWithOf}(e, z, y)
\]

\[
\# \lambda y.\lambda z.\lambda x.\lambda e.\text{JimmyByWithOf}(e, x, y, z)
\]
for some thief $x$, e was (done) by $x$ &
e was a jimmying &
for some lock $y$, Patient($e, y$) & for some knife $z$,
e was (done) with $z$

\[
\text{Jimmy}(e) \land \text{Past}(e)
\]

\[
\text{‘jimmy’ } \rightarrow \lambda y.\lambda e.\text{JimmyOf}(e, y)
\]

\[
\text{JimmyOf}(e, y) \equiv \text{Jimmy}(e) \land \text{Patient}(e, y)
\]
- Mass Count
  - Singular Plural
- Collective/Distributive
- Adicity
- Other Polysemies

\[ \sqrt{\text{mass}} \]
\[ \sqrt{\text{kick}} \]
\[ \sqrt{\text{lamb}} \]
• Mass Count
  Singular  Plural

• Collective/Distributive

• Adicity

• Other Polysemy
The linguists ate the pizzas

\[ \exists x \forall y \left( x \ni y \equiv \text{Pizza}(y) \right) \]

\[ \exists x \forall y \left( \left( y \in x \right) \equiv \text{Pizza}(y) \right) \]

\[ \exists x \forall y \left[ \text{OneOf}(y, x) \equiv \text{Pizza}(y) \right] \]

there is a set, \( x \), such that each thing, \( y \), is such that it \( y \) is an element of it \( x \) iff it \( y \) is a (relevant) pizza

does the English sentence imply, in addition to the pizzas,

(1) a further set/collection of the pizzas

(2) a thing eaten that has the pizzas as “elements”
The linguists counted the sets

\[ \exists \forall y [Xy \equiv \text{Set}(y)] \]

\[ \exists x \forall y [(y \in x) \equiv \text{Set}(y)] \]

\[ \exists x \forall y [\text{OneOf}(y, X) \equiv \text{Set}(y)] \]

there is a set, \( x \), such that

each thing, \( y \), is such that

\( y \) is an element of \( x \)

iff \( y \) is a (relevant) set

there are sm things, the Xs, such that

each thing, \( y \), is such that

\( y \) is one of them \( x \)

iff \( y \) is a (relevant) set

does the English sentence imply,

in addition to the sets,

(1) a further set/collection of the sets

(2) a thing eaten that that has the sets as “elements”
TWO CONCEPTIONS OF PLURAL VARIABLES

Five entities: a, b, c, d, e

\[ \text{Link: } \text{dba} = d \oplus b \oplus a \]

a mereological sum with 3 atoms (d, b, a);
it can be \textit{the} value of a singular variable

\textbf{Boolos: } \text{dba} = e, \text{no;} d, \text{yes;} c, \text{no;} b, \text{yes;} a, \text{yes}
five answers to a yes/no question:

\textit{is ... a value of an unsingular variable?}
TWO CONCEPTIONS OF PLURAL VARIABLES

\[ a = 1, \ b = 10, \ c = 100, \ d = 1000, \ e = 10000 \]

\[
\begin{align*}
00000 & 00001 & 00010 & 00011 & 00100 & 00101 & 00110 & 00111 \\
01000 & 01001 & 01010 & 01011 & 01100 & 01101 & 01110 & 01111 \\
10000 & 10001 & 10010 & 10011 & 10100 & 10101 & 10110 & 10111 \\
11000 & 11001 & 11010 & 11011 & 11100 & 11101 & 11110 & 11111
\end{align*}
\]

Link: \[ 01011 = 1000 \oplus 10 \oplus 1 \]

a mereological sum with 3 atoms \((d, \ b, \ a)\);

it can be \textit{the} value of a singular variable

Boolos: \[ 01011 = 1000 + 10 + 1 \]

five answers to a yes/no question:

\textit{is ... a value of an unsingular variable?}
\[\exists X \forall y \left[ \text{OneOf}(y, X) \equiv \text{Sheep}(x) \right] \]

there are one or more things, the Xs, such that
each thing, y, is such that
it, \( y \), is one of them, \( x \) iff it, \( y \), is a sheep

\[\exists X \forall Y: \neg \text{Plural}(Y) \left[ \text{SomeOf}(Y, X) \equiv \text{Sheep}(Y) \right] \]

there are one or more things, the Xs, such that
any one or more things that are not plural, the Ys, are such that
they, \( y \), are some of them, \( x \) iff they, \( y \), are sheep
\[ \exists X: \text{Countish}(X) \{ \forall Y: \text{Countish}(Y) [\text{SomeOf}(Y, X) \equiv \text{Sheep}(Y)] \} \]

there be one or more things, the Xs, such that
any one or more things, the Ys, be such that
they \( y \) be some of them \( x \) iff they \( y \) be sheep

\[ \exists X: \neg \text{Countish}(X) \{ \forall Y: \neg \text{Countish}(Y) [\text{SomeOf}(Y, X) \equiv \text{Sheep}(Y)] \} \]

there be some stuff, the X, such that
any stuff, the Y, be such that
it \( y \) be some of it \( x \) iff it \( y \) be sheep (stuff)

we can allow for assignments of \textit{value} (e.g., sm mutton or sm mud) to variables, and not insist that each assignment assign one or more values to each variable
\( \exists X : \text{Countish}(X) \{ \forall Y : \text{Countish}(Y) [\text{SomeOf}(Y, X) \equiv \text{Sheep}(Y)] \} \)

there be some (one or more things) that be countish, the X, such that any (one or more things) that be countish, the Y, be such that it-or-they\\_y be some of it-or-them\\_x iff it-or-they\\_y be sheep

\( \exists X : \sim \text{Countish}(X) \{ \forall Y : \sim \text{Countish}(Y) [\text{SomeOf}(Y, X) \equiv \text{Sheep}(Y)] \} \)

there be some (stuff) that be not countish, the X, such that any (stuff) that be not countish, the Y, be such that it-or-they\\_y be some of them\\_x iff it-or-they\\_y be sheep

\( \exists X \forall Y [\text{SomeOf}(Y, X) \equiv \text{Sheep}(Y)] \}

there be some (stuff-or-thing-or-things), the X, such that any (stuff-or-thing-or-things), the Y, be such that it-or-they\\_y be some of them\\_x iff it-or-they\\_y be sheep
Lexical items can be combined in ways that suggest *neutrality* with regard to various conceptual distinctions that seem to reflect real distinctions.

Lexical Neutrality

Composite Meanings

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Compare: Double Bookkeeping for Place Names

Meaning[hexagonal] = \texttt{fetch}@address:hexagonal

\[ \Rightarrow \texttt{HEXAGONAL}() \]

Meaning[France] = \texttt{fetch}@address:France

\[ \Rightarrow \texttt{FRANCE-LAND} \]
\[ \Rightarrow \texttt{FRANCE-INSTITUTION} \]

Meaning[France is hexagonal] \[ \Rightarrow \]
\texttt{Saturate}(Meaning[hexagonal], Meaning[France])

\[ \Rightarrow \texttt{HEXAGONAL(FRANCE-LAND)} \]
\[ \Rightarrow \texttt{HEXAGONAL(FRANCE-INSTITUTION)} \]
Compare: Double Bookkeeping for Place Names

Meaning[republic] = fetch@address:republic
⇒ REPUBLIC( _) 

Meaning[France] = fetch@address:France
⇒ FRANCE-LAND
⇒ FRANCE-INSTITUTION

Meaning[France is hexagonal] ⇒
Saturate(Meaning[republic], Meaning[France])
⇒ REPUBLIC(FRANCE-LAND)
⇒ REPUBLIC(FRANCE-INSTITUTION)
• Mass Count
  
  Singular  Plural

• Collective/Distributive

• Adicity

• Other Polysemies

in acquiring lexical items, kids may label some old concepts and introduce some “neutral” concepts

\[
\sqrt{\text{lamb}} \rightarrow \text{LAMB(\_)}
\]

\[
\text{lamb} = \sqrt{\text{lamb} + \text{count}}
\]

\[
\text{LAMB(\_)^\text{COUNTABLE(\_)}}
\]
EATING/INGESTING

some cases of eating/consuming

CONCEPT PROJECTER

EAT/CONSUME(A, P)

MONADICIZER

< ..., EAT/CONSUME(_)

\[ \forall Y : \text{THEME}(E, Y) \{ \forall X : \text{AGENT}(E, X)[\text{MEAL-FOR}(Y, X)] \} \]
Typically, a lexical address will be an address of...

- a concept **lexicalized** but perhaps not fetchable
  (for purposes of combining with other fetchables)
- a **root** concept that is fetchable but not lexicalized
- a **default** concept, perhaps not the root concept, that is fetched absent contrary indications
- perhaps concepts that can be fetched under “coercion”

Crucially, the root concept need not be conceptually basic... might abstract...

\[ \sqrt{\text{DOG}(\_)} \text{ from DOG-THING(\_)} \]
\[ \sqrt{\text{PAINT}(\_)} \text{ from PAINT-STUFF(\_)} \]
\[ \sqrt{\text{KICK}(\_)} \text{ from KICK(\_, \_, \_)} \]
\[ \sqrt{\text{EAT}(\_)} \text{ from EAT-CONSUME(\_, \_, \_)} \]
Meanings as Instructions for How to Build Concepts

Meaning[$dog$] = \texttt{fetch}@address:$dog$
  \[ \rightarrow \texttt{DOG}(_)

Meaning[$Fido$] = \texttt{fetch}@address:$Fido$
  \[ \rightarrow \texttt{FIDO}

Meaning[$Fido\ [(izza\ dog)]$] =
  \texttt{Saturate}(\text{Meaning}[$Fido$], \text{Meaning}[$dog$])
  \[ \rightarrow \texttt{DOG(FIDO)}]
Meanings as *Instructions* for How to Build *Concepts*

Meaning[$dog$] = \textbf{fetch}@address:$dog$

\[\Rightarrow \text{DOG}(\_)]

Meaning[$Fido$] = \textbf{fetch}@address:$Fido$

\[
\begin{align*}
& \text{FIDO} \\
\Rightarrow & \quad \text{FIDO}(\_) \\
\end{align*}
\]

Meaning[$Fido \ [(izza) \ dog]$] = \textbf{Join}(Meaning[$Fido$], Meaning[$dog$])

\[\Rightarrow \quad \text{FIDO}(\_)^{\text{DOG}(\_)}\]
Meanings as Instructions for How to Build Concepts

Meaning[dog] = fetch@address:dog
  \[\Rightarrow DOG(\_)_\]

Meaning[Fido] = fetch@address:Fido
  FIDO
  \[\Rightarrow FIDO(\_)_\]

Meaning[+polarity [Fido [(izza) dog]]] =
  \textbf{CLOSE-UP:Join}(\text{Meaning[Fido]}, \text{Meaning[dog]})
  \[\Rightarrow \exists [\text{FIDO}(\_) \wedge \text{DOG}(\_)]
  | \text{MORE RESTRICTED THAN TARKSIAN EXISTENTIAL CLOSURE}\]
Does the plural marker imply an extra thing?

If each dog is brown, then each one of the dogs is brown.
If each set is grounded, then each one of the sets is grounded.

Are “mass nouns” true of quantities?

Given some paint, it is some paint of a certain quantity.
Given some paint, it is a certain quantity of paint.
A gallon of paint is a certain quantity of paint.
A gallon is a certain quantity.

What determines what “singularized mass nouns” are true of?

at Bar Vampire: I’ll have a blood, neat. Gimme the good stuff.
He’ll have the cheap blood on the rocks.
• Chris ate some tacks
• Chris ate
• Chris ate some grits/hominy
• Chris ate some grit/lye-soaked corn

• The dragon ate some glorp
• He thought he was eating fraggis.
• But in fact, he was eating glorp.
• The dragon ate.
Believe, if you like, that

- any “stuff” is a portion/quantity of stuff
- \( paint/\text{PAINT}(_\_ \) applies to things of a special sort: paint-portions
- there are some “minimal” paint-portions that are the basic elements of a lattice whose supremum is the totality of paint

\[
P_1 \oplus P_2 \oplus \cdots \oplus P_{n-1} \oplus P_n
\]

waive concerns about recycling