

Generics: Inference & Accommodation

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CONSTRUCTING SOCIAL HIERARCHY 2 · MIT · 6 DECEMBER 2019

To give an account of norms governing
our uses of *generics*, and our *inferring*,
showing how phenomena of *accommodation*
can help explain the behaviour of generic judgements
and what we can do with (and to) them.

Motivation & Background

Generics & Inference

Accommodation & Inference

Options for Critique & Reform

MOTIVATION & BACKGROUND

Problem 1: Generics

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Logic talks are boring.

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Mosquitos transmit Ross River Fever.

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Cows are food.

Men are aggressive.

Muslims are terrorists.

Generic judgements...

Fs are Gs

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... are *pervasive*.

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Generic judgements...

Fs are Gs

... are *pervasive*.

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... behave *very strangely*.

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Some don't.

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True, but some mosquitos *don't*, and we won't say “Mosquitos *don't* transmit RRF.”

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True, but some mosquitos *don't*, and we won't say “Mosquitos *don't* transmit RRF.”

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Most don't.

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True, but some mosquitos *don't*, and we won't say “Mosquitos *don't* transmit RRF.”

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Most don't.

Normal mosquitos transmit RRF.

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Male mosquitos don't. They aren't normal?

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~~**Most** mosquitos transmit RRF.~~

Most don't.

~~**Normal** mosquitos transmit RRF.~~

Male mosquitos don't. They aren't normal?

Mosquitos ***are the kind of thing
that*** transmit RRF.

Mosquitos transmit RRF—what does this mean?

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~~**Some** mosquitos transmit RRF.~~

True, but some mosquitos *don't*, and we won't say “Mosquitos *don't* transmit RRF.”

~~**Most** mosquitos transmit RRF.~~

Most don't.

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Male mosquitos don't. They aren't normal?

Mosquitos ~~**are the kind of thing**~~
~~**that**~~ transmit RRF.

They're also the kind of thing that doesn't—e.g. males, or those in Africa.

Background 1: “Inferentialism”, broadly construed

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- ▶ **INFERENTIALISM**: an approach to semantics that takes meaning to centre on *norms of inference*.
- ▶ **NORMATIVE PRAGMATICS**: an approach to semantics that takes semantics to centre on *norms of use* (perhaps including inference, perhaps not).
- ▶ My recent research concentrates on the connections between *normative pragmatics* and logic, via *proof theory*.

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Using *Boche* in this way encodes a substantial connection between being German, and being cruel.

What does *Boche* mean, when it's used like this?

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Are these inferences a part of the *meaning*
of the pejorative expression?

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- ▶ METASEMANTICS: an account of the space of possible meanings, and the different *ways* expressions can get their meanings.
- ▶ PRACTICE: Metasemantics, in particular, can be a partner for *clarificatory* and *emancipatory* possibilities for revising our *languages* and our *practices*.

GENERICS & INFERENCE

Truth Conditions?

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Ks are F

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Any adequate account is *very* complicated.

An example, from Sarah-Jane Leslie

cumstances in which generics are true or false. Though there may be a further refinement or two needed, we can describe the circumstances under which a generic of the form ‘Ks are F’ is true as follows:

The counterinstances are negative, and:

If F lies along a characteristic dimension for the Ks, then some Ks are F, unless K is an artifact or social kind, in which case F is the function or purpose of the kind K;

If F is striking, then some Ks are F and the others are disposed to be F;

Otherwise, almost all Ks are F.

I would suggest that these worldly truth specifications—these descriptions of how the world must be for the sentence to be true—should not be mistaken for semantically derived truth conditions, however. To illus-

Sarah-Jane Leslie “Generics: Cognition and Acquisition,”
Philosophical Review 117:1 (2008), 1–47 — page 43.

The Approach I'll Explore

We don't *understand* a generic by first grasping its truth conditions.

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We don't *understand* a generic by first grasping its truth conditions.

We learn to use generics by learning norms for how to *use* them.

I take it that this sort of account makes sense of how we understand modal terms like *possibly* and *necessarily*.

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“Possibly p” and “Necessarily p” have truth conditions expressed in terms of *possible worlds*, but we don’t learn the concepts of possibility and necessity by way of some prior access to possible worlds.

To say that a state of affairs obtains is just to say that something is the case; to say that something is a possible state of affairs is just to say that something could be the case; and to say that something is the case 'in' a possible state of affairs is just to say that the thing in question would necessarily be the case if that state of affairs obtained, i.e. if something else were the case...

We understand 'truth in states of affairs' because we understand 'necessarily'; not *vice versa*.

— Arthur Prior,
Worlds, Times and Selves (1969)



But what *do* they mean?

The problem remains:

What are the norms governing generics?

How do we understand them?

Let's change tack for a moment.

Inferring is an action

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Consider the difference:

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Consider the difference:

Tweety is a bird. Tweety flies.

Inferring is an action

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Tweety is a bird. *So*, Tweety flies.

Inferring is an action

Consider the difference:

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There is a difference between making two assertions,
and making one assertion to *give a reason* for another.

Reason giving appears in question answering

Tweety is a bird. So, Tweety flies.

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ABELARD: Does Tweety fly?

ELOISE: Yes, she's a bird.

Tweety is a bird. So, Tweety flies.

ABELARD: Does Tweety fly?

ELOISE: Yes, she's a bird.

This is beef. So, this is food.

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ELOISE: Yes, she's a bird.

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ABELARD: Is this food?

ELOISE: Yes, it's beef.

Reason giving can go in *both directions*

ABELARD: Does she have stripes?

ELOISE: Yes, she's a zebra.

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ELOISE: Yes, she has stripes.

Each direction can make sense,
given an appropriate context.

So can *explanation*

ELOISE: She has stripes.

ABELARD: Why?

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- ▶ These are *speech acts*, like *assertion*.
(I can *infer* B *from* A despite believing B *before* believing A. Inferring, in this sense, isn't *believing on the basis of*. The same goes for explaining or justifying.)

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- ▶ These are *speech acts*, like *assertion*.
(I can *infer* B *from* A despite believing B *before* believing A. Inferring, in this sense, isn't *believing on the basis of*. The same goes for explaining or justifying.)
- ▶ Making an inference is also not to be identified with offering a deductively valid argument, or taking yourself to do so.

What is inference? (Cont.)

Reason giving is *defeasible*, or *non-monotonic*:

Tweety is a bird. So, Tweety flies.

What is inference? (Cont.)

Reason giving is *defeasible*, or *non-monotonic*:

Tweety is a bird. So, Tweety flies.

Tweety is a bird. *Tweety is a penguin*. So, ~~Tweety flies~~.

Why (*do we/should we*) care about
how our claims relate to one another?

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Why not just care about whether A and B are true,
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(Or, why do children ask *why* instead of just asking *whether*?)

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and ignore whether A is *a reason* for B?

(Or, why do children ask *why* instead of just asking *whether*?)

Why attempt to keep track of how claims relate to one
another?

Two reasons for having practices of inferring and explaining

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PLANNING AND CONTINGENCY

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THEORISING AND UNCERTAINTY

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If we find a zebra...

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If we find a zebra...

THEORISING AND UNCERTAINTY

Is this a zebra?

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PLANNING AND CONTINGENCY

If we find a zebra...

Suppose that *had been* a zebra

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“Epistemic”

It is hard to see how we could *act*
on the basis of *shared views* without
some kind of reason-giving practice.

Claim 1: *Generics make inferential transitions explicit*

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— **Birds fly.**

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She's a zebra. So, she has stripes.

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— **Zebras have stripes.**

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— **Striped things are zebras.**

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— **Zebras have stripes.**

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— **Striped things are zebras.**

— **Striped horses are zebras.**

I can *make explicit* my preparedness
to infer Gx from Fx
by saying

Fs are Gs .

I can *make explicit* my preparedness
to infer Gx from Fx
or to *explain* Gx by way of Fx
by saying

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This explains many of the distinctive features of generics

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- ▶ *Exceptions:* **Birds fly.** (Yes! Despite penguins.)
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 - ▶ **Does Tweety lay eggs?** Yes, **Tweety is a bird.** (Good!)

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 - ▶ **Does Tweety lay eggs?** Yes, **Tweety is a bird.** (Good!)
Is Tweety female? Yes, **Tweety is a bird.** (????)

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Or, **Tweety lays eggs** since **Tweety is a bird.** (Good!)
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- ▶ *Low rate generics with striking properties: **Mosquitos transmit RRF.***
 - ▶ Given that reason giving *does* admit exceptions, in the case of striking/dangerous properties, it is much better to err on the side of *false positives* than *false negatives*. At the very least, we are happy to explain **This transmits RRF** by granting **this is a mosquito.**

Why *this* form?

We can infer from any A to any B.

Why are generics, of the form **Fs are Gs**, so prevalent?

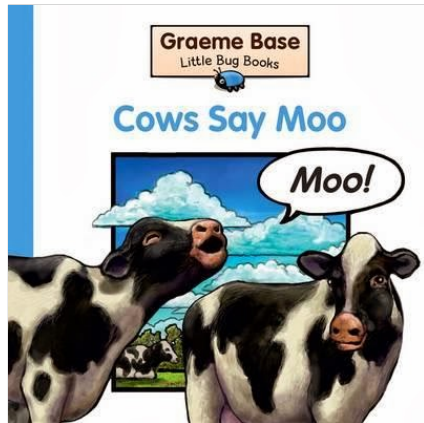
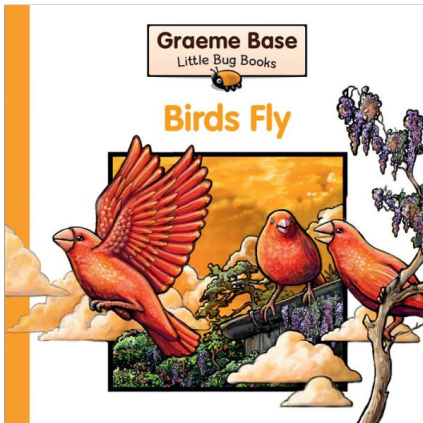
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Why are generics, of the form **Fs are Gs**, so prevalent?

In dialogue or in planning,
the *focus* of inquiry is often fixed.

So, inferences of the form suitable for explication
by a generic (from Fx to Gx) are widespread.

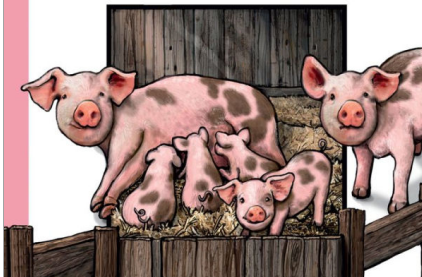


Graeme Base

Little Bug Books



Pigs Have Piglets

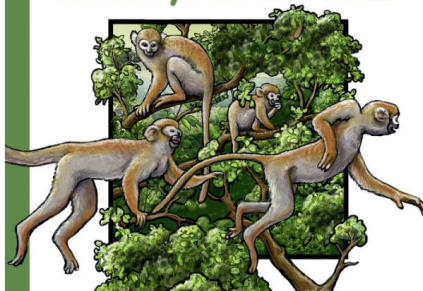


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Little Bug Books



Monkeys Live in Trees



Why make inference explicit?

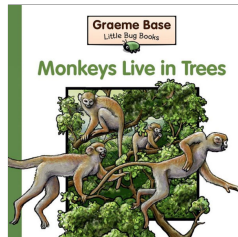
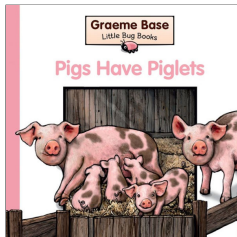
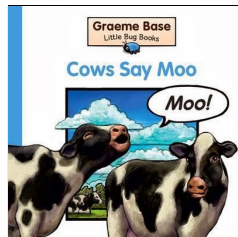
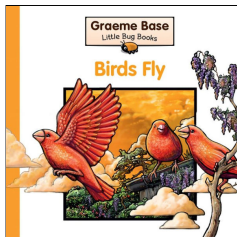
Why make inference explicit?

To teach ...

Why make inference explicit?

To teach ...
... and to *refine*.

Training for Inference



We communicate and
coordinate on inferences:
if you've learned that birds fly,
you'll accept "x is a bird"
as a reason to conclude "x flies,"
or to explain "x flies"
by appeal to "x is a bird."

The information conveyed can be local.

Consider a zoo enclosure with a range of horse-like creatures: I might say “striped ones are zebras”.

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Making inferences explicit
gives us a way to argue about them.

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Birds *don't* fly?

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Fs are *non*-Gs *not* (Fs are Gs)

The grammar of generics makes denying them difficult.

We often move to more explicit quantification:
many birds don't fly, or *not all birds fly*.

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We'll return to this topic later.

ACCOMMODATION & INFERENCE

Common Ground

The COMMON GROUND of a conversation at any given time is the set of propositions that the participants in that conversation at that time mutually assume to be taken for granted and not subject to (further) discussion.

— Kai von Fintel
“What is Presupposition Accommodation, Again?”
Philosophical Perspectives, 2008.

One way to enter the common ground

When uttered assertively, sentences are meant to update the common ground. If a sentence is accepted by the participants, the proposition it expresses is added to the common ground.

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When I say this, the proposition that I have a son
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(The details of *how*—and *which*—presuppositions are accommodated is a matter of debate and active research.)

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Sometimes we find ourselves committed to substantial claims
we never explicitly considered. We have *accommodated* them.

Claim 2: Inference and the Common Ground

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If you make the inference
 Fa , *therefore* Ga ,
and you meet with no objection,
then not only are Fa and Ga
added to the common ground,
but so is the generic: Fs are Gs .

This could be highly *local*.

Recall: *she has stripes, so she's a zebra.*

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Recall: *she has stripes*, so *she's a zebra*.

Striped things (here) are zebras.

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The speech act of inference is *explicit*.
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I can *reject* the inference $Fa, \text{ so } Ga$,
while *accepting* Fa and Ga .

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If the inference is made explicit by
a *generic* this can do the job.

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- ▶ This commitment (Fs are Gs) goes beyond the explicit subject matter (the object a) under discussion.
- ▶ Since generics are *generic*, they can persist, even after the details fade from attention.
- ▶ We can find ourselves accepting generics (and perhaps, *believing* them) without ever having explicitly considered them.

OPTIONS FOR
CRITIQUE
& REFORM

Striking properties and generics

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Logic talks are boring.

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Not *all* mosquitos.

Not *all* logic talks.

Not *all* Muslims.

How to deny a generic

- ▶ To reject or deny Fs are Gs, you need to undercut the inference from Fa to Ga and the practice of explaining Ga in terms of Fa.

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- ▶ In a controlled environment, we can undercut the generic by being more *specific*, by moving to explicitly stated quantifiers.
 - ▶ Are *all* Fs Gs? Are *most*? How many?
- ▶ This can work, but it is hard to resist forming generic judgements. Syntactic discipline takes work.

How to deny a generic

- ▶ When G is a striking property, it's not enough to say that many or most Fs are not Gs.

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(After all, most mosquitos *don't* carry RRF.)

How to deny a generic

- ▶ One way to undercut the inference from Fa to Ga is to institute a practice in which the question of whether something is G or not *doesn't arise*.

How to deny a generic

- ▶ When we *care* about the property G , we won't want to revise the concept away. So another approach is to find an *alternate* explanation for Ga , other than Fa .

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- ▶ When we *care* about the property G , we won't want to revise the concept away. So another approach is to find an *alternate* explanation for Ga , other than Fa .
 - ▶ If not all species or genus of mosquito carry RRF, then we could refine our generic to the more specific one, that Mosquitos of genus *Culex* carry RRF, while agreeing that mosquitos outside that genus *don't* carry RRF.

How to deny a generic

- ▶ When we *care* about the property G, we won't want to revise the concept away. So another approach is to find an *alternate* explanation for Ga , other than Fa .
 - ▶ If not all species or genus of mosquito carry RRF, then we could refine our generic to the more specific one, that Mosquitos of genus *Culex* carry RRF, while agreeing that mosquitos outside that genus *don't* carry RRF.
 - ▶ Explanations of this shape might undercut the generic Muslims are terrorists, by replacing them with better explanations — such as research showing that domestic violence is a much stronger predictor of involvement in terrorism.

How to deny a generic

- ▶ In any case, denying a generic requires changing not only our explicit *theory*, but our dispositions to *infer*.
- ▶ These dispositions is expressed not just in the claims we make. They are revealed in how we string those claims together.

The strange behaviour of generic judgements
can be explained by their grounding
in our inferential practice.

This helps us understand the difficulties
and some of the possibilities for
reforming and revising those practices
and the views they represent.

THANK YOU!

Thank you!

SLIDES: <http://consequently.org/presentation/>

FEEDBACK: @consequently on *Twitter*,
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