

# Foundations Seminar: Barriers to Entailment

Gillian Russell, Semester 2, 2024

Week 1

Hume's Law: no 'ought' from an 'is'

From Hume:

In every system of morality, which I have hitherto met with, I have always remark'd, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surpriz'd to find, that instead of the usual copulations of propositions, *is*, and *is not*, I meet with no proposition that is not connected with an *ought*, or an *ought not*. This change is imperceptible; but is, however, of the last consequence. For as this *ought*, or *ought not*, expresses some new relation or affirmation, 'tis necessary that it shou'd be observ'd and explain'd; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it.<sup>1</sup> (T3.1.1.27)

<sup>1</sup> Hume, D. (1978/1739). *A treatise on human nature*. Oxford University Press, Oxford, 2nd edition

Prior

Before the conversion:

"The point is rather that it is impossible to deduce an ethical conclusion from entirely non-ethical premises. We cannot infer 'We ought to do X' from, for example, 'God commands us to do X', unless this is supplemented by the ethical premiss, 'We ought to do what God commands'; and it is quite useless to offer instead of this some additional non-ethical premiss, such as 'God commands us to obey His commands'."<sup>2</sup> (18)

<sup>2</sup> Prior, A. N. (1949). *Logic and the basis of ethics*. Clarendon Press, Oxford

"We cannot, in short, infer 'We ought to do X' from 'We have promised to do X', unless we also grant the ethical proposition 'We ought to keep our promises', and for this latter, no non-ethical substitutes, such as 'We have promised to keep our promises', will do."<sup>3</sup> (22)

<sup>3</sup> Prior, A. N. (1949). *Logic and the basis of ethics*. Clarendon Press, Oxford

And then in 1960:

"It has often been said—in fact, I have said it quite emphatically myself—that it is impossible to deduce ethical conclusions from non-ethical premisses. This now seems to me a mistake. . . "<sup>4</sup> (199)

<sup>4</sup> Prior, A. N. (1960). The autonomy of ethics. *The Australasian Journal of Philosophy*, 38:199–206

Prior's most famous argument

$$\begin{array}{c} p \\ \hline p \vee Oq \end{array} \qquad \begin{array}{c} p \vee Oq \\ \neg p \\ \hline Oq \end{array}$$

## *The Universal Barrier*

Bertrand Russell

You can never arrive at a general proposition by inference from particular propositions alone. You will always have to have at least one general proposition in your premises. (101)<sup>5</sup>

<sup>5</sup> Russell, B. (1985/1918). *The philosophy of logical atomism*. Open Court Classics, Chicago and LaSalle, Illinois

## *The Temporal Barrier*

Hume (again)

All inferences from experience suppose, as their foundation, that the future will resemble the past ... if there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any argument from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. (4.21/37)<sup>6</sup>

<sup>6</sup> Hume, D. (1975/1748). *Enquiries concerning human understanding and concerning the principles of morals*. Oxford University Press, Oxford. edited by L. A. Selby-Bigge

Jonathan Bennett

"a splendid discovery"... "philosophers have known about it since Hume and, if they had paid attention, they could have known about it since Leibniz." "so far as I know it is the only discovery which has ever been made to the effect that a certain limit obtains on the *results* which can be achieved by purely deductive means."<sup>7</sup> (61)

Perhaps the past/future barrier should be called Leibniz' Law?

<sup>7</sup> Bennett, J. (1961). A myth about logical necessity. *Analysis*, 21(3):pp. 59–63

Prior (again):

J.F. Bennett recently described Leibniz as having discovered, and Hume as having re-discovered, the principle that 'if *Q* is an immediate consequence of *P* then there cannot be a time-reference in *Q* later than the latest time-reference in *P*'. One thing that the development of tense-logic makes quite clear—if it was not clear before—is that this alleged 'discovery' is in fact a falsehood.

(Prior, 1967, 57, "Correction of Hume on Past and Future" in chapter 3 of *Past, Present and Future*))

$$\frac{Pp}{FPp}$$

## *The Modal Barrier*

Humberstone

"Some people have maintained in print—and many more, I suppose, in casual conversation—that a converse principle also holds: no contingently true statement can entail a necessarily true one, or, more vaguely perhaps, that no contingent statement entails a necessary one. Fortunately, this view, at least in the less vague formulation just given,

was decisively disposed of by R. and V. Routley over ten years ago, though it no doubt persists in some quarters.”<sup>8</sup> (321)

### *The Routleys’ counterexamples*

- i)  $p \models p \vee \neg p$
- ii)  $\text{Plato exists} \models \text{Plato is Plato}$
- iii)  $\text{Tito knows that } 2+2=4 \models 2+2=4.$
- iv)  $p \models \Box \Diamond p$ <sup>9</sup>

And yet Humberstone suspects that we haven’t quite reached the heart of the matter:

“I think something along the following lines might be the sort of thing they have in mind, and also that something along these lines might be correct. . . . If  $\psi$  is not a valid formula, then it could be false if things turn out in certain ways in various possible worlds. We need then to know what is going on in *all* possible worlds to be assured that nothing is going to spoil the necessity of the conclusion  $\psi$ . So we need premises, all right, but contingent ones, such as the imagined  $\phi$  give us only ‘local’ information: information about a particular possible world. What we need is ‘global’ information: information about all worlds.”

<sup>8</sup> Humberstone, I. L. (1982). Necessary conclusions. *Philosophical Studies*, 41:321–335

N.B. Val Routley is also known as Val Plumwood, and Richard Routley as Richard Sylvan.

<sup>9</sup> Routley, R. and Routley, V. (1969). A fallacy of modality. *Noûs*, 3(2):129–153

(Humberstone, 1982, 323, notation adapted)

### *The Indexical Barrier*

#### *Castañeda*

**Quintus, The War Hero:** Quintus, a war hero suffering from amnesia, is the only person to have been wounded 100 times in battle, though he no longer remembers this himself. After recovering (again) he becomes a military biographer and finds himself fascinated by the story of a war hero who was the only person to be wounded 100 times. He studies the person’s life, until he knows more about them than anyone else. Castañeda suggests that we would say that Quintus “knows who the war hero is” even though, for all his studies, Quintus never realises that the war hero is *him himself*. On these grounds, Castaneda claims a **failure of entailment** between one knowledge attribution and another containing an indexical:

The statement “There exists a person known to the war hero wounded 100 times, who is in fact identical with the war hero wounded 100 times and is known by the war hero wounded 100 times to be identical with the war hero wounded 100 times” does not entail “The war hero wounded 100 times knows that he\* is the war hero wounded 100 times.” (Castañeda, 1968, 447)

“He\*” is Castañeda’s abbreviation for “he (himself)” and he notes that it is an “implicit indexical” referring to the war hero, and that

Héctor-Neri Castañeda (1924–1991) was a Guatemalan-American philosopher and founder of the journal *Noûs*. (wikipedia)

were the war hero to attempt the same attribution himself, he would replace it with “I”, e.g. “The war hero wounded 100 times knows that I am the war hero wounded 100 times.”<sup>10</sup> (441)

### Perry

**The Amnesiac in the Library:** A man wakes up in a library; he doesn’t remember his name, where he is, or any of his life to date. There doesn’t seem to be anyone else about, so he begins to read. There are books about geography, history etc. and even a section of biographies. One of these tells the life story of a man called Rudolf Lingens who is born, grows up, and eventually finds himself in Stanford Library, where he is accidentally knocked out and wakes up with amnesia. He doesn’t remember his name, where he is, or any... the amnesiac has a sudden realisation: “I am Rudolf Lingens!”<sup>11</sup>

**The Messy Shopper:** You are pushing your cart around the supermarket when you suddenly notice a trail of sugar on the supermarket floor. You think to yourself: “Some shopper has picked up a damaged bag of sugar and put it in their cart. Now they are making a terrible mess everywhere they go!” You decide to try to find them and start to follow the trail of sugar along the floor, trundling through the aisles and round corners with your own cart, but somehow you can’t seem to catch up with the messy shopper, no matter how fast you go. The trail gets thicker, and you notice that you are following the same circuit over and over. Suddenly an awful possibility occurs to you: “maybe I’m the messy shopper?” You check through your cart and discover the damaged bag of sugar, exclaiming: “I am the messy shopper!”

Perry calls the indexicals in *I am the messy shopper!* and *I am Rudolf Lingens!* “essential” to stress that the indexicality is important for explaining new behaviour after the revelation. The Messy Shopper stops following the trail and reaches into their *own* cart. The Amnesiac perhaps gets up and heads home—now that he knows where *his* home is. Their acceptance of non-indexical sentences such as “The messy shopper turned right at the end of aisle 4” or “Rudolf Lingens moved into a house on Lake Street” was insufficient to prompt this change.

Perry isn’t focused on entailment, but an indexical barrier would be a natural explanation of an the essentiality of indexicals. Acceptance of constant sentences isn’t sufficient to explain the behaviour that acceptance of indexical sentences explains *because* the constant sentences don’t entail the indexical ones. When the indexical conclusion is reached it is the conclusion of a step that is more abductive than deductive.

Perry’s examples are more general than Castañeda’s in that they have dropped the restriction to attributions of self-knowledge. But a full-blown barrier to entailment would claim something more general

<sup>10</sup> Castañeda, H.-N. (1968). On the logic of attributions of self-knowledge to others. *Journal of Philosophy*, 65(15):439–456

See also

Bar-Hillel, Y. (1954). Indexical expressions. *Mind*, 63(251):359–379

<sup>11</sup> Adapted from

Perry, J. (1977). Frege on demonstratives. *The Philosophical Review*, 86(4):474–497

Adapted from (Perry, 1979, 3) Real-life counterparts of Perry’s thought experiments are sometimes reported in the media. In one, a tourist joins a search party for a missing person in Iceland, only to eventually realise that the person they are all looking for is *her*. See Paul Fontaine’s story “Woman takes part in Search for Herself” in *The Reykjavik Grapevine*, August 27th 2012, <http://grapevine.is/News/ReadArticle/Woman-Takes-Part-In-Search-For-Herself> Similarly, a police office is sent to look for a ‘shady character’ spotted on CCTV that turns out to be the police officer himself. “Cop chases shady character who turns out to be himself” in *The Toronto Sun* February 8th 2012 <https://torontosun.com/2012/02/08/cop-chases-shady-character-who-turns-out-to-be-himself>

still, i.e. *no* set of constant premises entails an indexical conclusion. And there is no reason to think that the Messy Shopper or the Amnesiac know *all* the true non-indexical sentences and that leaves room to wonder: if they simply knew more constant sentences, could they deduce the salient indexical conclusions?

*Lewis*

**Two Gods:** There is a world with two gods, one nice, one nasty. Each lives on a different mountain: the nice god lives on the tallest mountain and showers mana on the people below, whereas the nasty god lives on the coldest mountain and hurls thunderbolts at people. Being gods, they don't come to know things through normal animal perception—they don't see, or hear, or feel—but they are omniscient anyway in a distinctive godly way: each knows the truth-values of every non-indexical sentence. For example, they know that *There are two gods* and *The nice god lives on the tallest mountain* are true, and that *The nasty god lives on the tallest mountain* is false. They don't, initially, know the truth-values of indexical sentences, such as *I am the nice god* or *it is raining here*. Our question is: can either god deduce indexical sentences from the constant sentences they already know to be true?<sup>12</sup>

<sup>12</sup> Lewis, D. (1979). Attitudes de dicto and de se. *The Philosophical Review*, 88:513–543

Adapted from (Lewis, 1979, 520–521)

### *Barriers to Entailment*

It would seem that Hume's Law is just one of several barrier theses in philosophy:

1. No universal conclusions from particular premises.
2. No conclusions about the future from premises about the past.
3. No necessary conclusions from premises that are only about the actual world.
4. No indexical/context-sensitive conclusions from premises that don't contain indexicals/context-sensitive expressions.
5. No normative conclusions from descriptive premises.

So far we have lots of questions about these, among them:

- How exactly should the barriers be formulated?
- what counts as a normative/necessary/future etc. conclusion?
- similarly what counts as a descriptive/contingent/past etc. premise?
- what would it be to "get" one from the other?
- what is the status of contradictory premises/logically true conclusions/Prior-disjunctions?
- is there a way to formulate the barriers that makes them true?

But I want to finish by asking this one:

Question: Prior offered us a counterexample to Hume's Law. Can his counterexample be adapted so that it can be wielded against the other barriers as well?

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