

Class 19 - Intuition and Reflective Equilibrium

I. Introduction

We have been more or less obliquely discussing a constellation of issues regarding our philosophical methods:

Kripke's argument against identity theory, and his claims about rigid designation and essence

Technical work in modal logic

The role of intuition in philosophy

Today, we will look more directly at our methods, especially reflective equilibrium and the role of intuition in the method which seeks reflective equilibrium.

Our goal is to make the connection between the use of intuitions and the general problem of justifying inductive inference.

Stich's claim is that our intuitions are terribly unreliable, and so that Goodman's solution to the problem of induction is wrong.

II. From modal logic to reflective equilibrium

The technical work in modal logic will be useful to you if only to read sentences which include modal operators.

It will also be useful, in the second half of the course, to be able to read sentences of Bayesian probability calculus, but we will discuss that topic when it arises.

Modal logic, especially Kripkean modal logic, with its various accessibility relations and their corresponding deductive systems, is a fun toy.

Interpreting the different systems is a useful way into regimenting, systematizing, and ossifying our beliefs about possibility and necessity.

But, learning about and extending our modal beliefs can be done without the fun toy.

And, the toy is really more appropriate for a different course.

The discussion of modal logic was really about the tool we used to discuss our methods.

Kripke's work in *Naming and Necessity* is paradigmatic of those methods.

His argument against identity theory relied on both intuitions about possibility and their consequences for rigid designation and transworld identity, on the one hand, and substantial theoretical claims about the nature of theoretical identifications.

That is, Kripke balances appeals to intuition with the construction of abstract theories.

Rawls advocates the same method in developing his theory of justice, as Daniels discusses.

We call this method reflective equilibrium (RE).

RE is a state at which our intuitions about some phenomenon are brought into alignment with our theories about that phenomenon.

Rawls sought reflective equilibrium between general principles of justice (e.g. that basic social goods like liberty should be distributed among people fairly) and specific instances beliefs about justice (e.g. that it would be wrong for individuals to have to sacrifice involuntarily for the luxury of others.)

In seeking balance between theory and intuition, Rawls defended a broader philosophical method.

III. Reflective equilibrium and the problem of induction

As Stich makes clear, the method of seeking reflective equilibrium was not initially, or primarily, formulated for political philosophy.

Nelson Goodman had developed the method, though not by that name, as a response to the problem of induction.

The problem of induction is perhaps the central question in epistemology.

How do we know that our inductive inferences, inferences about the future based on our experiences, are valid?

Induction is, arguably, the process underlying just about all scientific reasoning.

Hume showed that there are serious concerns about our ability to know about the unobserved.

We have no reason (really, no reason) to believe that the sun will rise tomorrow, or that each of us has a heart beating inside our chest.

For, such inferences rely on extensions from observed cases to unobserved cases.

This extension relies on knowledge of some principle that claims that the unobserved will be like the observed, that the future will be like the past, that nature is uniform.

And, that principle of the uniformity of nature is in principle unobservable, unverifiable, a leap of faith.

Goodman's new riddle of induction extends Hume's problem.

Hume's problem was the justification of our beliefs about laws of nature.

For Hume, those laws could be verified in the past.

We can know, for example, that Newton's laws of motion, or the ideal gas law, covers past events.

We just don't know that it will predict future events.

Goodman points out that we don't even know which laws have been verified.

Laws are just statements which are composed of a variety of predicates which refer to properties like mass, motion, pressure, and temperature.

The laws express relations between objects with these properties.

A law will be verified if the observable properties predicted by the law are in fact observed.

For example, consider the ideal gas law: $PV = kT$

It states that for any gas, the pressure, volume, and temperature are related in such a way that if the pressure goes up, either the volume goes down or the temperature goes up.

Etc.

That is, the ideal gas law refers to particular properties of pressure, temperature, and volume.

It is these properties that are picked out by the law.

But, Goodman's new riddle of induction shows that we don't know which properties are verified by our observations.

Consider the property called 'grue'.

An object is grue if it is green until 1/1/2010, when it suddenly turns blue.

How can you tell if a plant, or an emerald, is green or grue?

All evidence for its being green is also evidence for its being grue.

Green things and grue things are exactly alike until 2010.

Any laws which would refer to green things could easily refer to grue things.

We could not, in principle, distinguish the green things from the grue things.

Similarly, we could not, in principle, be sure we were picking out pressure, rather than shmessure, volume rather than shmolume.

One objection to 'grue' and related gerrymandered predicates is that they are not simple, or uniform, or purely qualitative.

But notice, grue is complex only if we start with the predicates green and blue.
Consider that something is bleen if and only if it is blue until 1/1/2010 and then turns green.
If we start with grue, then an object is green if and only if it is grue until 1/1/2010, and then turns bleen.
And, an object is blue if and only if it is bleen until 1/1/2010, and then turns grue.
That is, we can define green and blue in terms of grue and bleen just as easily as we can define grue and bleen in terms of green and blue.

Here is a nasty poem about Goodman's new riddle:

Nelson Goodman seems quite keen
Induction yet to show anew
Is somewhat sick as will be seen
And may not be completely true.
Is this leaf a lovely green?
Or is it rather colored grue?
Is the sky above quite bleen?
Or am I right in seeing blue?
I really don't care to be mean
And have no wish to Goodman skew;
But childish puzzles can demean;
Has he nothing else to do??

<http://www.massline.org/PhilosDog/G/Goodman.htm>

Goodman presents the method of reflective equilibrium, as Stich notes, in response to the problem of induction.

By seeking reflective equilibrium between our intuitions (or beliefs about particular inferences) and the general principles which guide inference, we are led, he thinks, to a solution to the problem of induction. If the method of reflective equilibrium leads to approving the correct inferences, then it will provide an alternative to the method of induction, and so dissolve the problem.

Stich takes a constitutive reading of Goodman's account, rather than an evidential interpretation just because he takes the method of RE to be a response to the problem of induction.

The constitutive account means that our inferences will be justified iff they are in RE.

So, RE is definitional, providing necessary and sufficient conditions for justification.

The evidential interpretation is weaker.

It just says that being in RE is good evidence that our inferences are justified.

If our inferences are correct, then, unless we are incorrigibly irrational, we should be able to bring ourselves into RE with them.

But, if RE is just evidence for correctness, and not constitutive of correctness, there is some further account of the justification of our inferences, some further conditions that make it the case.

People cheering at a football game is evidence that the home team has performed some feat successfully.

But, the touchdown is not constituted by the cheering.

So the question of the reliability of our intuitions is no small matter.

It is not merely about the possibility of zombies, or homunculi-headed robots.

It may also be about whether the most widely accepted and used scientific methods are justifiable.

IV. The problem of cognitive diversity

Stich does not talk much about intuitions.

Where he does talk about intuitions, pp 105-6, he refers to Goldman's allusions to their role in the process of seeking RE.

Instead, Stich talks about cognitive diversity.

'Cognitive diversity' is the term Stich uses to describe the fact that there are various conflicting reasoning processes which we develop under the influence of nature, via evolution, and nurture, via social conditions and cultural influences.

The term 'cognitive diversity' refers both to differences among people in reasoning processes and in basic intuitions.

So, evidence for cognitive diversity undermines confidence in Goodman's solution to the problem of induction which refers to RE.

"For if there are lots of different ways in which the human mind/brain can go about ordering and reordering its cognitive states, if different cultures could or do go about the business of reasoning in very different ways, *which of these ways should we use?*" (97).

If there is cognitive diversity, there will not be agreement, either on intuitions about which particular inferences are legitimate or on general principles of inference.

There will be no stable, convergent cross-cultural equilibrium.

In class, we have disagreed about our intuitions.

The problem is just more acute when we look cross-culturally.

The problem of cognitive diversity for Goodman's solution, and for any arguments which rely at any point on basic intuitions, or modal intuitions, only arises if we have good evidence that people do not reason the same way.

Stich, by alluding to the natural ways in which people develop, presents an argument that cognitive diversity is likely.

He uses analogies to other mechanisms or traits which developed in the same ways.

There is linguistic diversity, digestive diversity, diversity of perceptual apparatus, diversity of cultural norms.

These all develop biologically, and differ among people.

Thus, we should expect that our cognitive processes also develop differently, and that we will have different intuitions and different inferential patterns.

By themselves, these arguments from biological analogy do not support anything more than an expectation of cognitive diversity.

To complete the argument, Stich should demonstrate that people actually do reason divergently.

He alludes to such evidence, pp 99-101, which appears in fuller detail in an earlier paper, [Stich and Nisbett 1980](#).

He discusses the gambler's fallacy, and problems with probabilistic reasoning.

In such cases, people actually make inferences based on logical or mathematical fallacies.

(There's a wonderful passage, in Stich and Nisbett 1980, pp 196-7, about how people can be convinced to hold the gambler's fallacy when they were not, previously, making such errors.)

V. Goodmanian responses

Stich provides three possible responses to the problem of cognitive diversity for the defender of RE.

- R1. Dig in one's heels and say that any set of beliefs in RE are in fact justified.
- R2. Insist on wide RE, instead of narrow RE.
- R3. Insist on the RE of experts, not the folk.

R1 seems untenable.

It leads to the problems with coherence theories of epistemology which we discussed last week. False sets of beliefs might be coherent.

R2 broadens the kinds of beliefs which are supposed to be brought into RE.

Seeking narrow RE, we just look to balance theories in one domain with specific intuitions.

So, we might look only to balance theories of justice with intuitions about justice.

Or, we might look only to balance theories of inference with intuitions about which inferences are acceptable.

In seeking wide RE, we look to balance all of our beliefs.

The move to wide RE is supported by Quinean holism.

I mentioned Quine's allusion to being adrift on Neurath's ship.

The move to wide RE, though, just delays the problem.

If there is cognitive diversity among beliefs about justice and inferential practice, there is likely to be just as much diversity among beliefs about metaphysics; this is the point of Stich's quip on p 101.

Also re R2: ask me about the adage, "When a philosopher runs into trouble, he makes a distinction."

Stich had earlier defended R3.

In fact, the earlier Stich and Nisbett paper was a defense of R3.

But, by the time of this paper, Stich had realized that R3 begs the question of how to pick out the experts, p 102.

The neo-Goodmanian line that Stich explores is really just an adjustment of R3.

He uses it to generalize his results about particular responses R1-R3.

Stich thinks the whole RE project is faulty, and this leads to a general conclusion that the problem of cognitive diversity undermines all such projects of justifying inferences, of responding to the problem of induction.

VI. Stich's proposal (or, the point at which he jumps the shark)

Stich, it seems to me, argues as follows:

1. The method of RE fails.
2. Therefore analytic epistemology fails.

So, if you think that there is anything left to the idea that there are better or worse, or, God forbid, right or wrong, methods of reasoning, or intuitions, then you are an "epistemic xenophobe" (109).

I leave evaluation of this argument to class discussion, if there is time.