# Class 10 - Reflective Equilibrium Review

When we make inferences, we balance a variety of factors: the strength of different beliefs, the veracity of testimony, environmental conditions during an observation, even our interests.
Because this process is so familiar, the claims we have examined in favor of reflective equilibrium may seem a bit like truisms.
Of course, we seek reflective equilibrium!
But, the method of reflective equilibrium is not merely a description of our actual behavior.
There is a normative claim being made by Rawls and Goodman and others.
The method of seeking reflective equilibrium (SRE) is used to justify one's beliefs, to determine which beliefs we are supposed to hold and which ones we are supposed to yield.
Reflective equilibrium is a point at which one's considered judgments about particular cases are balanced with one's judgments about a theory about those cases.
When one is in reflective equilibrium, according to defenders of SRE, one's beliefs are not merely described, but justified.

Consider the following comment about justifications in mathematics, foreshadowing SRE, from Bertrand Russell.

> When pure mathematics is organized as a deductive system - i.e. as the set of all those propositions that can be deduced from an assigned set of premises - it becomes obvious that, if we are to believe in the truth of pure mathematics, it cannot be solely because we believe in the truth of the set of premises. Some of the premises are much less obvious than some of their consequences and are believed chiefly because of their consequences. This will be found to be always the case when a science is arranged as a deductive system. It is not the logically simplest propositions of the system that are the most obvious, or that provide the chief part of our reasons for believing in the system. With the empirical sciences this is evident. Electro-dynamics, for example, can be concentrated into Maxwell's equations, but these equations are believed because of the observed truth of certain of their logical consequences. Exactly the same happens in the realm of pure logic (Russell, "Logical Atomism" p 325).

Russell is anticipating Goodman's claim: our justification of the general principles derives from our belief in the particular statements they entail or imply, rather than from any immediate apprehension of those principles.
Once we accept that neither our observations and intuitions about specific cases nor our apprehension of general principles are infallible, we have no choice but to pick (perhaps arbitrarily) some starting points and work toward a coherent theory.

We looked at SRE in linguistics, ethics, epistemology, and philosophy of science.
We contrasted SRE with foundationalism.
In foundationalist approaches, we are given fundamental truths from which we derive all our knowledge.
Our particular beliefs (our judgments about particular cases) are justified if they follow from these foundational truths.
In ethics, we took moral theories like those of Kant and Mill as our fundamental truths.
In epistemology, we took either the sense data of the logical empiricists or Descartes's postulates and axioms.
The purported advantage of foundationalist justification would be that if one's starting principles were

secure, and one's logic were secure, one could be quite certain about one's beliefs.
Against foundationalism, Sellars and the holists argued that no claim wears its justification on its surface.
The given is a myth; there are no secure fundamental principles.

Both foundational approaches and SRE rely, in some ways, on intuitions.
But it is important to distinguish SRE and foundationalism.
For the foundationalist, intuitions concern the certainty of fundamental principles.
One has to have reasons to take sense data as unassailable, or to adopt the Greatest Happiness Principle.
The foundationalist must claim at least intuitive support for her principles.
Indeed, Descartes claimed that the cogito was not an inference, but a "pure intuition."
Spinoza argued that intuition was the highest form of knowledge.

In SRE, intuitions are taken as fallible starting points.
For example, relating to Rawls's work, we might start constructing a theory of justice with some intuitions about equality and liberty.
As we construct our theory of justice, we might notice that naive notions of equality and liberty are in tension.
We thus give up our naive intuitions about equality.
In SRE, all general theories and all intuitions about particular cases are fallible, subject to revision.

Here is an illustration of SRE.
When choosing inductive principles, we start with some intuitions about which rules for inductive inference are legitimate.
We might, for example, start with an intuition about the following case, from Kahneman and Tversky:

> The average heights of adult males and females in the U.S. are, respectively, 5' 10" and 5' 4". Both distributions are approximately normal, with a standard deviation of about 2.5". An investigator has selected one population by chance and has drawn from it a random sample. What do you think are the odds that he has selected the male population if:
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> i. The sample consists of a single person whose height is 5' 10"?
> ii. The sample consists of six persons whose average height is 5' 8"?

Remember, our principles of inductive inference are exactly of this sort.
Statistical inference is just a kind of inductive process.
While deductive principles may be relatively easy to learn, inductive principles require just this kind of ability.
They are the tools of the scientist.

The subjects in the Kahneman and Tversky study were all University of Michigan students who had completed a course in statistics.
They gave median odds (favoring the male population) of 8:1 for i, and 2.5:1 for ii.
The actual odds are 16:1 for i, and 29:1 for ii.
The subjects' intuitions were erroneous.
Not only did they underestimate the odds for i, they thought that the odds for ii were less likely than those for i, when they are in fact almost twice as likely.

The defender of SRE concedes that when developing our statistical theories, we might start with errant intuitions.
Further research into probabilities and the development and comprehension of a theory of probability could disabuse us of such errors.
Eventually, our tutored judgments and our theory would be aligned, and we would have achieved reflective equilibrium.
The challenge to the defender of SRE will be to show that reflective equilibrium provides us appropriate grounding, the legitimacy that we need for justifying our beliefs.