Philosophy 355: Contemporary Philosophy
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Tuesdays and Thursdays, 9am - 10:15am

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Class 24 - Loewer

I. Van Fraassen's characterization and Loewer's method

The central work in Loewer's article comes in §IV.
He starts with van Fraassen's characterization of the important features of laws, a generic account, 187.

> I. Truth
> ii. Mind-independence
> iii. Utility
> iv. Methodological relevance
> v. Profundity
> vi. Vacuity
> vii. Contingency
> viii. Counterfactual support
> ix. Explanatory role
> x. Confirmation
> xi. Support for induction
> xii. Governance
> xiii. Extendability

Loewer compares MRL's account of laws, which he calls L-laws (for David Lewis) and Armstrong's account of laws, which he calls A-laws, to the generic account.
The goal is to see which of the two accounts best fits van Fraassen's supposedly pre-theoretic, generic account.
Both accounts, presumably, will offend against some intuitions.
Each account will capture more fully some of the characteristics.
Now, we are looking at which account has the best fit.

There is an irony to Loewer's method.
According to MRL, the best scientific theory will be the one that has the best combination of fit with the evidence, strength, and simplicity.
Loewer explains these terms a bit, in §2.

> Strength is measured in terms of the informativeness of the implications of the axioms, fit in terms of the chance of the actual history, and simplicity in terms of syntactical and mathematical complexity and number of independent assumptions.

Strength and fit seem like objective measures.
Simplicity seems dangerously like a subjective criterion, though.
What might be simple from one conceptual scheme could be more complicated from a different one.
If I grew up using terms like 'blue' and 'green', then terms like 'grue' and 'bleen' would seem liked hoked-up gerrymanders.
If I grew up using terms like 'grue' and 'bleen', then 'blue' and 'green' would seem hoked up.
MRL relies on simplicity to evaluate which are the best theories, and hence which statements are the laws of nature.

If simplicity were relative to one's history or one's experience, then the choice of a best system would be similarly relative.
But, we think that the laws of nature are independent of us.

The claim that laws are mind-independent is van Fraassen's second characteristic.
Loewer notes that L-laws seem to violate mind-independence, and so says that the MRL account smells like nomic idealism.
But, he also notes that Lewis, as he must, alludes to a non-idealist concept of simplicity.

> Independently of our psychology or opinions a linear function is simpler than a quartic function, a second-order differential equation simpler than a third-order one, etc. So, he suggests that the mosaic of Humean facts of our world may be such that the best system is robustly best. Varying the subjective aspects of simplicity etc. within the space left by objective criteria may leave the best system unaltered (191).

The irony of his method is that Loewer is looking to the same characteristics, fit, strength, and simplicity, to determine the best theory of the laws of nature.

II. Explanation

Many of the properties on the van Fraassen list of characteristics of laws are not worth more than a nod.
Our concerns is with the characteristics that L-laws do not satisfy.

It seems that HS would have problems particularly with explanation.
In fact, Armstrong claims that L-laws do not explain, p 189.

Armstrong's argument is that explanations which involve L-laws are circular, or question-begging.
Consider the standard D-N explanation of why my pen falls to the floor when I drop it.
There are laws, like gravitation.
There are boundary conditions, like the masses of the Earth and my pen.
The result, the event, is explained by the deduction of its falling from the general principles and initial conditions.
According to Armstrong, the L-law of gravity is itself just a summary of facts such as that the pen will fall to the ground when released.
It therefore can not serve as the ground for the explanation.
If, as Beebee denies, the law governs the falling of the pen, then there is a non-circular ground in the explanation.
Loewer agrees that L-laws summarize rather than govern events, 192.
If the law goes beyond the data, as the Tooley/Carroll/Earman thought experiments we have considered seem to show, then the question of why the pen falls to the ground does not merely refer to the pen falling to the ground, but to the laws which govern that event.
Thus, the spooky reification of laws, as elements of the fabric of the universe, actually does some work.

Loewer thinks that Armstrong's argument is flawed, since L-laws explain by unifying.
"To say that a regularity is an L-law is to say that it *can* be derived from the best system of the world. But this entails that it can be unified by connecting it to the other regularities implied by the best system" (189).

There seem to be two different phenomena being discussed.
First, there are explanations of particular events.
Armstrong's claim is that particular events can not be explained, using L-laws, in non-circular fashion, and that the MRL account is thus question-begging.
Second, there are unifications achieved by laws.
When formulating laws, we try to explain as many disparate phenomena as possible with as few laws as possible.
By formulating laws to cover a wide range of events, we unify those events, subsuming them under the same laws.
Pretty much every theory of laws takes unification to be a goal.
But, whether the explanations yielded by simple theories which unify phenomena are circular is a further question.
I don't see how Loewer's response to Armstrong, then, is not question begging against the accusation of circularity.

III. Induction and confirmation

D-N explanations use laws, and thus presume that we have a grasp on what the laws are.
We learn about laws on the basis of induction.
A law will be inductively strong if it is well-confirmed, and weak if it is poorly confirmed.
Thus, induction and confirmation are inextricably linked, unlike explanation and induction.
To see that explanation and induction are independent, consider that the D-N model of explanation is consistent with any account of our knowledge of the laws.
If we learned the laws by gazing into our rational souls, or by having them imprinted on our minds, or by looking at a crystal ball, we could still use the D-N account to explain particular phenomena.
In fact, the best procedure for learning about the laws is inductive.

The worry that Loewer discusses about MRL's accounts of induction and confirmation comes from Dretske.
Dretske argues that L-laws are not confirmed by their instances.

Some uniformities are not confirmed by their instances.
Consider the claim that every person in this room is a second child.
Suppose it is true.
We know that it would be an accidental generalization.
(This class is not a second-child reunion party.)
Thus, any instance of the generalization lends absolutely no credence to it.
Someone could walk in the door, and be a second child, and we would have no greater confidence that the next person would be a second child.

Dretske's claim is that L-laws are no better than accidental generalizations in their relation to confirmation and support.
Loewer responds, in part, by appealing to Bayesian theories of confirmation, 190.
But then he notes that the Bayesian response is insufficient, so we will ignore it.
His real response to Dretske is to accept the criticism, but minimize its importance.
"I don't consider this to be a very strong objection to L-laws since I don't see how any plausible account of laws can *guarantee* that they are confirmed by their instances" (190).

Furthermore, he argues, Armstrong's criticism that MRL leads to inductive skepticism is off base, since all accounts lead to inductive skepticism.
(Compare, "The Humean condition is the human condition," from Quine. )

Loewer's response is lame.
First, let's not play "everybody's problem is nobody's problem".
If it's a problem, it's a problem.
Second, the whole issue of inductive skepticism is irrelevant.
Of course, we have access to the laws, and of course we have difficulties (Hume, Goodman) accounting for that access.
The Dretske/Armstrong criticism rings true.
If laws are just generalizations over facts, it's hard to see how to draw a line between collections of facts that are lawlike and collections that are accidental generalizations.
Loewer ignores any problems with van Fraassen's fifth and eighth characterizations, but Dretske's argument emphasizes that they are difficulties for L-laws.
Third, Loewer states that Armstrong's criticism relies on his argument that L-laws can not explain; and that Armstrong's argument in that case was shown to be question-begging.
I find it difficult to believe that Armstrong's criticism really relies on the argument about explanation, since explanation and induction/confirmation are independent, as I mentioned above.
Also, as I mentioned, Loewer's response to Armstrong in that case was insufficient.
So, if Armstrong's argument did rely on the point about explanation, it still stands.

IV. Governance and the Carroll/Tooley/Earman examples

The central criticisms of MRL on which we have focused concern situations in which the laws of nature seem to transcend the local facts.
These criticisms have come in the form of thought experiments about small worlds in which there are limited sets of facts.
Earman considers a world with just one particle traveling in a straight line.
Tooley considered a world with ten particles, yielding 55 potential interactions.
Carroll considered a world with five particles and fields.
And there were other thought experiments as well.
All of the thought experiments relied on our intuitions about the transcendence of laws.
In each case, we were led to think that there must be laws governing interactions or phenomena, even if there are contingent facts which prevent those interactions or events.

Beebee's response to such criticisms is to deny our intuitions.
Loewer presents a similar response, dismissing intuitions.
Loewer's argument, like Stich's argument which we saw at the beginning of this portion of the course, relies on the ubiquity of false beliefs.
Since our intuitions can lead us astray in familiar cases, Loewer argues, we should not use them to reject L-laws.
"Pointing out that intuitions are not infallible *is enough to show that the thought experiments aren't conclusive refutations*" (193, emphasis mine).

Again, I think that Loewer's response is lame.
First, we have to start somewhere.

While we did see that there are problems with intuitions, it does not follow that we can avoid them.
The method of reflective equilibrium depends on it.
Without an infallible conduit to truth, we need starting points for all arguments.
And, those starting points will inevitably rely on some intuitions.
Second, there are intuitions and there are intuitions, and we can distinguish among them.
Loewer complains about people's intuitions that heavier objects fall faster, and their failure to grasp the concept of inertia.
It is true that some people have some poor intuitions about physical facts.
But, the intuitions in the Carroll/Tooley/Earman examples are not like that.
We are not considering the whimsical fancies of untutored folk.
We are examining the considered judgments of experts.
(And our own! Are we untutored folk?)

Loewer's suggestion, like Beebee's, is to give up any intuition that supports the extendability of laws.
"Giving it up may be giving up something that we are used to but it wouldn't have much of an effect on scientific practice" (194).
Practice schmactice; no philosopher's position on this matter will affect practice.
We are trying to develop a conceptual account of the laws of nature.
Giving up strong intuitions may be necessary, but we should have a good reason.
The question facing us is whether a commitment to a Humean world, a universe of local matters of particular fact, is sufficient to lead us to abandon the strong anti-Humean intuitions that some of us have.

Carroll and Maudlin stick with the intuitions, and develop a view which I called autonomy (the laws are autonomous of the facts), and which Loewer calls primitivism (the laws are primitive elements of the universe).
Loewer's article concludes that A-laws offend intuitions, too, and the best fit award goes to MRL.
His argument leaves open the possibility that another account of the laws might better fit our pre-theoretic intuitions (the van Fraassen characterization).
I will leave that argument (and the others to which Loewer alludes in his conclusion) for those of you who wish to write about it.