Philosophy of Science // Fall 2016

Handout 9

Natural kinds: Quine

Confirmation revisited. Quine begins by rehearsing themes from Goodman and Hempel. In the paradox of confirmation we discovered that green leaves should confirm the hypothesis 'All ravens are black', at least if we follow the formal treatment of confirmation. In the new riddle of induction we saw that our evidence can be compatible with any number of predictions, reformulated with the aid of gruesome predicates.

The paradox of confirmation can be seen as a special case of the new riddle. Projectible predicates are exactly the ones that can feature in the confirmable hypothesis 'All Fs are Gs.' Only if F and G are projectible their instances will confirm the hypothesis. We learn now that the complements ($\sim F$) of projectible predicates need not be projectible themselves. So green leaves will not confirm:

All non-black things are non-ravens, (9-1)

since the predicates in this hypothesis are not projectible. But this leaves untouched the claim that a lawlike hypothesis can involve non-projectible predicates. For example, (9-1) is still lawlike, because it is equivalent to:

All ravens are black.

All we can say is that a hypothesis is lawlike if it is logically equivalent to some hypothesis that only includes projectible predicates.

Similarity. Why do we, as a matter of fact, expect the next emerald to be green rather than grue? It seems due to intuitive similarity between them. Grue emeralds are similar to each other only if one of them is green. Well, but how to cash out similarity? Quine observes some linguistic connotations drawing 'similarity' and 'kind' close to each other. Perhaps 'similarity' should be explicated as 'being of the same kind'? This project is doomed because of the troubles with comparative similarity.

Perhaps the contrary: we should try to define 'kind' in terms of 'similarity'. Here we again have troubles with comparative similarity. Suppose 'red' were a kind (plausible, we say). But red things can be similar and dissimilar in all sorts of ways, depending on their other salient properties (shape, size etc.). A more sophisticated attempt by Carnap along these lines was refuted by Goodman.

So nothing promising so far: similarity and kind are fundamental categories, but resist a formal explication. To see how fundamental similarity is, look at language acquisition. We see the world as a collection of kinds of objects, immediately classifying objects into members of different kinds.

This in turn shows how primitive learning utilises induction. We form expectations on the basis of our (innate) capacity for classifying perceptual data into similar and dissimilar patches, into kinds.

Induction and naturalism. Interestingly, Quine dismissed out of hand one problem about induction: why there are regularities at all. This, he says, has been established by science.

Question 1. Reflect on this claim of Quine's.

There is another, legitimate problem of induction: why our subjective groupings are in sync with objective regularities, so as to make induction successful. Quine offers an evolutionary sketch: *we* are equipped with better prediction capacities because those who were not are no longer with us.

Remark 2. We have seen a similar move earlier in response to Hume's problem of induction.

Quine immediately forestalls any attempt to reject this idea on the basis of circularity. Of course the evolutionary theory itself is based on induction. But there is no higher demand of reasonableness of our inductive expectations that can be asked from outside of science. We can only ask how we, the human species, have come to form better than average expectations. And that is what the evolutionary theory can teach us.

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