Chapter 16

Thomas A.C. Reydon

Essentialism about Kinds: An Undead Issue in the Philosophies of Physics and Biology?

Abstract

The consensus among philosophers of biology is that traditional forms of essentialism have no place in accounts of biological kinds and classification. Recently, however, several authors have attempted to resurrect essentialism about biological kinds, invoking various views of the nature of kind essences starting a new debate on what kind essentialism should be if it is to apply to biological kinds. In this paper I examine three contemporary forms of biological kind essentialism and conclude that the scope of philosophical work that these are able to do is quite limited.

16.1 Introduction

At least since the 1970s there has been a strong consensus among philosophers of biology that traditional forms of essentialism about kinds of biological entities, which assume for each kind a set of properties that are separately necessary and jointly sufficient for kind membership, have no role to play in accounts of biological kinds and classification. The main reason is that such forms of kind essentialism conflict with evolutionary theory, which is, after all, biology’s core theoretical framework. Essentialism about biological kinds thus has long been a dead issue. In recent years, however, a number of authors attempted to resurrect essentialism about biological kinds, defending various views of the nature of kind essences, all different from traditional kind essentialism, and starting a new debate on what kind essentialism should be if it is to apply to biological kinds.

Philosophers of physics, in contrast, have not been much disturbed by the discussions on essentialism going on elsewhere. There seems to be no pronounced conflict between traditional kind essentialism and the central theories of physics and a comparatively straightforward, traditional essentialist view of kinds seems to fit well for kinds in the physical sciences. In addition, there does not seem to be a particular need to take recourse to essentialism in order to be able to make sense of kinds and classification in the physical sciences. Because of this, essentialism about kinds is not a big issue in the philosophy of physics: there, kind essentialism
is nearly dead too. In contrast to philosophy of biology, however, this is not because kind essentialism is deeply problematic, but because it is unproblematic and, apparently, not particularly illuminating.

This situation gives rise to questions about the feasibility of essentialist accounts of scientific kinds, as well as the reasons for pursuing kind essentialism in general. For one, is the notion of ‘essence’ strictly necessary to reconstruct particular scientific practices involving kinds? If so, what work would essentialism do? I want to address these questions by examining three contemporary forms of biological kind essentialism, as essentialism is most controversial for biological kinds. I shall conclude that the scope of philosophical work that these are able to do is quite limited. This is not to say that kind essentialism could not be a viable position in the philosophies of physics or biology, though. It is just to say that the philosophies of physics and biology might be better off without it, as the costs of assuming kind essentialism probably outweigh the benefits.  

In Sect 16.2, I briefly explore what philosophical work kind essentialism could do, thus setting up a collection of motives for trying to resurrect kind essentialism. In Sect. 16.3, I turn to some recent attempts to resurrect kind essentialism for application to biological kinds and examine whether these can do the work that kind essentialism might be expected to do. The conclusion will be a negative one. As I won’t say much about kinds in the physical sciences in these sections, Section 16.4 concludes by briefly addressing the question what prospects there are for an overarching kind essentialism, covering kinds in physics, biology and elsewhere. Again, my conclusion won’t be positive.

16.2 What Work Could Kind Essentialism Do?

At least six tasks can be listed that kind essentialism is thought to be able to perform in contemporary philosophy. Taken together, these cover a considerable amount of philosophical work and would thus constitute a considerable motivation for attempting to resurrect kind essentialism.

1. Two roles for kind essentialism are deeply rooted in the philosophical tradition, tracing back at least to Locke’s *Essay Concerning Human Understanding*. There, Locke defined real essences as “the very being of any thing, whereby it is, what it is”, his concern being with what kind of thing a given thing was. Accordingly, in the philosophical tradition kind essences are usually supposed to determine the identities of things as things of particular kinds, by specifying those properties a thing cannot lose without ceasing to belong to its kind.

2. The second traditional role for kind essentialism can also be illustrated by a quote from Locke. Immediately after he formulated what a real essence was,

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1 See Ereshefsky for a similar conclusion (Marc Ereshefsky, “What’s wrong with the new biological essentialism?”, in: *Philosophy of Science* 77, 2010b, pp. 674–685, p. 675).