

Chapter 3

PEIRCE ON FINAL CAUSATION

... the non-recognition of final causation ... has been and still is productive of more philosophical error and nonsense than any or every other source of error or nonsense. If there is any goddess of nonsense, this must be her haunt. (C.S. Peirce MS 478; 1903)

1. INTRODUCTION

The problem of teleology is the question whether all natural processes can be adequately explained in terms of efficient causality. In contemporary philosophy and science there is a strong aversion to explanations by final causation; most approaches consider teleological processes as a special kind of mechanical processes, and try to reduce teleological explanations to explanations based solely on efficient causation.¹ Typical examples of such reductionist strategies are the system theoretical and cybernetic approaches.² Furthermore, there are the approaches of certain evolutionary biologists who maintain on the one hand that biology cannot do without teleological language, but on the other hand insist that the explanations of biological processes need to be based on nothing but efficient causation.³

Although it is currently held that there are no final causes in nature, the proponents of the reductionist strategy do not provide us with a clear theory of causality that shows how teleological processes can be explained by efficient causation alone. At the present moment, no clear theory of teleological processes is available.

However, the problem of teleology shows up time and again in all kind of discussions; it is not only prominent in debates on biological evolution and

biological behavior, but also in discussions about other areas of physical science, perhaps most prominently in physical cosmology.⁴

The purpose of this chapter is twofold. The first objective is to give an outline of C.S. Peirce's view of final causation. The second objective is to use some of Peirce's insights in order to show that most contemporary debates on teleology are based on dubious presuppositions. More specifically, the second objective is to offer a Peircean critique of the theory of teleology held by Ernst Mayr, one of the most prominent contemporary philosophers of biology.⁵

My analysis will be confined to Mayr's view, as set forth in his famous 1974 article, "Teleological and Teleonomic, A New Analysis,"⁶ for two reasons. First, it has had a tremendous influence on later discussions about final causation, even far beyond the scope of biological theory. Secondly, it contains a number of disputable presuppositions shared - and probably borrowed from Mayr - by most contemporary philosophers of biology and of science in general.

2. PEIRCE'S CONCEPTION OF FINAL CAUSATION

In this section the following themes concerning Peirce's theory of teleology will be discussed: (2.1) final causation, (2.2) the relationship between final causation and efficient causation, (2.3) the difference between mechanical and teleological processes, (2.4) teleology and objective chance, and lastly (2.5), the idea that teleology is creative.

2.1 The nature of final causation

Much of the aversion of contemporary philosophy of science regarding teleology is based on the erroneous view that teleological explanations imply final causes that are concrete future events. Such backward causation is rightly rejected because it is thought to be incompatible with the current views of efficient causation. Indeed, how could future events cause present events at all, if they do not yet exist? Thus, the idea of final causation as backward causation is preposterous. Peirce's critique of this erroneous view of teleology was in this respect in total agreement with Aristotle's view. Moreover, like Aristotle, Peirce endorsed the view that the conception of final causation is explicitly and intentionally anthropomorphic.⁷ While warning us not to identify final causes with *conscious* goals - "a purpose is merely that form of final cause which is most familiar to our experience"

(CP 1.211; 1902) - Peirce used the model of goal-directed experience as point of departure of his analysis.

This, of course, raises the problem of anthropomorphism, that is, the problem of the justification of the ascription of human characteristics to non-human beings or things. Peirce, however, persisted that anthropomorphism is simply unavoidable. All our ideas in one way or another refer to our human experience (MS 293:1-2; 1906). The same holds for our theoretical concepts and scientific explanations: "every scientific explanation of a natural phenomenon is a hypothesis that there is something in nature to which the human reason is analogous; and that it really is so all the successes of science in its applications to human convenience are witnesses" (CP 1.316; 1903). Ideas of, say, causation, action, force, energy, motion, natural selection, etcetera are all anthropomorphic because they all find their origin in human experience. Consider the idea of causation: "The very conception of causality has its origin in our tendency to seek relations in nature analogous to intellectual relations" (MS 963; c.1893). Or consider the idea of natural selection: it is only by analogy to human acts of selection that this idea makes any sense. Thus, all theoretical ideas in one way or another originate in and refer to human experience. If they did not, they would be meaningless: for, if they are to have any meaning at all, there must be *some* kind of relationship between them and our daily human experience. Consequently, far from being a problem, anthropomorphism is a sheer necessity.

The first thing we notice when considering our own goal-directed behavior is that, contrary to what is usually believed, our goals are neither things nor events. According to Peirce, goals are nothing but 'operative desires,' the objects of which are never concrete, but always general. Something desired is always something of a certain *kind*. We want a certain *kind* of apple pie, not one specific individual specimen (CP 1.341; c.1895). Of course, there are all kinds of levels of generality, and one goal may be more specific (less general) than the other: we may want an apple pie made of a special *kind* of apples and a special *kind* of dough. But even then, the object remains general. Accordingly, we can see that final causes are *general*, and not concrete.

If final causes are general, they cannot be *events* either, because events are always individual. Our wishing to eat an apple pie is an event that directs us toward some end. While the wish itself is an event, what it is we wish is of the nature of an idea, or a general type. Consequently, to regard final causes as concrete *events* is a category mistake (in the Peircean sense of the word).⁸

Furthermore, our conscious goals do not work from the future toward the present. One may have a purpose and only later be able to realize it, if at all,



<http://www.springer.com/978-1-4020-0976-1>

From Cause to Causation

A Peircean Perspective

Hulswit, M.

2002, XXI, 258 p., Hardcover

ISBN: 978-1-4020-0976-1