

INTRODUCTION

This is a book on Locke's metaphysics. In particular, this book is concerned with the relationship between Locke's rejection of essentialism—the thesis that some objects have essential properties independently of how they are characterized—and his theory of identity and persistence, especially as it relates to organisms and persons. While I will develop Locke's positions on these topics in detail in the ensuing chapters, my goal in the present chapter is to explain, in general terms, why these issues are worth thinking about, how we should begin, and where his views fall within the range of theoretical alternatives. I will subsequently be in a position to develop what I take to be the central problem of the book, namely, that of determining whether Locke's rejection of essentialism is consistent with his treatment of identity and persistence.

I. SUBSTANCES, ESSENCES, AND KINDS

1. Substances and the Spatiotemporal World

The object which we refer to as the *cosmos* fills an enormous region of space and time. While there have been a few philosophers who think that there is no such thing as the spatiotemporal world, there have been even fewer who think, with Spinoza, that it is the *only* thing which exists. Most of us, including Locke, allow for the existence of countless multitudes of entities (such as baseballs, baseball players and baseball games) whose "careers" are associated with vastly *smaller* regions of space and time. This naturally brings us to the idea that the world is "cut" or "chopped" or "divided" up into the particular objects which we encounter throughout the day. This thought, in turn, forces us to confront a difficult but important question:

- (Q1) Does the cosmos already come to us divided up into particular objects, or are these divisions something which we *impose* upon the world, in accordance with some sort of a "conceptual scheme"?

With respect to any given set of such divisions (and the objects which they delineate), it would seem that one must either be a metaphysical realist, or else that one must be some sort of a conventionalist, where the realist affirms and the conventionalist denies that these divisions and objects exist independently of our beliefs and classificatory decisions.¹

As *spatiotemporal* objects, the objects which we have come to accept—whether as realists or conventionalists—have both spatial boundaries and temporal boundaries. This point, though obvious, gives rise to another difficult question:

(Q2) How are spatiotemporal objects *related* to their spatiotemporal boundaries?

In his seminal paper “Four Ontologies” (1970), Eddy Zemach shows that with respect to any given object and either of its dimensional boundaries, there are exactly two possibilities: this object either is either *continuous* with respect to this dimension, or it is *bound* with respect to this dimension. The difference between being bound and continuous with respect to a given dimensional region has to do with how an object is related to this region’s sub-regions. Either the *whole* object occupies each of this region’s sub-regions, or else the whole object does not occupy each of its sub-regions, in which case the whole object occupies the whole region by *partly* occupying each of its sub-regions. An entity which occupies a region *r* (of space or time) by wholly existing in *r*’s sub-regions is said to be *continuous* with respect to this region, while an entity which occupies *r* by *partly* occupying *r*’s sub-regions is said to be *bound* with respect to this region (1970, 232).

Returning to the second question of how an object *o* is related to its spatial and temporal boundaries, it turns out that there are exactly four possibilities:

- (P1) *o* is bound with respect to its spatial and temporal boundaries;
- (P2) *o* is continuous with respect to its spatial and temporal boundaries;
- (P3) *o* is continuous with respect to its spatial boundary, and bound with respect to its temporal boundary; and finally
- (P4) *o* is bound with respect to its spatial boundary, and continuous with respect to its temporal boundary.

We are certainly most familiar with the final sort of object, which Zemach refers to as *continuants in time*, or more colloquially, as *things* or *substances*. This is surely because we think of ourselves as substances, since we think of ourselves as having spatial parts, but not temporal parts. We do not think of ourselves as having temporal parts because we think that we exist, in our entirety, at every moment of our existence. Someone who

¹ I am making this point with respect to sets of divisions and objects to secure the possibility of being a realist with respect to some putative objects and a conventionalist with respect to others.

saw me both yesterday and today saw exactly the same thing, and not distinct but qualitatively similar parts of the same thing. Or so we commonly think, though increasingly many philosophers are questioning this position. For our present purposes, the most important thing is to note, first, that we have a clear notion of what it would be for an object to be bound with respect to its spatial dimension, but not with respect to its temporal dimension, and second, (emphasizing the latter point) that we can conceive of an object's having a boundary on a given dimension without its having parts along that dimension.

We are also fairly conversant with the first sort of spatiotemporal objects, which Zemach refers to as *non-continuants*, and more colloquially, as *events*. We certainly do think of such things as baptismal services and baseball games as having temporal parts. If I only witnessed the baptism itself, for example, you would not allow that I had seen the entire service, but only its most important part. And if you only happened to watch the first four innings of a baseball game, while I watched the last six, then we would surely agree to our having seen distinct but overlapping parts of the same game. It is also relatively easy to see that events must also have spatial (though certainly not organic) parts. Think, for example, of a certain battle, say, the Battle of Gettysburg. If we think of this battle at a certain moment of time, surely it is surely correct to think of it as having not merely a spatial location, but also a *size*, where its size is made up of distinct and possibly scattered or non-continuous spatial regions. The only alternative is to say that the whole battle is present, say, in a region where two men are feverishly engaged in hand-to-hand combat, and that seems obviously wrong.

We are much less conversant with the second and third types of entities, perhaps because these objects are alike in having spatial boundaries without having spatial parts, and it is very hard to understand how this could be. That is, it is hard for us to see how a spatiotemporal object could be related to *space* in much the same way that we take ourselves to be related to *time*. But inasmuch as we have the general notion of an object's having a boundary along a given dimension without having parts along this dimension, we cannot easily dismiss these categories as contradictory or unintelligible. Zemach refers to the third type as *continuants in space* or *processes*. Metaphysically speaking, processes are the mirror opposites of substances: with respect to time, processes have parts while substances do not, and with respect to space, substances have parts while processes do not. Think, for example, of the digestion process. While it sounds right to think of this process as unfolding in temporal parts or stages (chewing, swallowing, and so on), and while this process, at any given time, certainly

has spatial *boundaries*, it seems wrong to speak of this process as having a size, or of consisting of distinct spatial parts.

Of the four sorts of entities which Zemach discusses, the ones which he refers to as *pure continuants* or *types* are by far the strangest. Types are like substances in being continuous with respect to time, and they are like processes in being continuous with respect to space. In other words, types are spatiotemporal objects which lack both spatial and temporal parts. According to Zemach, the expressions “The letter A,” “The American Woman,” “The Taxpayer,” and “The Lion” all denote types. They are types precisely because they are capable of having multiple instances: we can scribble instances of the first, I am married to an instance of the second, I happen to be an instance of the third, and I could conceivably be eaten by an instance of the fourth. But where I tend to think of types as abstract objects (which exist outside of space and time), on Zemach’s view types are spatiotemporal objects, and hence material objects. In particular, they are “material objects...recurrent both in space and time” (1970, 241).

In order to make this clearer, let us focus on one such type, The Lion, and three of its instances: Alpha, Beta, and Gamma. Let us suppose, further, that Alpha lived from t_1 to t_3 , that Beta lived from t_4 to t_6 , and that Gamma lived from t_7 to t_9 , so that the lives of these animals did not overlap. Now each of these lions, we think, is continuous with respect to time. Alpha, for example, exists in its entirety at every moment in time from t_1 to t_3 . But we do not take these animals to be continuous with respect to space. Consider the region of space which is occupied by Alpha’s right paw at t_2 . Obviously this region of space does not contain the whole lion, but only part of one. Alpha, in other words, is bound with respect to space, and continuous with respect to time. Like particular lions, Zemach contends that the type The Lion is continuous with respect to time. In connection with Alpha, for example, this type exists in its entirety—that is, it is entirely instantiated—from t_1 to t_3 . There are two important differences between The Lion and particular lions, on Zemach’s view. First, The Lion can exist, in its entirety, at successive, non-overlapping instances of time. Second, and more importantly, The Lion is continuous with respect to space, whereas particular lions are bound with respect to space. Consider the region of space which Alpha takes up at t_2 . Now suppose that this region of space is evenly divided into 100 sub-regions. While Alpha is only partly present in each of these regions, Zemach contends that The Lion is wholly present—wholly instantiated—in each of them.

I must confess that I have a very hard time accepting Zemach’s treatment of types. Nevertheless, I do not feel that I am in a position to reject the possibility of objects which are continuous with respect to both space and time. After all, we have a perfectly clear understanding of spatio-temporal

objects which are bound with respect to both space and time (events), and we also have clear understanding of what it means for an object to be continuous with respect to time (substances), and a reasonably clear understanding of what it means for an object to be continuous with respect to space (processes). But the fact that I have difficulty conceiving of such objects—particularly as types, which I take to be abstract objects—is beside the point. For all I know, there are indeed spatiotemporal objects which lack both spatial and temporal parts.

Let me now explain, in general terms, why Zemach's paper is important for our present purposes. It is important, first, because it provides us with a systemic understanding of the radically different ways in which objects can be related to their spatiotemporal boundaries. And this, in turn, helps us to appreciate the fact that we are already committed to entities (such as events and processes) which are related their spatiotemporal boundaries in very different ways from how we take ourselves to be so related. Second, in addition to drawing our attention to these four very different ways in which an object can be related to its spatiotemporal boundaries, he shows that it possible to view each of them as the *fundamental* way in which the spatiotemporal world is divided up into particular objects. Thus, (a) an *event ontology* sees the world as being ultimately divided into spatiotemporal objects which have both spatial and temporal parts; (b) a *type ontology* sees the world as being ultimately divided into spatiotemporal objects which lack both spatial and temporal parts; (c) a *process ontology* sees the world as being ultimately divided into objects which have temporal parts but not spatial parts; and (d) a *substance ontology* sees the world as being ultimately divided into objects which have spatial parts but not temporal parts.

While I suspect that most of us accept a mixed ontology—one which includes not just substances but also processes and events, if not also types—I think it must be acknowledged that we almost instinctively take *substances* to constitute the fundamental ingredients of reality, so that we explain the others sorts of entities in our ontology in terms of these. Thus, for example, while we are certainly willing to acknowledge the existence particular events (such as baseball games and baptismal services) and processes (such as reproduction and digestion), we aren't the least bit inclined to think of these entities as being on the same metaphysical level as baseball players and babies. Rather, we take substances or things to be primary, and we explain the other types of non-substantial entities in terms of what one or more substances do (events), what they are engaged in or undergo (processes), or how and what they are (types).