

Introduction

One day, there will be no creatures like us. We cannot prevent the eventual demise of humanity. But shouldn't we at least postpone it as long as possible – say by putting people in spaceships and populating planets across the galaxy, as the late Stephen Hawking and a slew of science fiction writers recommend?

I once thought that the end of human existence would be an obvious and unequivocal tragedy (what could possibly be worse than human extinction?). However, my current view on the matter is more complicated. There are different roads that humanity might take and different ways it may end, some far better than others. Some futurists write about making people smarter and stronger, even enabling them to live far longer. Some want us to turn ourselves into better versions of ourselves – to “become” the better versions. Some seem to envision improving people so substantially as to be no longer recognizably human, which might best be described as replacing ourselves with creatures that are superior to us. In that case, we are contemplating the demise of humanity again – brought about with an eye to improving (upon?) ourselves. However, if we populate the world with beings who are better than us, would it be tragic? Could we at least take pride in the fact that the better beings were our legacy? (Would we want to be replaced by a wholly alien species that is stronger, brighter, and better than us? Would we help hurry it along?) Would other legacies serve as well? Would leaving behind well-written books and impressive scientific research reconcile us to extinction?

Counterparts of these reflections about humanity as a whole arise for individuals such as you and me when we contemplate our own lives. Arguably, we could improve ourselves by attaching various mechanisms to (or embedding them within) our bodies, say small computers that extend our memories and improve our ability to communicate with each other. (Never mind the details – we can leave that to engineers at Apple, Microsoft, and Alphabet Inc.) We could swap out swatches of our bodies

with more efficient and powerful prostheses. Maybe we could even go the whole hog and replace all of ourselves except our brains – that is, move our brains into extremely powerful and long-lasting machines, Darth Vader fashion. (Or does going the whole hog require replacing the brain too?) With advances in genetic technology, people could transform the genetic program in charge of all or part of their bodies. Here, too, however, there comes a point where it is not so clear that we are transforming ourselves into something better rather than replacing ourselves with something that is in some sense superior. I am inclined to think that replacing ourselves with something else – even something that improves on us, assuming that would occur – cannot be good *for* us since it would not be an improvement of *us*. But how radically may we transform ourselves without ending our own existence?

In this book, I offer answers to such questions, focusing in particular on these: What may we become? and How might we better ourselves? However, before I turn to these, I will need to address some questions that are more basic. What we may become depends on what we are, so I will attempt to clarify the latter. That, in turn, will require clarifying what persons are (better: what *we* are) and what organisms are. And to do the job properly, it seems to me that I must explain, at least in a rough and ready way, what it is to be a material object, and what it is for such an object to remain in existence over time. After all, each of us *is*, most fundamentally, a material object, even if it is also true that we are organisms and persons.

Or so I assume, and I am far from alone. Most – just about all – theorists who discuss what we are take it for granted that we are material objects. (There are exceptions. Gautama denied that there is any such thing as you and me or the book you are reading – or *would* be reading if you and it existed. Some contemporary theorists say similar things.) But while many of them are not really serious when they claim that we are material objects, I am.

Here is a taste of what I have in mind. Suppose I buy a yellow house and paint it blue. I leave it that color for a week, then paint it yellow again. I put paint onto an object, a house, changing its color, but the very material object that was yellow is now blue. I do not bring a *new* material object into existence when I paint my house. That is obvious, is it not? I think so, but someone *might* want to speak of a material object – let's name it *Blue* – that I bring into existence upon painting my house blue. Such a person might insist that Blue is a *material* object – it is made of material things like wood – that is distinct from my house since it and my house have different properties. For example, Blue exists only for a week. It stops existing when

I paint my house yellow again. But the person I am imagining is just confused. Blue is just not *there*. Anyone who posits the existence of Blue does not take the notion of a material object seriously.

Even those who would deny that Blue comes into being when I paint my house might be tempted to say something very similar – but no more plausible, in my view – about what occurs when I shape some clay. Namely this. Say I have a wad of clay at hand. Call it *Wad*. Now, Wad is a material object, and it will remain in existence after being shaped and reshaped extensively. For example, it will survive being fashioned into a ball and then into a cube. Suppose I sculpt Wad into a bust of Socrates. Proponents of an idea called the constitution view will say that, in sculpting Wad, *I bring an object, the bust, into existence*. Call it *Bust*. They will say that, like Wad, Bust is a material object, but Bust is distinct from Wad. (It must be, since it has features that Wad lacks, and vice versa. For example, Bust came into existence well after Wad did.) So how is Bust related to Wad? Constitutionists will say that Bust is “realized in” Wad – that, while the existence of it and Wad overlap, Bust is “constituted by” Wad, in that, materially, it is nothing over and above Wad. So Bust is a material object in the sense that it is “constituted by” Wad. Constitutionists typically will say something similar about objects they call persons. Persons are material objects in the sense that they are “constituted by,” but distinct from, the material objects we call human animals.

Theorists who advocate the constitution view think it allows us to reconcile the apparent tension among three claims: you and I are persons, a person is a human animal, but you and I are not identical to any human animal. Solution: when they say that a person is a human animal, they are using the “is” of constitution, not the “is” of identity. The view I will advocate in this book (with some qualification), by contrast, is that I *am* identical to one of the material objects we call human animals, and so are you. These animals – you and I – are indeed persons, but could exist without having the property of being a person. (This is what I mean when I say that I am serious about our being material objects.)

I will consider what it is to be a material object in Chapter 1, but the discussion will spill over into Chapter 2, where I take a closer look at some serious obstacles facing my view. The spillover will reach into Chapter 3, too, where I consider what it is to be an organism. In Chapter 4, I confront a deep problem: it turns out that the account of material objects I offer in Chapter 1 is inconsistent with what I say about organisms, which themselves are material objects. I am forced to revise both accounts. In doing so,

I reach the surprising conclusion that the objects that are organisms may continue their existence after ceasing to be organisms.

In truth, however, what I write in the first four chapters is simply preparation for the things I want to say in succeeding chapters. It is in Chapter 5 that I ask what you and I *are*. I claim that we are organisms – specifically human animals – or that in any case something like this view, which we may call animalism, is roughly correct. It is far closer to the truth than the leading rival views, versions of mentalism, which identifies us with objects we might describe as essential thinkers, since these objects are said to have the capacity for thought as an essential attribute. I have various objections to mentalism, but it is no accident that it is popular. It substantiates some strong impressions that most people have. In particular, it makes sense of their initial judgment concerning a (currently hypothetical) case involving transplantation. Most of us firmly believe that transplanting our brains into newly brainless bodies would be a way of giving ourselves a whole-body makeover, assuming that our brains continued to function during and after the procedure. (Not long ago, a neurosurgeon named Sergio Canavero announced that he was on the verge of performing a head transplant; Valery Spiridonov, a computer scientist, volunteered for the procedure, thinking that it would replace his body, which is wasting away due to Wernig–Hoffman disease, with a new one. Spiridonov later changed his mind.) We would, so to speak, go with our brains, and find ourselves with new arms, legs, faces, and so forth. Mentalists endorse this view. I myself see the appeal of this judgment. I even endorsed it at one point, many years ago. I now think that we would not go with our brains if these were moved to new bodies, and I will attempt (and most likely fail) to convince you, the reader, that you would not make the trip. Obviously, my work is cut out for me.

Nor is this the most bizarre claim I defend. In Chapter 6, I argue (among other things) that there is a sense of “certain,” admittedly quite strong, in which you are not certain that you are not dead. But the main task in this chapter is to consider the charge that some views about what we essentially are, including the view that we are essentially animals, commit us to making implausible claims about what we can be certain of. Take the view that we are essentially animals, for example. Suppose that, as Descartes said, each of us is certain of our own existence. If we cannot exist without being an animal and are certain that we exist, then we can be certain, it seems, that we are animals. Yet, we are certain of no such thing.

In Chapter 7, I attempt to clarify both what it is to be alive and what it is to die. Drawing on the conception of organisms sketched in Chapter 3,

I equate being an organism with being alive. Organisms are composed of things that have the remarkable ability to control what is bonded to them – sometimes adding new things to the mix, sometimes ejecting old things – under the guidance of information they carry. It is because some things, acting collectively, have this ability that they make up an organism, and it is because they have this ability that they are alive.

The views of life and death I offer in Chapter 7 (taken together with my assumptions about the nature of material objects) have some striking consequences. I will argue that it is possible for you to remain in existence while you are dead. I will also argue that after you are dead it is (theoretically) possible for you to be brought back to life. To make my ideas more vivid, I will describe some hypothetical organisms that I call *Lems*. These resemble trees in one respect: they leave behind durable remnants (corpses, if you will allow me to call the remains of a plant a “corpse”). The Lems I imagine are genetically engineered so as to configure or shape themselves in various ways, so that, after they die, they leave behind remains that retain that configuration. (In the future, this might become a new form of art, comparable to dynamic sculpture, in which the work literally continues its existence while dead.) It is easy enough to imagine a Lem that shapes itself into a chair, for example, and about such a chair we may ask such questions as, Is the chair itself alive while the living Lem takes that shape? and If so, does the chair remain in existence while dead? In other words, is the chair an example of something that dies but remains in existence while dead?

Chapters 1–7 deal mostly with the metaphysics of objects. Beginning in Chapter 8, I take up some questions of value. In Chapter 8, I attempt to clarify the relationship between an organism’s design – its morphology and physiology – and its prudential interests. By virtue of what features is it true of an organism that some things are good for it and others are bad for it? I suggest that it is possible to benefit or harm an individual only if that individual develops certain sorts of abilities, the capacities that are involved in well-being. An example of what I have in mind is the apparatus in the brain that enables us to have a hedonic response to things – to experience pleasure or pain. Unless I develop capacities like this, it makes no sense to ask whether some activity or experience can benefit or harm me. I also discuss the value for us of ending our existence as well as the value for us of coming into existence.

My discussion in Chapter 8 prepares the way for Chapter 10, in which I ask how we should change ourselves – what changes would be in our interests – and briefly outline several possibilities, some quite extreme, including our greatly extending our cognitive abilities and our life span,

and our ceasing to be human altogether. Chapter 9 also lays groundwork for Chapter 10, for Chapter 9 will concern what (sorts of creatures) we may become (without ceasing to exist). If I am correct in saying that we are material objects, and if my account of material objects is correct, then there are few boundaries to the forms we may take, at least in theory. It is often assumed that human nature is such a boundary, but I will dispute this. With the right technology, existing people could transform themselves into wildly different sorts of creatures with wildly different sorts of abilities.

In Chapter 11, I discuss what it is for life (and death) to have meaning. One clue is the very fact that meaning is something that gives us reason to live, and we have a very clear reason to live on when the life in prospect is good for us. So perhaps we should say that life has meaning in virtue of the package of things that make it good for us. The view that meaning and welfare (well-being) are the same thing points us in the right direction, I think, since meaning is prominent among the things that make life worthwhile. However, I will argue, meaning and welfare are distinct. In itself, what gives life meaning makes it better for us, but some things help make (continued) life worth having without conferring meaning on it. The specific account of meaning I will defend, *achievementism*, says that the meaning of my life consists in my achieving the things I devote it to. Achievements are part, but only part, of what makes my life go well. I follow up with an attempt to clarify how meaning bears not just on life but also on death, and I suggest that we give our lives meaning by taking on the project of enhancing ourselves and pursuing it with others, including people yet to be born.

In brief, then, I hope to clarify what material objects are, what organisms are, what makes them alive, what *we* are, what it is for us to remain in existence over time, and how significantly we can change (without ceasing to be). I also want to clarify some of the limitations we confront when we ask whether it is a good idea to alter ourselves greatly, and to explore, in a preliminary way, how we might want to change ourselves, individually and collectively, when the technology for doing so becomes available.

I begin with a discussion of the nature of material objects.

CHAPTER I

Material Objects

I assume that, whatever else may be true of us, you and I are material objects, so clarifying what these are, as I will attempt to do in this chapter, will help us to understand our nature. Even if it turns out that my assumption is false, and we are not material objects, it will be instructive to ask what they are, for we certainly seem to be intimately related to them, whether that relation is identity or not.

It cannot be clear from the outset what I mean to ask when I raise the question: What is a material object? Hence, I will begin the chapter with some preliminary points about what I am looking to do.

After these preliminaries, I will develop an account of what it is for some things to compose a material object at a particular time. Because a material object composed of some things at one time may be composed of different things at other times, I will also need an account of the changing composition of material objects. Having supplied these, I will move on to develop some ideas about what happens when objects come apart or combine. Finally, I will consider an objection arising from thought experiments in which various things are glued to, or otherwise bonded to, organisms. I confront still more objections in the next chapter.

Preliminaries

It goes without saying that material objects are things, but while that is so, it is also true that some things are not material objects. Among the things “thing” refers to (at least arguably) are properties (such as redness), events (e.g., the inauguration of Abraham Lincoln), numbers (e.g., the number 1), and classes and sets (such as the set of words that begin with the letter “t”). “Thing” may also refer to an object, and while the terms “thing” and “object” come close to being synonymous, “object” seems to cover less territory than does “thing,” as is suggested by the fact that, at least in some contexts, we tend to reserve “object” for concrete individuals. I will not

discuss the nature of everything that counts as a “thing.”¹ I will consider only a small patch of the territory covered by “thing” – only *some* things, only *some* of what there is, namely material (or physical) objects such as tables, boulders, and raccoons, which typically I will simply call “objects.”²

I should point out, right off the bat, that I intend to develop the answer to my question (What is a material object?) by replacing it with another. The question I will replace it with is roughly: When (by virtue of what) do things compose (or make up) a material object? I will attempt to identify the conditions that are necessary and sufficient for some things to compose an object. If I can supply these conditions, I can also answer certain related questions about objects. For example, suppose, as seems evident, that some things make up a composite object if and only if that object exists. Then once we identify the conditions under which some things compose an object, we will have a useful answer to the question: What is it for a composite object to exist?

I intend my account to be principled. I take it to be consistent with plausible assumptions about objects, such as the following:

- the part–whole relationship is transitive, and
- different objects cannot be made of the same constituents at the same time, except in the sense that some objects are parts of others.

However, I should emphasize at the outset that the views I offer are rough. Worse yet, I do not attempt to do justice to the (large and burgeoning) literature on the metaphysics of objects. There, one finds ideas ranging from the extreme eliminativist view that the only objects are simples (simples are objects that have no parts other than

¹ According to W. V. O. Quine (1948), to be is to be the value of a variable. Equivalently: to be a *thing* is to be the value of a variable. On its face, “to be is to be the value of a variable” suggests that the existence of things is dependent in some way on language or on formal systems of logic, which is a view I reject. Quine did too; he was not telling us what there is, but rather what our theories commit us to (which is consistent with the thesis that the *grounds* for concluding that things exist is that swatches of our most successful scientific theory quantify over variables that take those things as values). This seems to be his view in the last few paragraphs of “Two Dogmas” [Quine, 1951].

Quine’s slogan reminds us that we use the term “thing” for *any* of the items we speak or write about.

² If we restrict the term “object” (as opposed to “thing”) so that it refers solely to material objects, as I want to do, then the term “object” is a count noun. Van Inwagen treats “object” as the most general count noun (van Inwagen 2019, p. 176, note 6). I would quarrel with this treatment if it commits us to the claim that if any bona fide count noun applies to some thing or things then “object” applies to that thing or things. (I will raise doubts about that claim in Chapter 2.) In any case, I take it that this usage leaves open the possibility that some objects are not material, and I may as well repeat that in this book I will be using “object” as an abbreviation for “material object.”

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themselves – they are objects that lack *proper* parts) arranged in a multitude of ways – chairwise, catwise, dogwise, and so forth – to the extreme permissivist view that any combination of things makes up an object. (Some eliminativists – the moderates – allow for exceptions; for example, Peter van Inwagen, whose book *Material Beings* [1990] greatly influenced the view of objects I sketch here, considers organisms to be composite material objects. He also thinks that they are the only composite material objects. My own view is a more moderate form of eliminativism.) I will aim to supply just enough detail to make claims I defend in later chapters intelligible. I will hope that what I say strikes the reader as being coherent and plausible and that it also derives support from the ways it helps us to solve puzzling problems, such as those involving splitting and transplanting brains, which I discuss in later chapters.

Material Objects

Very roughly, I suggest, a composite (material) object is something made of things that have physical features that enable those things to resist coming apart. “Physical” features, such as mass, shape, and momentum, are the properties and relations that are investigated by the physical sciences. An example of a composite object is an organism. Another example is a watch. By contrast, dust particles that are currently scattered across the universe compose no object just now. It may be that objects not made up of other objects – say one of the atoms posited by Democritus – could not come apart, could not disintegrate (which is not to rule out the possibility of their ceasing to exist). If such things exist, they count as objects as I understand them, albeit as non-composite objects, of course. But perhaps all objects are composite objects. Maybe all objects are made of “gunk,” which David Lewis defined as “an individual whose parts all have further proper parts” (1991, p. 20). Maybe some are gunky; maybe there is no gunk. (It also seems conceivable for an object to be made up uniformly of some sort of material such that each gob of it is qualitatively similar to the next – the same material all the way through, all the way down – much as a pat of butter is the same stuff as the stick from which it is sliced.) I will have nothing more to say about objects that are not composite. My discussion will concern *composite* objects.

Although objects resist disintegration, what composes them may change considerably over time: an object composed of some things at one time may be composed of different things at another time. Take my truck, for instance. Earlier today, I took it in for maintenance, and the mechanic

replaced the spark plugs, so what it was composed of yesterday is different from what it is composed of now. Eventually, I will want to address what needs to be true of an object if it is to undergo changes in composition.

First, however, let us address a simpler question. I just said that, at each time an object exists, it is composed of some things at that time (though possibly of other things at other times). I think we can assume that an object is composed of things at a time *by virtue of* the fact that those things are related to each other in some way at that time. Our first question is: What is that relation? How must things be interrelated at a time for them to make up an object at that time? My watch is currently an assembly of various sprockets, springs, and other doohickeys. It is because these parts are interrelated in some way that they make up something at the current moment. What is that relation?

We can state the question more carefully if we use the letter R as a variable ranging over relations, the letter x as a variable ranging over things, and the letter t as a variable ranging over times. Following van Inwagen (1990, pp. 26–29), we can use the expression “the x s” as a plural variable and the expression “the x s compose y at time t ” as shorthand for

the x s are all parts of y at t and no two of the x s overlap and every part of y overlaps at least one of the x s at t .

(I will use the terms “compose” and “make up” the same way. Things overlap when they share a part.) The question, then, is, by virtue of what relation R_c is the following true:

necessarily, some things, the x s, compose an object at time t if and only if the x s are R_c -related at t .³

The answer supplies us with an account of *composition*.

Composition

Here is my first pass at an answer to this question:

simple bonding: necessarily, some things, the x s, compose an object at time t if and only if the x s are bonded at t .⁴

³ Compare van Inwagen’s Special Composition Question (1990, p. 30).

⁴ This seems to be roughly the view that Andrea Sauchelli (2017) takes. Although I reject *simple bonding*, in some other ways Sauchelli’s views overlap with mine. Compare Fei Xu’s (1997) discussion of “bare particulars” in “From Lot’s Wife to a Pillar of Salt: Evidence that Physical Object is a Sortal Concept.”