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ERIC T. OLSON

## HUMAN PEOPLE OR HUMAN ANIMALS?

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### I

Are we people, or are we animals? Surely both, you will say! And I say so too. But most philosophers apparently disagree. They think that our identity through time consists in a relation that is essentially psychological; and that entails that we are *not* animals.

Imagine that your cerebrum<sup>1</sup> is cut out of your head and implanted into another, and that this produces someone who thinks he is you, has your personality (warts and all), and who can apparently remember just as much of your past as you can now remember. The contemporary philosophical wisdom about this sort of “transplant” case is that the person who ends up with your cerebrum and your memories is *you*. For he, and he alone, is psychologically continuous with you as you are now; and, for good measure, that continuity is secured by the physically continuous presence of your cerebrum.

Now imagine, if you can, that you undergo total oblivion: all of your psychological features and capacities are somehow permanently destroyed, but in a way that does not disrupt your heartbeat, respiration, and other vital functions. Most philosophers think that you could not survive oblivion. For the mewling, puking human being who results from this adventure is not psychologically continuous with you as you are now. In fact he bears no more interesting *psychological* relation to you than you bear to me.

The lesson most philosophers draw from stories like these is that some relation that is at least partly psychological is both necessary and sufficient for us to persist from one time to another. Some say

that we persist just in case there is continuity of our mental contents: overlapping chains of experience-memory, for example. Others say that we are individuated by our mental capacities: one goes where one's mind goes. This difference does not matter here. I shall call this kind of view the *Psychological Approach* to personal identity.

If that is the right way to think about these stories, we can draw a second lesson from them as well: that you and I are not animals. Not only are we not *essentially* animals; we are not living organisms at all, even contingently. For when the surgeons transplant your cerebrum from one head to another they do not transfer any *animal* from one head to another. What they do (according to the Psychological Approach) is transplant *you* from one *animal* to another. Nor does any *animal* cease to exist when you lose your memories in the "oblivion" case. The animal in the story simply outlives you. So if the Psychological Approach is true, you and I cannot be animals. For the criterion of identity it assigns to us is not one that could apply to animals with human physiology. It is certainly not the criterion that applies to members of the species *Homo sapiens*.

But don't we think that we *are* animals? Isn't it *obvious* that we are human animals if we are material objects at all? If we are material (and I shall assume that we are), and unless we are radically mistaken about the conditions under which an animal can survive, it seems that the Psychological Approach could not be true. Instead we must have a criterion of identity appropriate to human animals: our persistence must consist in some sort of narrowly biological relation. I shall argue that our criterion of identity, like that of our evolutionary cousins, has nothing to do with psychology. This Biological Approach, I claim, is the *only* view of our identity that is consistent with the fact that we are living beings.

The Biological Approach has been unjustly neglected in the debate over personal identity. In Harold Noonan's recent book, considered an authoritative survey of the subject, the Biological Approach is last mentioned on page 5.<sup>2</sup> John Pollock dismisses it as "a straw man."<sup>3</sup> The Psychological Approach, on the other hand, is as popular as can be. It has taken its place as the new orthodoxy in the field of personal identity. The editors of the recent anthology *Self and Identity*, to take just one

example, include nine philosophical articles on personal identity. Eight of those presume some version of the Psychological Approach; only one, and by far the oldest (a 1970 article by Bernard Williams), opposes it.<sup>4</sup> Besides Noonan and Pollock, Mark Johnston, David Lewis, Thomas Nagel, Robert Nozick, Derek Parfit, John Perry, Anthony Quinton, Sydney Shoemaker, Peter Unger, and David Wiggins are only a few of the eminent figures who have endorsed some version of the Psychological Approach.<sup>5</sup> Noonan is certainly correct to say that the Biological Approach “has not proved popular with philosophers.”<sup>6</sup>

In the next section I shall argue – if an argument is needed – that you and I are human organisms. In section three I consider the view that *human* animals, unlike our evolutionary cousins, might be individuated on psychological grounds. Finally I shall argue that only a radically non-psychological approach to personal identity can accommodate the fact that we are living organisms. This is shown by the very thought-experiments that figure in arguments for the Psychological Approach.

## II

That you and I are animals, and not material objects of some other sort, strikes me as so obvious that it would be quite pointless to try to argue for it. Where are we going to find premises that are even *more* obviously true than the conclusion? I should think that anyone, or at least any materialist – anyone who thinks that she is a material object – could easily convince herself that she is an organism by looking in a mirror. (If she suspects that she might be a fantastically elaborate but inorganic machine built by Martians, she could look at some x-ray photographs to make sure.) Certainly any competent zoologist, noting our opposable thumbs, forward-facing eyes, and other physiological traits, would classify us as primates, along with apes, monkeys and lemurs. How could anyone think otherwise? The physiological data are unambiguous. This is not a philosophical point. That we are primates is simply one of the empirical data that we are presented with, along with the fact that we share about 99 per cent of our DNA with African great apes, or the fact that our stomach lining regenerates itself every

few days. As Chisholm has said, in doing philosophy we are entitled to assume anything we are justified in assuming when we are not doing philosophy.

But apparently those who find the Psychological Approach plausible do not find this so obvious. I imagine that someone might reply in something like the following way:

There is nothing absurd or even particularly surprising about the claim that we are not animals. We aren't denying that you and I are made of flesh and blood, that we have twenty-four pairs of chromosomes, that we descended from reptiles, or any other established scientific fact. Nor do we deny that there *are* human animals, members of the species *Homo sapiens*. We accept the evident fact that those organisms have elaborate social structures, speak a wide variety of languages, and inhabit all seven continents. Indeed, virtually everything the biological sciences tell us about human organisms is quite literally true of ourselves as well, and nearly everything that the human sciences tell us about ourselves is equally true of human animals. We are simply making a technical point of metaphysics: that we are not *numerically identical* with those animals. Rather (as Shoemaker puts it), "a person 'is' an animal, not in the sense of being identical to one, but in the sense of sharing its matter with one."<sup>7</sup> We are all familiar with the case of the gold statue and the lump of gold that "constitutes" it. The status *appears* to be identical with the lump; but if we attend to their historical and dispositional properties we shall see that they are in fact numerically distinct. The lump probably existed before the statue did, after all; and the lump but not the statue could survive radical deformation. When we reflect on the consequences of the Psychological Approach (which contemplation of science-fiction stories shows to be true) we see that the case with human people and human animals is no different. We *appear* to be animals only because spatial coincidence is easily mistaken for identity.

Let us draw out some of the philosophical consequences of this account. Consider the human animal that is sitting in your chair and wearing your clothes right now. It has the same location, the same size and shape, the same mass, even the very same chemical composition and biological structure as you. Yet these philosophers would have us believe that it is numerically different from you, for radical psychological discontinuity would be the end of you but not the end of that animal (and because you, but not the animal, would "go along with" your cerebrum if it were removed from your head).

But two beings with the very same nonrelational, nondispositional properties cannot have different dispositions – or at any rate not different dispositions of *that* sort. What could *explain* the fact that drinking from

the waters of Lethe (which cause complete and permanent oblivion) would kill you – the person – but would not kill the animal? Not any difference in your internal physiological or biochemical structure, for you and the animal are perfect intrinsic duplicates of one another. There are no internal, structural differences between you and the animal for the Lethe-water to “work on”. Not any psychological differences, for the animal is psychologically indistinguishable from you. Not the fact that you are a person and the animal is an animal. That would amount to saying that you have that disposition because you have it. For the *only* difference between you and the animal is modal and dispositional; what makes you a person and not an animal, and what makes that animal an animal and not a person, is nothing but the difference in your modal and dispositional properties. Of course, you and the animal might have a different history. You might have come into existence several months after the animal did, perhaps when the animal acquired certain mental capacities shortly before or after birth. But the mere fact that two things are *historically* different cannot by itself explain the fact that one of them can *now* survive oblivion and the other cannot. Apparently it is simply a brute, unexplainable fact about you that you have the criterion of identity that you do, and why “your” human animal has a different criterion.

Imagine a wondrous machine with the power to make a perfect duplicate of any material object. When you put something into the “in” box of the machine and press the button, the machine “scans” the object, recording the precise state and location of every atom, and sends this information to the “out” box, where it gathers up from its supply of “raw materials” the same number of atoms of the same kinds and arranges them in precisely the way that the original object’s atoms are arranged. When the machine has done its work there appears in the “out” box an object that, though numerically distinct from the original, is exactly similar to it in all of its momentary, nonrelational properties.

Now suppose that *you* crawl into the “in” box of the duplicating machine and press the button. What should we expect to find in the “out” box? Well, we should find atoms exactly like the ones that composed you a moment ago, arranged in precisely the way that your atoms were arranged then. Let us suppose that those atoms would compose two

distinct beings: a person and living organism. (If they do not, we should wonder why *your* atoms compose both a person and an organism.) Which is which? Well, the organism is the one that can survive complete psychological discontinuity, and the person is the one who cannot. But what did the machine *do* to give those two objects different dispositions? It seems that it must have done something more than simply arrange atoms, for the arrangement of atoms is the same in both objects (they are composed of the very *same* atoms, after all). If the machine did *nothing* beyond arranging atoms, the very same causes acting in the very same way would be responsible for both the person and the animal, and there would be nothing to account for their *difference* – the fact that one but not the other can survive total oblivion, for example. And what features of two material objects *other than* the nature and arrangement of the atoms they are composed of could account for such a difference? You may insist that an object's dispositional and modal properties are not fixed by its intrinsic, structural features, and that two objects composed of the same atoms arranged in the same way can very well differ in their dispositions. But *how* would our duplicating machine bestow these different dispositions on the two objects? What would it have to do beyond just arranging atoms? And what should we expect to find in the “out” box of the machine if it did nothing beyond arranging atoms?

I doubt that there is any satisfactory answer to these questions. I think we ought to conclude that the proposed explanation of the way in which human people relate to human organisms is at least extremely mysterious, if not incoherent.

Of course, it may be possible to avoid some of these awkward problems by explaining the appearance that we are living organisms in a more sophisticated way. One might appeal to an ontology of temporal parts, for example, together with a theory of English semantics that makes the sentences we believe come out true (a theory that will include something like a counterpart-theoretic analysis of *de re* modal statements).<sup>8</sup> But it is worth noting that the debate over the Psychological Approach has *not* traditionally turned on general metaphysical issues such as whether concrete objects are temporally extended. Metaphysical theories like this are invariably contentious, whereas nearly everyone accepts the Psychological Approach. They have felt free to accept it on the basis of

thought-experiments alone, without the slightest consideration of general metaphysical and logical theories. The Psychological Approach is considered to be ontologically neutral. One of the aims of this paper is to show that this is not the case.

Let's turn now to a different problem (or maybe it's the same problem looked at differently). Since the animal "associated with" you is your perfect duplicate, it must be conscious and intelligent if you are conscious and intelligent. At any rate its brain, its surroundings, and its behavioral dispositions are no different from your own. Your thoughts and sensations are all states of that animal. Whatever makes your thoughts *yours* would seem to make them *its* as well, and the same goes for actions. Surely it speaks English, or in any case a language homophonically indistinguishable from English. So if you can refer to yourself by saying 'I', it can refer to *itself* by saying that word. How could its merely having the wrong criterion of identity prevent it from thinking about and referring to itself? Apparently, then, since you think you are a person, the animal believes *itself* to be a person. It thinks so for the same reasons that you think so; it has the same evidence that you have. But it is mistaken. It is not a person.

But if it is so easy to think that one is a person and be wrong, how do you know *you're* not mistaken about this? How do you know you're not the animal rather than the person? Why believe that yours is the "personal" criterion of identity rather than the "organic" criterion? There would seem to be an even chance, and no evidence could decide the matter. A human animal will find the arguments for the Psychological Approach just as convincing in his case as we find them in ours. Believing that one is a person is rather like believing that a fair coin tossed randomly will come up heads. The only difference is that we are all strongly inclined to think that we are people. But this inclination is no more reliable than the inclination to think that tossed coins will come up heads: it is wrong half the time. Now surely it is absurd to suppose that you and I might not be people, or that we are not justified in believing that we are people. If so, it is equally absurd to suppose that the human organisms "associated with" us are not people. And if they *are* people, the Psychological Approach is false, for it does not apply to them.



The root of the problem is that being a person is not an intrinsic property, if the Psychological Approach is true. No combination of properties such as intelligence, rationality, self-consciousness, or moral responsibility (surely human organisms are morally responsible for their actions if we are!) is sufficient for being a person. There are non-people that are just like people in all of these ways. Some non-people are in fact perfect duplicates of people: “your” human animal is a perfect duplicate of you, for example. This makes personhood a rather uninteresting property. There does not seem to be any reason to *care* whether one is a person. The Psychological Approach turns out to be a disappointment, since it applies, rather arbitrarily, to only about half of the “qualified candidates”, i.e., the rational, self-conscious moral agents. (What it is about these beings that makes the psychological approach apply to some of them but not others is a question we have already discussed.)

You may reply that, in spite of appearances, the animal now “associated with” you can *not* think or speak. That would mean that a being’s physiological states, behavioral dispositions, and surroundings are not sufficient to fix its psychological properties. In fact they do not even entail that a being has any psychological features at all, for “your” human organism is exactly like you in these respects, but lacks, we are supposing, any thought or consciousness. This is not a consequence that many of us would welcome. Moreover, all of the sciences that have anything to say about the matter seem to tell us that typical members of the species *Homo sapiens* are intelligent language-users. Certainly it is a scientific fact that chimpanzees are in some sense more intelligent than dogs. Do we philosophers want to claim that human animals, in spite of their well-developed brains, are *less* intelligent than chimpanzees, or even dogs? (And are we prepared to back up these claims by appealing to science-fiction stories? Not I!)

Nor does it help to say that our personal pronouns and proper names – expressions such as ‘I’ or ‘Descartes’ – always refer ambiguously to at least two beings, a person and an animal. A sentence whose subject refers ambiguously can be true only if its predicate is true of all (or at any rate most) of the referents of its subject. If each time I try to refer to myself I also refer to “my” animal, whatever I say about myself can be true only if it is true of “my” animal as well. In that case, although

it would be true that I weigh 150 pounds, it would not be true that I am a person, or that I should perish if I lost all my memories. The second two statements would have no truth value (or an intermediate value), for the predicate would be true of only one of the objects ambiguously denoted and false of another. And the statement 'I am *not* a person, but an animal' would not be false. It would have the same truth value as 'I am a person' (an intermediate value or none at all). This is incompatible with the Psychological Approach.

If being a person is not an intrinsic property, being a human organism, or being a biological organism at all, for that matter, is not an intrinsic property either. Imagine being told that there are apparently living beings whose biochemical and physiological properties are precisely those of a well-known species of primate, but which, in spite of appearances, are not animals or even living organisms at all. I think you would assume that the bearer of this message was somehow confused about the meaning of the word 'organism'. It is clear, at any rate, that she does not understand that term in the way that biologists understand it. But if we are not animals she is right, and the biologists are wrong. Although you and I are paradigm cases of animals as far as our physiological properties are concerned, our criterion of identity prevents us from being living organisms. Although you and I are alive in the same sense in which an animal is alive, we are *not organisms*. Being an organism involves more than simply having the right physiological properties. Even if this view can be made coherent, it makes a mockery of contemporary biological science.

For what it is worth, that concludes my argument for the claim that you and I are animals. I don't think it is worth much. Ordinarily philosophers try to adduce obvious and mundane facts in support of philosophical claims that are less obviously true. That is the proper place of argument. I have done just the opposite. (What does one say to someone who thinks he is a material object but not a living organism?) At best I may have shown that those who think this way face a number of theoretical difficulties in addition to the apparent absurdity of their claim.

## III

If you and I really are animals, it is worth asking ourselves sternly whether the Psychological Approach cannot somehow accommodate this fact. Although most advocates of that view seem to accept the consequence that we are not animals, a few have felt free to say that we *are* animals. Nagel and Unger apparently think this way, and I suspect that many others are inclined to agree with them.<sup>9</sup> Their view, apparently, is that the criterion of identity the Psychological Approach assigns to people is the one that applies to human animals as well: the persistence of a human animal consists in a relation that is essentially psychological. So you and I are both animals *and* people, just as we all learned at our mother's knee.

If they are right, the conditions under which a human organism is capable of surviving are radically different from the conditions under which any other known animal persists. Psychological features are obviously not relevant to the persistence of an oyster or an aardvark, and I have not heard anyone claim that an orangutan would necessarily perish if it forgot everything. One might suspect that in adopting this view we are simply making an *ad hoc* exception for ourselves. This is a temptation that natural historians have also found it difficult to resist, as Stephen Jay Gould is fond of pointing out:

Again and again, we encounter sweeping visions, encompassing everything from the primordial dust cloud to the chimpanzee. Then, at the very threshold of a comprehensive system, traditional pride and prejudice intervene to secure an exceptional status for one peculiar primate. . . . The specific form of the argument varies, but its intent is ever the same – to separate man from nature.<sup>10</sup>

But in *this* case the exception may be well motivated. Perhaps our remarkable psychological capacities, which are certainly unique in all of nature, outweigh our profound similarities with other animals and give us a mode of persistence that is equally unique.

However this may be, it is clear that the Psychological Approach cannot be applied to human organisms in any of its familiar forms.<sup>11</sup> The problem is that some or perhaps even all human animals, at some times, manage to persist *without* psychological continuity, indeed without any psychological features at all. A four-month-old fetus, for example, can-

not yet think or feel or remember.<sup>12</sup> Yet a fetus is clearly a human animal (it has a primitive nervous system, a beating heart with its own closed circulatory system, its own functioning immune system, well-defined boundaries, etc.). If I am a human animal, then presumably I was once a four-month-old fetus. (If I am not the same *person* as the non-person I once was, perhaps ‘personal identity’ is not the best way to describe the identity of beings like you and me.) But my identity with that fetus cannot consist in any psychological relation – or at any rate I cannot be identical with that fetus by virtue of any relation between my current psychological states or capacities and those of the fetus. Babies born alive but lacking a cerebrum, accident victims who are “brain-dead” but can still breathe and circulate their blood, and perhaps some survivors of stroke or Alzheimer’s disease are also human beings whose persistence appears to consist in some wholly non-psychological relation.

If I am a human animal, I assume that I share my criterion of identity with every other human animal. And I must have the same criterion of identity now as I had when I was a fetus, if I was ever a fetus, for a thing cannot exchange its criterion of identity midway through its career for a new and incompatible criterion. So psychological continuity cannot be absolutely necessary for a human animal to persist. This means that virtually every version of the Psychological Approach yet proposed must be false, if we are animals.

But we might try to avoid this problem by devising a more subtle formulation of the Psychological Approach. (Readers who don’t care for technical details may want to skip the rest of this section.) Perhaps such things as fetuses that have not yet developed cortical synapses, anencephalic babies, and living but brain-dead human beings *do* persist by instantiating some psychological relation, in spite of their utter lack of mental states and capacities. Perhaps there is some complex relation that is only *partly* psychological, and the psychological part simply does not apply to those human beings that have no interesting psychological features. Couldn’t the criterion of identity for human animals have this form? Here is an example of what I have in mind:

SUBTLE: If  $x$  is a human animal at a time  $t$ , then for any  $y$  that exists at another time  $t^*$ ,  $x = y$  if and only if

- (i.)  $x$  is at  $t$  psychologically continuous with  $y$  as he is at  $t^*$ ; *or*
- (ii.)  $x$  is at  $t$  biologically continuous with  $y$  as he is at  $t^*$ .<sup>13</sup>

According to SUBTLE, if my cerebrum is transplanted tonight, tomorrow I shall be the man who has that organ, because that man, and he alone, will be psychologically continuous with me as I am now. And even though no four-month-old fetus has any psychological features at all, I once was such a fetus because I am biologically continuous with one. The first disjunct of the criterion simply never applies in the case of the anencephalic baby.

Unfortunately, a moment's reflection on our "transplant" case shows that SUBTLE will not do. Suppose that the surgeons who remove my cerebrum are careful to leave the brainstem intact. (The brainstem is the "control center" of the autonomic nervous system, which directs the animal's vital functions such as breathing, circulation of blood and lymph fluids, growth, and digestion.) In that case there will be a living human organism tomorrow that has no cerebrum, but which is biologically continuous with me as I am now. The very same particular metabolic processes that keep me alive now will keep that organism alive tomorrow. So the second disjunct of SUBTLE entails that I shall be that empty-headed man. In that case I should survive not only radical psychological discontinuity, but the loss of the very organ that is most directly responsible for my psychological capacities, my cerebrum. And no version of what I have called the Psychological Approach to personal identity is consistent with that. Worse, SUBTLE's first disjunct entails that I am *also* identical with the recipient of my cerebrum. But of course I could not be numerically identical with two different things.

If we are animals individuated according to the Psychological Approach, the situation must be something like this: Once one becomes a person, one's career "tracks" psychological continuity (or some more complex psychological relation) into the future; and one's career "tracks" that relation into the past back to the point where one first becomes a person; prior to that, it "tracks" a narrowly biological relation.<sup>14</sup> Conversely, a fetus's future career "tracks" narrowly bio-

logical continuity until the fetus becomes a person, at which point its further persistence consists entirely in some psychological relation. I do not know whether such a view can be made coherent. With apologies to the reader, we might try stating it like this:

SUBLTLER: If  $x$  is a human animal at  $t$ , then for any  $y$  that exists at  $t^*$ ,  $x = y$  iff

- (i.)  $x$  is at  $t$  psychologically continuous with  $y$  as he is at  $t^*$ ; or
- (ii.)  $t^*$  is before  $t$  and  $x$  is a person at  $t$  and  $y$  is not a person at  $t^*$ , and there is a person  $z$  at some time  $t'$  between  $t^*$  and  $t$ , who is then biologically continuous with  $y$ ; and nothing is a person biologically continuous with  $y$  at any time between  $t^*$  and  $t'$ ; and  $x$  is at  $t$  psychologically continuous with  $z$  as he is at  $t'$ .

The first disjunct is the Psychological Approach as we know it. It tells us the conditions under which one is identical with something that is a rational, self-conscious being at some other time. The second disjunct gives the circumstances in which a person may be identical with some past being that is not yet a person. I am identical with a being that, at some past time, is not a person, just in case there is a time between now and then when there was a being who was both biologically continuous with that non-person and psychologically continuous with me as I am now – but only if nothing that exists before that intermediate time was then both a person and biologically continuous with that non-person.

Let us put the second disjunct in other words.  $t'$  is the time at which I first became a person. (If there was a vague interval during which I was neither definitely a person nor definitely a non-person, let  $t'$  be the first time at which I was definitely a person.) What makes  $t'$  the time at which I *first* became a person is this: I am now psychologically continuous with a being who existed at  $t'$ , as he was then; and I am not psychologically continuous with any being as he was at any earlier time (before  $t'$ ). For according to the Psychological Approach one cannot

become a person for a time, then cease to be a person, then become a person once more; and once one becomes a person one cannot survive without psychological continuity. Then any non-person that exists at any time before  $t'$  (at  $t^*$ , say) is identical with me just in case it is then biologically continuous with me as I was at  $t'$ .

SUBTLER appears to be coherent as far as it goes; and it seems consistent with at least the spirit of the Psychological Approach. But more epicycles are necessary. We shall need one more disjunct at least, to cover human animals at times when they are not people (fetuses and the terminally comatose), as well as those human animals that never were, or will be, people: miscarried fetuses and anencephalics, for example. We don't want to say that their criterion of identity is different from ours, particularly since some human animals could become people but never do. I leave it as an exercise for the reader to work out the details. But you get the idea.

#### IV

By replacing traditional versions of the Psychological Approach with SUBTLER (or something still subtler than SUBTLER), it may be possible to avoid denying that we are animals. Now it is time to consider more carefully just why the Psychological Approach seemed to entail that we are not animals. The reason, I shall argue, is that the criterion of identity for animals does not involve psychology at all, and we shall see this if we reflect carefully on the “transplant” and “oblivion” stories. Any view that assigns to human animals a criterion of identity that essentially involves psychological continuity or any other psychological relation requires us to redescribe those stories in a way that is manifestly incorrect.

Consider the “oblivion” case. I am given a drug that irrevocably destroys all of my psychological features, but without interrupting my vital metabolic functions: without bringing my individual biological *life* to an end.<sup>15</sup> According to the Psychological Approach, I then cease to exist. If I am an animal, that animal also perishes. Can an animal cease to exist without *dying* – that is, without any disruption of its life-sustaining

functions? This is an interesting question. When an amoeba divides, it seems that it must cease to exist. (Clearly there are exactly *two* amoebas after the division, and the original amoeba cannot be identical with both. A thing and itself cannot go their separate ways. And nothing could make it identical with one of the upshots but not the other, since its relation to each is the same. Nor does the amoeba become something other than an amoeba by dividing. Hence it must perish.) But when an amoeba divides, nothing happens that *looks* much like death. If I have my microbiological facts straight, no tissue that was once alive has its flow of oxygen and nutrients and coded instructions cut off, and nothing begins to decay. But can an animal cease to exist without either death or division? And is the “oblivion” story, in which the animal emerges virtually unscathed except for its psychological features, such a case?

Now consider the human animal that immediately takes my place, in the “oblivion” story, when I am gone – the one without any memories. Of course, that animal is numerically distinct from me, since it exists at a time at which I do not. Where did it come from? It *appears* to have *survived* the adventure: it appears to be the very human animal that lately had my memories. That very biological life that lately coordinated the activities of all of my cells has continued, without interruption, to coordinate the activities of those very same cells, which continue to be arranged in essentially the same way. What better reason could we have for saying that an organism has survived? But if that is the case (and if I am an organism), there must have been *two* human animals housed within my skin while I still lived, and for some reason the drug’s action destroyed only one of them. (How the drug should manage to “choose” just one of two qualitatively identical animals and destroy it is a mystery we have already encountered.) But if SUBTLER or any other version of the Psychological Approach applies to *all* human beings, *no* human being could survive oblivion; so this is ruled out.

In spite of appearances, then (according to the Psychological Approach), no human organism survives in the “oblivion” case; the animal that succeeds me came into being when I lost my memories. What caused the first animal’s demise was nothing more than the destruction of the psychological information that was encoded in one of its organs. But isn’t it obvious that that is not the sort of thing that could cause a



living organism to perish (and not the sort of thing that could bring a new living organism into existence)? We might as well say that a computer disk ceases to exist and is insensibly replaced with a numerically different one when its data are erased.

Let us turn now to the “transplant” case. My cerebrum is cut out of my head and implanted into another, resulting in someone who is uniquely psychologically continuous with me, with enough “physical continuity” to satisfy even the most cautious advocate of the Psychological Approach (Unger or Wiggins, for example). According to the Psychological Approach, I shall be that person. What the surgeons do, on that view, is pare me down to a two-pound mass of yellowish and pinkish tissue, and then, a bit later, graft a new skull, arms, trunk, and legs onto me.

But a detached cerebrum is no more a living organism than a freshly severed arm is an organism. If it appears to be an organism, that is because it consists entirely of more-or-less undamaged living tissue; in fact it is made up entirely of living organisms, namely its cells. But if we examine it closely we shall see that it bears little resemblance to a living animal. A detached cerebrum is not an organism because its parts are not caught up in any biological event that coordinates their activities. Its cells don’t work together as a unit. An organism controls the rate of its metabolism and the growth of its various parts by elaborate feedback mechanisms. If it is a warm-blooded animal, it constricts the blood vessels near its surface if its core temperature drops below a certain point, and dilates them if it is too warm. If damaged, an animal will attempt to “heal” itself: it will mobilize its collective resources to repair the damage. Antibodies and white blood cells will gather at the site; new tissues will be formed; the rest of the organism will be weakened. And so on. None of this is true of a severed arm or a detached cerebrum. The reason is that the organs of the brainstem that once coordinated the vital functions that went on in the cerebrum or arm have been cut away. Like a kidney awaiting transplant, we may keep the cerebrum “alive” by careful handling only in the sense of keeping its cells individually alive, or in the sense of preventing it from decaying beyond the point at which it could resume its proper function after being transplanted. Nor could we make the cerebrum or arm into an organism by putting it in

a vat and pumping oxygenated blood through it. Not just any mass of living tissue is an organism.

So if I could survive in the “transplant” case as the person who gets my cerebrum and my memories, I am not essentially an organism. It is possible (if I am an animal) for an animal to cease to be an animal for a time, and then become an animal once more.<sup>16</sup> In that case *animal* or *human animal* is not the sortal that determines our criterion of identity; since one of us can cease to be an animal and still survive, *human animal* is only a phase sortal like *boy*. We might wonder, then, what sortal we *do* fall under: what is the most general kind of thing, all the members of which share their criterion of identity with you and me?

In addition to myself, at least two more animals are involved in the “transplant” story, if the Psychological Approach applies to human animals. When the surgeons remove my cerebrum from my skull they leave behind a living human being whose vital functions are coordinated by its intact brainstem (the very brainstem that lately coordinated *my* vital functions). That animal is numerically distinct from me, of course; it is what is cut away from me when I am pared down to a naked cerebrum. Or, more precisely, that animal comes into being when my cerebrum is cut out of what was once my skull. It could not have existed before then, according to SUBTLER, because no human being could survive radical psychological discontinuity.

A third living human being provides the empty braincase into which I (at this point a naked cerebrum) am implanted. I become a living animal once more by appropriating that animal’s functioning heart, lungs, and other vital organs: by taking over that animal’s biological life. What happens to *him* then? Unless two human animals can share the same location and all (or most) of their parts, he must apparently cease to exist (though, again, without dying). But how can the mere addition of an organ that has no impact on its vital functions cause an animal to cease to exist?

Set aside personal identity for a moment, and think about the way we have described the *biology* of these two cases. Think about what happens to the *organisms*. According to our description of the “oblivion” story, an animal ceases to exist because of an alteration in its mental contents and abilities, even though its biological life continues without the slightest

disruption. A single beating heart, a single pair of working lungs, all coordinated by the continuous activities of the same autonomic nervous system, form the site of two distinct animals sequentially.

The same thing happens at least twice over in the “transplant” case. When my organ of mentation is separated from the rest of me, a brand-new animal is instantly created, which takes over my cells and my biological life. Another animal, lacking an organ of mentation, perishes when such an organ is provided. A third animal (yours truly) starts out with one life, has no life at all for a while, then takes over the life of another animal. Three animals share two animal lives. Or rather *four* animals: the cranium into which my cerebrum is implanted was not always empty. A fourth animal must have perished (or been transplanted into yet another empty skull) when its cerebrum was removed to make room for mine. Of course, it is only the cerebrum that has this peculiar feature, and not any other organ; I should not “go along with” my liver if it were transplanted into another abdomen. The proposed theory tells us, in effect, that if an organ is removed from or implanted into a human animal in a way that does not disrupt that animal’s vital functions, the animal survives the adventure if and only if that organ does not carry any psychological information or abilities along with it.

I doubt that any biologist would describe our imaginary cases in this way. Surely physiological considerations at least strongly suggest that there is just one animal in the “oblivion” case, an animal which simply loses the ability to remember its past as a result of the drug it took. Surely the biological facts of the “transplant” story tell us that there are just two animals involved, not three and not four, and that one of those animals simply donates an organ to the other. As far as *physiology* is concerned, a transplanted cerebrum should be analogous to a transplanted kidney. And what besides physiology should be relevant to the persistence of an animal? Now it may be that the mental powers of some animals are so remarkable as to enable them to transcend the bounds of physiology; perhaps human organisms are closer to gods and angels than they are to chimpanzees, at least when it comes to identity and persistence. This would certainly be of great interest to zoologists! But the Psychological Approach was not intended to have such revisionary consequences.

Of course, no philosopher has actually proposed that the two cases be described in this absurd way. Certainly Nagel and Unger did not mean to propose such a description, even if they have said things that seem to entail it. Most philosophers describe the biology of these cases in the *right* way. Or at any rate, when they say that there is one person but two “bodies” in the “transplant” case, I *understand* them to be recognizing the fact that there are just two human animals in that story, not three. And when they say that one may be outlived by “one’s body”, I assume they mean that there is just one human animal in the “oblivion” case.<sup>17</sup> They face the first horn of the dilemma: that we are material things but not animals.

These considerations, or at any rate most of them, apply equally to any theory of personal identity that involves psychology. Some philosophers might say that one could survive the loss of all of one’s mental *contents*, as long as one’s basic psychological *capacities* remain intact. But if personal identity has anything whatever to do with psychology, I could not survive in the “transplant” case as the living animal with my empty cranium. We respect the biological facts of the two imaginary cases only if we admit that psychology is *irrelevant* to our persistence.

Well, there *is* one way to reconcile the Psychological Approach with the biological facts of the “transplant” and “oblivion” cases. That is to accept Geach’s relative-identity thesis.<sup>18</sup> On that view, I am neither absolutely identical with nor absolutely distinct from “my” human animal, for there is no such relation as absolute identity. Instead there are different sameness relations for different sortal kinds. In the “oblivion” case I am the same *animal* as the one who ends up without any memories, but not the same *person*. So no animal ceases to exist when I lose my memories. And in the “transplant” case I am the same *person* as the one who ends up with my cerebrum, but not the same *animal*. So no animal is transferred from one head to another, for my naked cerebrum is not the same animal as anything. Nevertheless I *am* now an animal, insofar as I am the same animal (as well as the same person) as “this” animal. The Psychological Approach, then, is not a theory about absolute identity (since there is no such relation), but a theory about the relation *same person*. The relation *same animal* has a narrowly biological criterion.

Needless to say, this proposal has far-reaching consequences for logic, metaphysics, and semantics. Needless to say, this is a high price to pay merely to accommodate a theory of personal identity. But this is where the merits of the Psychological Approach ought to be debated.

## v

I conclude that anyone who accepts the Psychological Approach to personal identity owes us an explanation of the relation between human people and human animals. Those who deny that we are animals need to explain how something with our biological properties can fail to be a living organism; and they must explain the nature of the intimate relation between ourselves and “our” organisms. Those who think we *are* animals must devise (and defend) a criterion of personal identity far more subtle and complex than any that has yet been proposed; and they must be prepared to answer for its ontological and biological consequences. Either way, the Psychological Approach commits us to a profound revision of the way we think about ourselves, and of our place in the natural world.

Of course that by itself is no reason to reject the Psychological Approach. Perhaps our understanding of the manner in which living organisms persist is flawed and *ought* to be revised. Who can say what exciting and unforeseen biological discoveries this revision might lead to? Perhaps we should not be frightened if the philosophical theories we arrived at by reflecting on science-fiction stories turn out to have exciting and far-reaching consequences for the natural sciences.

But we cannot simply tell stories and propose whatever theory seems to fit best with the opinions we have about them, as so many philosophers do. What we say about personal identity has profound consequences for ontology, biology, and other fields, and if we ignore those consequences we shall end up with something we did not intend, if not something outright absurd.<sup>19</sup>

## NOTES

<sup>1</sup> Why not the entire brain? Transplanting the cerebrum alone gives the psychological “transfer” effect we want but leaves intact the autonomic nervous system, based chiefly in the brainstem, which coordinates one’s vital functions.

<sup>2</sup> *Personal Identity* (London: Routledge, 1989).

<sup>3</sup> Pollock: *How to Build a Person* (Cambridge, MA: MIT Press, 1989), p. 30.

<sup>4</sup> Although Peter Unger’s contribution is devoted to what he calls the “physical view” of personal identity, he points out that “even the physical approach is aimed at certain psychological factors, namely, those of core psychology. A person’s physical parts and structures are important to her survival *only insofar as they continue to support, and to realize, her basic psychological capacities*” (p. 195, emphasis original). According to the Biological Approach, on the other hand, psychology is *irrelevant* to our survival.

<sup>5</sup> Mark Johnston, “Human Beings”, *Journal of Philosophy* 84 (1987), see esp. p. 79; David Lewis, “Survival and Identity”, reprinted in *Philosophical Papers*, Volume I (New York: Oxford University Press, 1983); Thomas Nagel, *The View from Nowhere* (New York: Oxford University Press, 1986), pp. 40–43; Robert Nozick, *Philosophical Explanations* (Cambridge, MA: Harvard University Press, 1981), Chapter One; Derek Parfit, *Reasons and Persons* (Oxford: Clarendon Press, 1984), esp. p. 216; John Perry, “Can the Self Divide?” *Journal of Philosophy* 69 (1972); Anthony Quinton, “The Soul”, *Journal of Philosophy* 59 (1962); Sydney Shoemaker, *Personal Identity* (Oxford: Basil Blackwell, 1984), esp. p. 90; Peter Unger, *Identity, Consciousness and Value* (New York: Oxford University Press, 1990), eps. pp. 140–141; David Wiggins, *Identity and Spatio-Temporal Continuity* (Oxford: Basil Blackwell, 1967), pp. 48ff., 51, 57.

<sup>6</sup> *Ibid.*, p. 3.

<sup>7</sup> Shoemaker, *Personal Identity*, p. 113. David Wiggins once gave essentially the same explanation:

[T]he principle of individuation for *human body* [elsewhere Wiggins says *human organism*] is not quite the same as that for *person*. . . . then we have two things, a person and a human body, occupying . . . the same matter, and normally occupying it concurrently for the period of the life of the person. We then have two non-identical things in the same place at the same time. But this is not really a problem, because it will be found that room was carefully left for this in our reformulation of the principle that two things cannot be in the same place at the same time. We stipulated: two things *of the same kind*. (*Identity and Spatio-temporal Continuity*, pp. 48ff.)

<sup>8</sup> A thorough discussion of this issue would take me far beyond the main topic of this paper. See David Lewis’s “Counterparts of Persons and Their Bodies”, in his *Philosophical Papers, Volume I*, New York: Oxford University Press, 1983. For some difficulties with this proposal see my “is Psychology Relevant to Personal Identity?” (to appear in the *Australasian Journal of Philosophy*, June, 1994). For more about temporal parts

and counterpart theory, see Peter van Inwagen, "Four-Dimensional Objects", *Noûs* 24 (1990).

<sup>9</sup> Unger thinks that we could not exist at any *future* time without being psychologically continuous with ourselves as we are now; but we could have existed at a *past* time without now being psychologically continuous with ourselves as we were then. (Although he would not call it that, Unger's view is clearly a version of the Psychological Approach in my sense of that term.) So each of us could once have been a four-week-old embryo that did not yet have a brain at all (*Identity, Consciousness and Value*, pp. 6, 140). Presumably Unger thinks that we are organisms. Nagel's view is much the same. He says that we are animals, but denies that our criterion of identity is narrowly biological. Although we could survive without psychological continuity, on his view, we could not survive the destruction of our capacity for thought ("I could lose everything but my functioning brain and still be me"). So perhaps I could survive "oblivion", on Nagel's view; but in the "transplant" case I should survive as the one who gets my cerebrum (*The View from Nowhere*, pp. 40–42).

<sup>10</sup> *The Panda's Thumb* (New York: Norton, 1980), p. 136.

<sup>11</sup> A possible exception is Robert Nozick's "closest continuer" theory, which *seems* to permit us to persist in the absence of any sort of psychological continuity. See his *Philosophical Explanations*, especially p. 35, where he writes, "If persons can conceivably transfer from one body to another, still, bodily continuity can be an important component of identity, *even (in some cases) its sole determinant*" (my emphasis). (It is true that on this interpretation of it Nozick's view does not strictly count as a version of the Psychological Approach as I characterized it at the beginning of this paper; but his strong emphasis on psychological continuity merits its inclusion among the views I am criticizing.)

<sup>12</sup> Although the human fetus has a rudimentary nervous system by the fourth week after its conception, cerebral synapses are not formed in significant numbers until the twenty-first week. The scientists Harold Morowitz and James Trefil argue that until this time the brain is not functional and the fetus is "incapable of awareness or volition." See *The Facts of Life: Science and the Abortion Controversy* (New York: Oxford University Press, 1992), p. 116.

<sup>13</sup> This is a schema. The reader is invited to replace the first disjunct with her favorite version of the Psychological Approach. An instance might be '(i.) there is a continuously physically realized, non-branching sequence of psychological states and capacities characterized by a reasonable degree of psychological continuity and connectedness, and some of *x*'s psychological states at *t* and some of *y*'s psychological states at *t\** are part of that sequence'. "Biological continuity" is intended to express whatever non-psychological relation the persistence of a living organism consists in. For a specific candidate for this relation see van Inwagen, *Material Beings*, section 14.

<sup>14</sup> I am assuming for the sake of convenience that psychology becomes relevant to one's persistence when one becomes a person. But there is no need to assume this. If a human animal becomes a person some time *after* it acquires its first genuine psycho-

logical states, we might want to say that psychological continuity becomes relevant to its persistence before it becomes a person.

<sup>15</sup> By 'life' I mean the particular, biological life of an individual organism, a biological event that normally lasts throughout the organism's career and which consists in the living activities the organisms imposes upon those atoms and ions that compose it. I am assuming that we can individuate lives without making any assumptions about the identities of organisms. In my use of this concept I follow van Inwagen; see his *Material Beings*, especially Section 9. Having the same individual life is a specification of what I have loosely called "biological continuity". But the reader who objects to lives may substitute some other narrowly biological, non-psychological relation for having the same life.

<sup>16</sup> Unger believes that a human animal might even become a wholly inorganic machine made of wire and silicon. See *Identity, Consciousness, and Value*, p. 122.

<sup>17</sup> Some describe the biology of the "transplant" case just as I do: "[I]t is human beings that we trace [via memory], i.e., beings that could outlive the human organisms they are invariably constituted by if their minds were to continue on" (Johnston, "Human Beings", p. 78); "By 'human being' I shall mean merely 'live human body'". It is purely biological notion. Thus, in a 'brain transplant' operation, the same human being acquires a new set of memories and personality, whatever we may say about the persons involved" (Perry, "The Importance of Being Identical", in Amélie Rorty (ed.), *The Identities of Persons*. University of California Press, 1976, p. 70).

Readers will have noticed that the word 'body' does not appear in my arguments. The reason for the omission is that, although I believe I have a fair idea of what an animal is (the science of zoology is founded upon this concept), I find that I do not know what to say about the properties of "human bodies", or about their behavior in counterfactual situations. (What is their criterion of individuation?) The claim that you and I are human animals and our criterion of identity consists in narrowly biological continuity (what I called earlier the "purely biological" approach to personal identity) seems perfectly clear; but I have no idea how to express this claim with equal clarity in terms of "human bodies". Thus I ask the reader not to think "body" where I have written 'human animal', but to concentrate on the biological organisms involved in the thought-experiments, and on their biological properties. (For more on this topic see P. van Inwagen, "Philosophers and the Words 'Human Body'", in van Inwagen (ed.), *Time and Cause*, Dordrecht: Reidel, 1980.)

<sup>18</sup> I discuss this view in more detail in "Is Psychology Relevant to Personal Identity?"

<sup>19</sup> I wish to thank José Benardete, Jonathan Bennett, Peter Unger, and Peter van Inwagen for their comments.

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