

# Human Being or Human Brain?

Animalism and the Problem of Thinking Brains

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## Abstract

Animalismens huvudargument säger att du är det tänkande objektet som sitter i din stol, och enligt animalisterna själva innebär detta att du är identisk med ett mänskligt djur. Argumentet är dock problematiskt då det inte tycks utesluta eventuella tänkande delar hos det mänskliga djuret, som till exempel dess hjärna. Detta beror på att hjärnor också kan beskrivas som tänkande, samt att även de befinner sig inom det spatiella område som upptas av det mänskliga djuret. I den här uppsatsen argumenterar jag för att tänkande hjärnor är ett problem för animalismen och att tesen att vi är identiska med hjärnor är ett verkligt hot mot den animalistiska teorin om personlig identitet. Olika argument som lagts fram mot tesen att vi är hjärnor avhandlas, som till exempel att hjärnor inte existerar och att hjärnor inte tänker. Jag diskuterar även två argument som tidigare använts för att visa att vi är personer snarare än mänskliga djur (the Transplant Intuition och the Remnant Person Problem), men i det här sammanhanget bedöms de utifrån deras förmåga att stödja hjärnteorin.

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# 1. Introduction

## 1.1 Personal Identity

You might think you have an idea of what personal identity is, but that is most likely not the kind of personal identity that will be discussed in this thesis. We normally talk about personal identity in a qualitative sense. The claim that your father's midlife crisis turned him into a different person would be true qualitatively speaking, but he is not a different person in the numerical sense of the term identity. To explain the difference further I could say that I am *numerically identical* to the five year old me, even though I am nowhere near *qualitatively identical* to that little girl. I am one and the same object existing through time, even though this object might have changed in many ways through, for example, growing and ageing.

What we want to know is what is necessary and sufficient for some individual that exists now to exist at a later time. This is what Olson calls the *Persistence Question* (2016, sect 2). Olson states that the question is most often formulated like this:

- (a) If a person  $x$  exists at one time and a *person*  $y$  exists at another time, under what possible circumstances is it the case that  $x$  is  $y$ ?

But that it should rather be formulated like this:

- (b) If a person  $x$  exists at one time and *something*  $y$  exists at another time, under what possible circumstances is it the case that  $x$  is  $y$ ?

The important difference between the two questions is that when asking (a), you are already assuming that we are most essentially persons. When asking (b), on the other hand, you are keeping the question of what we essentially are open. I, like Olson, think that (b) is to be preferred. The formulation in (a) is too narrow, which affects the possible debate on personal identity negatively. For example, when asking if I was ever a fetus, interesting accounts of what we are (like animalism) would be disqualified immediately solely due to how the question is framed.

## 1.2 Animalism

According to animalism, we are identical to human animals. Not all persons are human animals, since there might be creatures like robots or aliens that would qualify as persons. Likewise, not all human animals are persons, since some of them are fetuses or individuals in a persistent vegetative state (Blatti, 2014, sect. 1.1). Since we are human animals, we have the persistence

conditions of such objects, which means that unlike neo-Lockeans<sup>1</sup>, animalists do not believe that psychological continuity matters to identity (Snowdon, 2014b, 173). Some animalists think that life is necessary for our persistence (Olson (1997), Hershenov (2005)), while others do not (Mackie (1999), Feldman (1992), Carter (1999)). I will focus on organic animalism, the kind of animalism according to which we are essentially living and could not exist without being alive.

According to psychological theories of personal identity, *person* is a *substance concept*. Anything that is a person, is a person essentially and cannot exist without being a person. Animalists do not agree with this, stating that person is in fact a *phase sortal*<sup>2</sup>. Being a person is a phase, which means that you are a person contingently and therefore could exist without being a person. Other examples of phase sortals are teacher and teenager. As you are aware, the teenager does not go out of existence when she turns 20 and neither does the teacher when she retires. The phase of you being a person starts when you gain certain psychological capacities, such as rationality and self-consciousness, and ends when you lose these capacities. So being a person is more about what you can do, than what you are (Blatti, 2014, sect. 2.2).

### 1.3 The Thinking Parts Problem

As I just stated, according to animalism, you and I are identical to animals. The thinking animal argument is widely considered to be the strongest argument for animalism:

It seems evident that there is a human animal intimately related to you. It is the one located where you are, the one we point to when we point to you, the one sitting in your chair. It seems equally evident that human animals can think. They can act. They can be aware of themselves and the world. Those with mature nervous systems in good working order can, anyway. So there is a thinking, acting human animal sitting where you are now. But you think and act. You are the thinking being sitting in your chair. (Olson. 2003, 325)

The argument could also be formulated in the following way (Blatti, Animalism, 2014, sect 3.1):

(P1) Presently sitting in your chair is a human animal.

(P2) The human animal sitting in your chair is thinking.

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<sup>1</sup> Neo-Lockean theories are a wide variety of theories of personal identity whose common feature is that they all assign a significant role to psychological continuity.

<sup>2</sup> The term *phase sortal* was founded by Wiggins (1967).

(P3) You are the thinking being sitting in your chair.

(C) Therefore, the human animal sitting in your chair is you.

This is the argument's logical form (Olson 2003, 325):

1.  $(\exists x)(x \text{ is a human animal} \ \& \ x \text{ is sitting in your chair})$
2.  $(x)((x \text{ is a human animal} \ \& \ x \text{ is sitting in your chair}) \rightarrow x \text{ is thinking})$
3.  $(x)((x \text{ is thinking} \ \& \ x \text{ is sitting in your chair}) \rightarrow x = \text{you})$
4.  $(\exists x)(x \text{ is a human animal} \ \& \ x = \text{you})$

A problem that has been the subject of recent discussion is that this argument does not seem to provide us with any reason to believe that we are *animals* as opposed to any other thinking part, such as a brain, a head, or a left arm complement (the entire animal except the left arm). This abundance of contenders for the things that do our thinking is known as the *thinking parts problem*. One might easily swap 'human animal' in the thinking animal argument for a proper undetached part like 'brain' or 'upper half' and end up with something that seems equally as plausible.

(P1<sub>part</sub>) Presently sitting in your chair is an undetached proper part of a human animal.

(P2<sub>part</sub>) The undetached proper part of a human animal sitting in your chair is thinking.

(P3<sub>part</sub>) You are the thinking being sitting in your chair.

(C<sub>part</sub>) Therefore, the undetached proper part of a human animal sitting in your chair is you.

In this thesis I will evaluate a specific undetached proper part as a contender for being us, namely the brain. Therefore I need to formulate a thinking brain argument. Obviously brains do not sit, but you could exchange "sitting in your chair" for "is located in your bed" or something like that.

(P1<sub>brain</sub>) Presently located in your bed is a brain.

(P2<sub>brain</sub>) The brain located in your bed is thinking.

(P3<sub>brain</sub>) You are the thinking being located in your bed.

(C<sub>brain</sub>) Therefore, the brain located in your bed is you.

This argument gives rise to a thinking brain problem for animalists. The argument is just as valid as the thinking animal argument, so if something is wrong with it, it must be one of its premises. This possibility will be discussed in the second half of the thesis.

Olson regards the thinking parts problem as a serious (if not the most serious) objection to animalism. He recognizes that the problem seems to be analogous to the thinking animal argument and suggests three different kinds of solutions (2007, 217). A psychological one – brains and other spatial parts of human organisms cannot think; a metaphysical one – brains do not exist; and an epistemic one – maybe we could somehow know that we are not identical to brains? I will look at all three of these kinds of proposed solutions.

#### 1.4 Aims of the Thesis

In this thesis I will be assessing the thinking parts problem in general, but I will focus on a certain thinking part in particular – the brain. How can animalists argue that we are animals rather than brains, especially since this is not implied by the thinking animal argument? I will argue that the possibility of us being thinking brains rather than animals is real and not just a “desperate ploy”, as claimed by Olson (2015, 12). When evaluating the brain as a contender for being me, I will do it from an animalist perspective, asking why I would want to say that I am a brain rather than an animal. I will not put it up against any neo-Lockean psychological theories.

#### 1.5 Terminology

In the literature writers often use *person* in ambiguous ways. When they talk about a “person” they often intend to refer to something more neutral, like an individual, but the word *person* has a deeper meaning in this context. Someone might, for example, say that a person is in a persistent vegetative state, but neither neo-Lockeans nor animalists would want to make such a claim, even though they may write in these terms. When I use the word “person” I will always refer to anything that “can think in a certain way—that it is rational, that it is ordinarily conscious and aware of itself as tracing a path through time and space, that it is morally accountable for its actions, or the like” (Olson 1997, 32). So when I mention persons, you will know that I actually consider them to be persons, and not just potential persons such as human animals.

Terms like *animal*, *human*, *human animal*, *human organism*, *organism* etc. are used synonymously throughout the thesis.

## 1.6 Disposition

The thesis has two main parts. In the first part, I will discuss two objections to animalism that seem to give us reason to think that we are brains rather than human animals. These two objections are the Transplant Intuition and the Remnant Person Problem. I will also devote some space to a discussion on the importance of the brainstem to consciousness and personal identity.

In the second part of the thesis I will discuss and evaluate various possible answers to the thinking parts problem and in particular the thinking brain problem. The solutions can roughly be divided into metaphysical, psychological and, epistemic and linguistic solutions.

I will end by concluding that animalists *do* have a problem of thinking brains and that the brain view *is* a serious contender in the personal identity debate.

## 2. Arguments for the Brain View

In this section I will present and discuss two arguments in favour of the brain view. I will also discuss the brainstem's role in personal identity.

### 2.1 The Transplant Intuition

Imaginary cases of brain transplants have often been used to provide evidence against a biological theory of personal identity. It seems to be very intuitive to many (if not most) that you go with your brain if it were to be transplanted. There are a couple different kinds of brain transplants or transfers available in the literature:

Whole-brain transplant – This is pretty straight forward; the entire brain is removed from your skull and transplanted.

Cerebrum transplant – Only the upper part of the brain, the cerebrum, is transplanted. The reasoning behind this alternative is that a brain that includes the brainstem would be regarded as a pared down animal by animalists such as van Inwagen (1990, 172-181). Also, the cerebrum is taken to be sufficient for consciousness to be realized, so the lower part of the brain is considered to be dispensable in this case.

Brain state transfer – The states of your brain (and with them memories, beliefs, intentions, personality traits, etc.) are somehow copied and transferred to a different brain that has previously been wiped clean.

I will start by looking at a cerebrum transplant and the phrasing I am using here is borrowed from Naylor:

One person, Brainy, has a healthy cerebrum but a terminally diseased noncerebral body. A second person, Brawny, has a healthy noncerebral body but a terminally diseased cerebrum. Brawny's diseased cerebrum is removed and Brainy's healthy cerebrum is implanted in Brawny's healthy noncerebral body. The terminally diseased portion of each organism is destroyed as soon as it is separated from the healthy portion. Call the survivor Combo. (2008, 329)

So the question is “who is Combo?”. Brainy, Brawny or neither? The most common answer is that Combo is identical to Brainy, because Combo has Brainy’s brain and thus Combo is psychologically continuous with Brainy, so they must be the same person. But, according to animalism, Combo is Brawny, since they are the same animal<sup>3</sup>. Brawny got his cerebrum destroyed and replaced, but that could just as well have happened to any other organ like his heart or liver without him going out of existence.

It seems obvious that the person goes with the cerebrum, since that is where the “functional role and cognitive dynamics of mental states” occur (Shoemaker 1999, 300). An animal without a brain cannot be rational, self-aware or conscious at all. But, if the person can go anywhere separate from the animal, that would either mean that *person* is a substance sortal or that it is indeed a phase sortal, but that it is the brain that is contingently a person, not the animal. If the person does not go with the brain, then you might argue that the animal was a person for a while, but when it had its cerebrum removed, it lost that property. This explanation, which would be endorsed by animalists, looks pretty simple, but it comes with some problems.

[I]magine that the anaesthetic given to the person prior to the cerebrum transplant was of a sort that did not affect the processes going on in the cerebrum, except to cut them off, temporarily, from causal interaction with processes outside the cerebrum. And imagine that during the procedure a train of thought - say a mathematical computation was realized in its successive states. After the completion of the procedure, when the cerebrum has been hooked up to a new body, the recipient announces the result of the computation, and recounts the steps by which it was arrived at. (Shoemaker, 1999, 300f.)

Since the thought process started when the cerebrum was a part of one human animal and finished when it was a part of a different animal, it seems like neither of these animals where

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<sup>3</sup> This type of view is endorsed by Olson (1997), Olson (2007), Carter (1989), Hershenov (2006), Van Inwagen (1990) and Snowdon (2014), among others.

engaged in solving the mathematical problem (the process even continued when the cerebrum was a part of no animal). Thus, the mental properties possessed by the person before the transplant were not possessed by the animal, because they were causally connected to post-transplant mental states that were clearly not thoughts of the first animal. Shoemaker uses this imaginary case to conclude that persons are the ones that do the thinking, not animals. I believe that this case could also be used to support the view that we are brains rather than human organisms. Since the same brain is present throughout the entire thought process, it is quite likely that it is it that is doing the thinking. There would clearly be no mathematical problem solving without it. According to the thinking animal argument, you are the thinking being, so if you can go on to think without the animal, then you are not that animal.

One option for the animalist is to argue that even though there appears to be only one thinker performing the entire calculation, there are actually two (ibid. 6). One thinker starts the calculation and the second one finishes it, but they are both unaware of their teamwork. I can certainly imagine how one thinker starts the calculation and then for some reason is interrupted (perhaps by going out of existence), but I cannot see how the thinker that just came into existence immediately continued this calculation and even remembers how it was started. And when the brain was not connected to an animal (mid transfer), would that not have caused a considerable interruption if the thought process could only continue while the brain is located in a human skull? Or would this imply that there are in fact three thinkers?

It would seem like the transplant intuition gives us reason to believe that we are brains rather than human animals. If I go where my brain goes, then maybe I am that brain? But this is not so obvious. What about a case where the brain is transplanted, but the procedure causes amnesia? Would you still claim that you go with your brain even if there is no psychological continuity? If your answer to this question is no, then you would probably be equally, or perhaps more intrigued by, a brain state transfer. If this is the case, then the transplant intuition does not provide any cause to believe that you are identical to your brain, but rather to its contents.

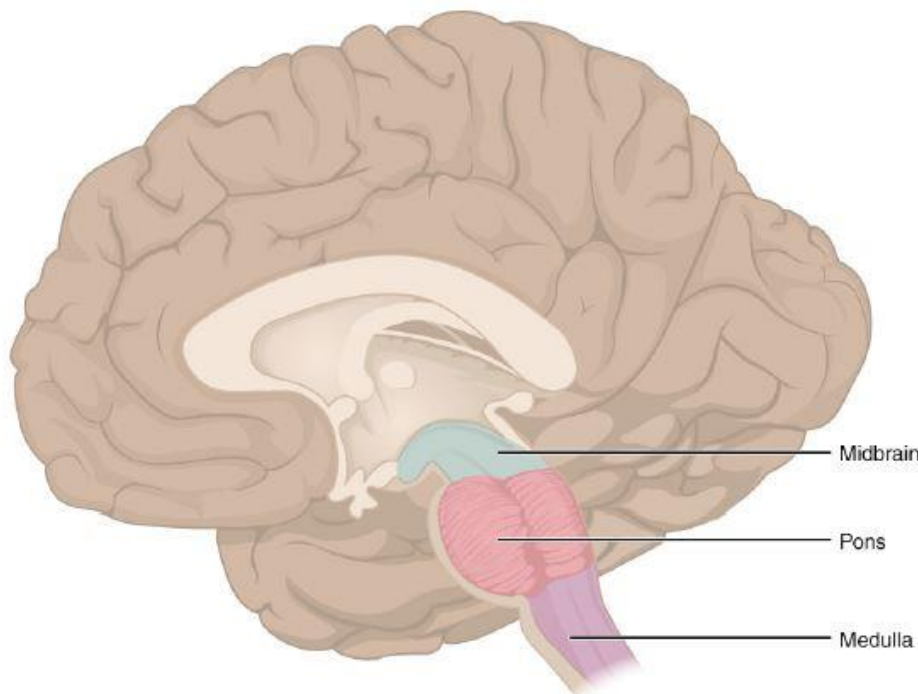
Olson argues that the main difference between a cerebrum transplant and a whole-brain transplant is what is left in both cases (1997, 45). When you remove only the cerebrum, you are left with an empty-headed, but still living, human animal. But if you remove the entire brain, that would result in a lifeless body, a corpse. I do think Olson has a point here. But according to his way of reasoning, “[a]nyone who has the Whole-Brain-Transplant Intuition will have the Cerebrum-Transplant Intuition as well, and to the same degree” (ibid. 46). This is because there

would be the same underlying reason behind these intuitions – psychological continuity. I think that Olson is wrong when making these assumptions. There is in fact reason to believe that we are whole brains, rather than cerebrums, and the reason to believe that we are brains need not be based on psychological continuity. This should hopefully be clear by the end of the next section.

## 2.2 Consciousness and the Brainstem

It is common practice for philosophers to simplify things, like scientific theories, so that mainly what is philosophically interesting remains. This is obviously necessary in a lot of situations. For example, you do not need to go through every detail of gestation to discuss abortion. But even though simplification often is harmless, it needs to be handled with care. In the case of the brainstem, I will argue that the simplification has gone too far and that the effects of this can be recognised in the personal identity debate.

First of all, I shall include an anatomical image of the brainstem<sup>4</sup> for you who may not be familiar with it. The coloured bits are the brainstem, divided into its three main parts. Sometimes the thalamus is considered a part of the brainstem, but since this is not always the case, I will stay on the safe side by assuming that it is not.



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<sup>4</sup> Image from OpenStax College's *Anatomy and Physiology* (2013). Download for free at <http://cnx.org/content/col11496/latest/>. (This was described as the proper attribution by the owner of the image, I do not normally write that downloads are free.)

It has become, as Snowdon puts it, “fairly standard” and “normally accepted” to talk about cerebrum transplants rather than whole-brain transplants (2014, 203)<sup>5</sup>. A sharp line is drawn between the part of the brain that keeps the human organism alive (the brainstem) and the part that is responsible for consciousness (the cerebrum)<sup>6</sup>. But what if the boundary is not as clear-cut as presumed? In fact, it is quite possible that the brainstem’s role in consciousness has been severely overlooked.

The brainstem’s part in creating consciousness has been very downplayed by philosophers. In the personal identity literature, the brainstem is mostly mentioned by animalists, as it is seen as vital for the animal’s survival, but you rarely see anyone talk about its importance to the existence of consciousness. When you do stumble upon “brainstem” and “consciousness” in the same sentence, the brainstem is simply described as an “on” switch for consciousness. This is true in the sense that injuries to the brainstem can cause a persistent vegetative state or a coma, but there is more to the story.

It is interesting to notice how Olson views the importance of the brainstem. According to Olson, the brainstem cannot be replaced without causing biological discontinuity. He states that even if the switch of your brainstem with an organic or mechanical replacement took only a fraction of a second, you would be dead since “for a thousandth of a second there is no self-directing event that coordinates the activities of your parts in the unique way that biological lives do. For a thousandth of a second there is no living organism there, but only a corpse so fresh that its heart is still beating” (Olson 1997, 141). Olson is not nearly as concerned about the brainstem’s role in supporting consciousness, which is clear when he (in a parenthesis) talks about cerebrum transplants:

It may be that mental life is possible only if the cerebrum is stimulated in some special way by the brainstem, so that a naked cerebrum merely kept alive in a vat would have little or no mental life. In that case, if we are transplanting only the cerebrum, we must imagine it provided artificially with whatever stimulation it needs to support mental life. (2015, 4f.)

Olson does recognise that it *may* be the case that the cerebrum needs some kind of stimulation provided by the brainstem for there to be consciousness. This is quite an understatement. Also, the brainstem’s relation to the rest of the brain is not like that of a battery to a TV remote. If it stops working, you cannot just replace it with some other brainstem. As the oldest region of the evolving human brain, the

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<sup>5</sup> This way of imagining brain transplants was originally introduced by Olson (1997, 45f.).

<sup>6</sup> Not much attention is devoted to the cerebellum, though sometimes the “lower brain” is mentioned.

brainstem might be regarded as primitive compared to the rest of the brain, but as Gazzaniga puts it "the brain stem is a complicated place" (2008, 280).

Recent studies have shown that other than causing bodily complications, a brainstem injury can also cause cognitive and affective disturbances. In one review and report by D'ae and Mariën (2015) the analysed results indicated that functional suppression of frontal, parietal and to a lesser degree also the temporal areas, were common after an isolated brainstem stroke. They were also able to identify a range of cognitive and behavioural symptoms that are normally associated with damage in the cortical and limbic areas. Similar results have also been presented in a report by Garrard et al. (2002). If these indications are correct, then the brainstem could no longer be described as a switch.

Why does this matter? Well, if the brainstem is nothing more than an interchangeable switch, it makes sense to talk about cerebrum transplants rather than whole-brain transplants. But, assuming that the brainstem actually has an important function in consciousness, cerebrum transplants suddenly appear to lack motivation. Are brain transplants even an option anymore? Well, whole-brain transplants would still be possible since they could preserve psychological continuity and the transplant intuition would remain. As I wrote earlier, removing the entire brain would leave us with an empty-headed corpse, not a living animal (as opposed to the cerebrum transplant). But, what if the body was hooked up to a life support system? Olson would not count that as survival of the animal since it no longer has a brainstem, but I am not alone in questioning that view.

In arguing against psychological theories Olson has stated that if you believe that psychological continuity is necessary, then it follows that you were never a fetus (1997c). Animalists do not have this problem since a fetus is an organism and so are you, thus you were a fetus. Even though animalists avoid the fetus problem, they themselves face a different problem – the so called embryo problem.

According to animalists like Olson, you go out of existence when your brainstem is no longer functioning. But an embryo starts out with no brainstem, so how could it be you? Hershenov (2002) recognises this pretty ironic circumstance, but Olson has not really discussed the issue anywhere. If Olson wants to claim that you came into existence when your brainstem did, then what happened to the pre-existing, brainstemless embryo? There are plenty of suggestions

regarding the time of the organism's origin that do not include the brainstem, and these are a couple of those<sup>7</sup>:

Damschen et al. (2006): The human organism is formed at the time of fertilisation.

Smith and Brogaard (2003): The human organism is formed 16 days after conception, during the phase called gastrulation.

Hershenov (2002): The human organism is formed by the end of the third week, when a primitive heart and circulatory system start to function.

This would suggest that the brainstem is not necessary for a human organism to exist, so perhaps a human animal could survive a brainstem switch or even remain without a brainstem on life-support. I will not go any further in discussing what it takes for a human being to exist, but I have some interest in life as a persistent condition. Obviously *life* needs to be defined, but I will only go as far as to express my intuitive attraction to Bedau's *cluster conception of life*, where human life is associated with a cluster of characteristic properties such as metabolism, reproduction, evolution and growth (2014, 17). For a human being to be alive is for it to satisfy some of these conditions, but not necessarily all of them.

If the brainstem is needed for consciousness, but not necessary for organism survival, then it is clear why a whole-brain transplant should be preferred to a cerebrum transplant. There is no longer any reason to leave the brainstem behind. In fact, we would not consider doing cerebrum transplants at all since that does not ensure psychological continuity. We would only perform whole-brain transplants, so there would never be an animal with a brainstem remaining. But what if moving the whole brain would be equal to moving the human animal?

I find it very implausible that an animal could be pared down to a brain, as stated by van Inwagen<sup>8</sup>. Even if the lower brain is the animal's biological control centre, that does not imply that the animal could shrink to that size. A car cannot be pared down to an engine just because that is what keeps it running. If you do not consider the brain to be an animal that has been pared down, then you would be able to do a whole-brain transplant without having to consider the animalist objection that you are in fact transplanting the animal. Quite a few philosophers follow Olson in talking only about cerebrum transplants, but I think they are mistaken. There

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<sup>7</sup> This is assuming that there is a certain point during gestation where an organism is formed, but it may be the case that it is not possible to identify such a point in time.

<sup>8</sup> Van Inwagen actually states that "[i]n my view the severed head is a genuine living organism" (1990, p. 177). I do not think that it matters to the discussion that van Inwagen talks about a "severed head" rather than an undetached brain. There is no essential difference between the two as possible organisms.

is no reason to exclude whole-brain transplants on these grounds. Claiming that the presence of the brainstem would be enough to yield biological continuity is very farfetched.

If the thinking being can be separated from the animal, which seems to be the case in the transplant situation, then that would give us reason to believe that we are not animals, but brains. Even if the content of the mind, all memories and so on, were removed, I still believe that we would go with our brains. This brings me back to why I think that there are reasons why you can have a *whole-brain transplant intuition* without having a *cerebrum transplant intuition* and why you can have a whole-brain transplant intuition that is not based on a notion of psychological continuity. Since the cerebrum is necessary but not sufficient for consciousness, I do not see any reason as to why you would have a cerebrum transplant intuition. If you believe that you are the thinking being, you should only be interested in whole-brain transplants<sup>9</sup>. But how could you have a whole-brain transplant intuition on any other grounds than the interest in preserving psychological continuity?

Animalists do not have a transplant intuition because they do not believe that psychological continuity matters to identity, but I believe that there is a different way in which you could have this intuition. I do not believe that I am successfully transplanted only if the brain transplant results in psychological continuity through preserving my mental content and/or capacities. I want to argue that I can be moved from one animal to another because it is possible to move the subject that has the *potential* of having these contents and capacities – the thinker. I may not always be a person, but I will always be something with the potential of being a person. So yes, I do believe that the transplant intuition, when formulated correctly, gives us reason to believe that we are brains. But, there is a related problem that could potentially cause animalists far more trouble.

### 2.3 Remnant Persons

Related to the Transplant Intuition is the problem of Remnant Persons, a problem that has no obvious solution according to Olson (2015). The original problem, as it was presented by Johnston (2007, 45f.) includes a type of cerebrum transplant, but for reasons that I have stated earlier, I will substitute it with a whole-brain transplant. Assuming what I have been claiming

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<sup>9</sup> In these kinds of transplants I would also include the not so talked about cerebellum, involved in such functions as motor coordination and balance, but also cognitive processing and emotional control (Schmahmann & Caplan, 2006).

previously about brains not being organisms, I believe that the essential features of the thought experiment remain intact. Now, over to the actual problem.

Imagine a brain that has been removed from a human skull and put into a vat. It seems quite possible (and is often assumed by philosophers) that the brain can remain conscious in this state, provided that it is kept functioning by artificial means. There is no longer an animal present, but there is still a person. The concern is not that there is a person that is not identical to a human animal, since animalism does not exclude the possibility of non-human persons. What is problematic is the question of where this person came from.

There are two options to consider:

(A) The person that exists now existed before the procedure.

(B) The person was created when the brain was removed from the skull of the organism

(A) is not a viable option to animalists since it would imply that there were two coinciding persons before the procedure, the (now empty-headed) organism and the remnant person. This would create a problem of too many minds, the type of problem which the thinking animal argument is meant to rid animalists of. Just as Olson asks proponents of the psychological view how you can know that you are the person and not the animal, we might ask how you can know that you are the organism rather than the remnant person.

But (B) is certainly no more attractive than (A). How can a new person be created simply by extraction of a brain from a skull? It is simply not possible to create a new person by removing surrounding tissue, unless that tissue was suppressing conscious thought. Johnston conceives that a “developing fetus might have a massive tumor in its developing brain, which suppresses its mental life, and perhaps even its capacity for mental life. Given that, we can understand how removing the tumor could allow a person in Locke’s sense to be present for the first time.” (2007, 47). But as Johnston goes on to mention, there could not be any similar explanation to the case in question. A person cannot come to exist through a mere *Cambridge change* (a relational change). Olson agrees with this and names the principle stating that you cannot create a person by cutting away surrounding tissue, the *creation principle* (2015, 6). So an animalist that believes that the remnant person is a new person would violate this principle. Something that might seem even more puzzling is that according to animalism, this person would disappear if the brain was removed from the vat and transplanted into a new human skull. Thus, the animalist would also be violating what Olson calls the *destruction principle*, according to which you cannot destroy a person only by surrounding them with sustaining tissue (ibid.).

Madden, on the other hand, argues that persons (like a number of other things) can in fact be created through subtraction. When the butcher carved out a filet mignon from the carcass of the cow, a new entity that did not exist prior to the dressing of the flesh has been created. Likewise, when the surgeons when removing the brain from the skull did not expose the remnant person, they actually created it (Forthcoming, 32). An important difference, though, is that the remnant person is now doing something that the organism did before the operation, namely consciously thinking (ibid. 33). In contrast, there is nothing that the filet is now doing that the carcass did before it was cut into pieces. The remnant person is conscious both before and after the procedure because the brain processes responsible for the conscious thought were not interrupted (significantly at least) during the procedure. Madden calls this the *continued participation principle*<sup>10</sup>:

If  $x$  is the thing which is  $\phi$ -ing at a later time, and the local processes which suffice for something to be  $\phi$ -ing have gone on undisturbed since the earlier time, then  $x$  must have been  $\phi$ -ing at the earlier time. (ibid. 34)

Applied to the remnant person case it would suggest that the remnant thinker did in fact exist before the operation and the animalists are faced with a rival thinker. Though this may seem like a plausible principle, Madden argues that it is not, based on an analogue of the remnant person case that he claims serves as a counter-example.

Imagine that I have a plant that I want to propagate. I decide to do so by cutting off one of its healthy stems and then planting it. The resulting, new plant is a genetic clone of the mother plant, but they are nevertheless different plants. The flowers that were unfurling on the stem continues to blossom when the cutting is removed and planted. This process of blooming was not disturbed during the creation of the new plant, but still the blooming objects are not one and the same. This would, according to Madden, prove the continued participation principle to be false (ibid. 35).

The continued participation principle is a conditional that could be used to formulate two arguments.

( $a \rightarrow b$ ) If  $x$  is the thing which is  $\phi$ -ing at a later time, and the local processes which suffice for something to be  $\phi$ -ing have gone on undisturbed since the earlier time, then  $x$  must have been  $\phi$ -ing at the earlier time.

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<sup>10</sup> Madden writes that something like this principle seems to be implicit in Johnston (2007, 46f.).

This is the antecedent:

(a)  $x$  is the thing which is  $\phi$ -ing at a later time (and the local processes which suffice for something to be  $\phi$ -ing have gone on undisturbed since the earlier time).

And the consequent:

(b)  $x$  was  $\phi$ -ing at the earlier time.

The original argument takes the form of a *modus ponens* (a, therefore b). We assume  $a$ , that it is the case that  $x$  is the thing which is  $\phi$ -ing at a later time, and this implies  $b$ , that it is the case that  $x$  was  $\phi$ -ing at the earlier time.

Stated formally as:

$$\frac{a \rightarrow b, a}{\therefore b}$$

One's *modus ponens* is another's *modus tollens*, and the argument can be formulated as such by assuming  $\neg b$ , that it is *not* the case that  $x$  was  $\phi$ -ing at the earlier time, which implies  $\neg a$ , that it is *not* the case that  $x$  is the thing which is  $\phi$ -ing at a later time.

Stated formally as:

$$\frac{a \rightarrow b, \neg b}{\therefore \neg a}$$

Madden would not be satisfied with any of these two arguments, since none of them arrive at the conclusion that Madden claims to be true;  $x$  is  $\phi$ -ing at a later time, but not at the earlier time ( $a$  and  $\neg b$ ). That would be the only case where the operation produces a false value, as can be seen in this truth table:

$a$	$b$	$a \rightarrow b$
T	T	T
T	F	F
F	T	T
F	F	T

Because of this, Madden claims that the principle itself must be false. My claim, though, is that Madden generally misunderstands the conditional (or principle) as a whole, and likewise

misinterprets the consequent, *b*. I assume that Madden is trying to prove that according to the continued participation principle the plant case should be described like this:

If plant<sub>2</sub> is the thing which is blooming at a later time, and the local processes which suffice for something to be blooming have gone on undisturbed since the earlier time, then plant<sub>2</sub> must have been blooming at the earlier time.

But according to Madden, plant<sub>2</sub> is not the thing that was blooming at an earlier time, it was plant<sub>1</sub>, and these plants are not identical. I disagree with this reasoning, since the continued participation principle does not imply that the organism was doing something that the remnant person is now doing, it only entails that the remnant person did the thing that it is doing now at an earlier time, presuming that the local processes responsible for that activity have not been interrupted. So in the case with the plant, it would imply that the part of the mother plant that was cut off was blooming at an earlier time.

I believe that the principle could be formulated in a different manner:

If plant<sub>2</sub> is the thing which is blooming at a later time, and the local processes which suffice for something to be blooming have gone on undisturbed since the earlier time, then the stem (which is identical to plant<sub>2</sub>)<sup>11</sup> must have been blooming at the earlier time.

The stem became a cutting which became a plant. These are all the same object, but in different stages of its lifetime. Also, I think that the term “bloom” can be a bit ambiguous. Imagine that you have a bush where, unfortunately, only one of its stems has unfurling petals on it. You might think that the stem is in fact blooming because it has petals unfurling on it, but you might also believe that only the bush as a whole can be regarded as blooming, or even that only the petals themselves do.

While admitting that he knows of no solution to this issue, Olson goes on to claim that animalists are not the only one facing the problem of remnant persons. According to Olson, almost all theories on personal identity have this same dilemma, except one – the brain view (2015, 10). If you are a brain, then the case above merely consist in a change of your surroundings. Olson is clearly not very fond of this idea, referring to the human brain as a “three-pound lump of tissue housed within the skull” (ibid.). I take the remnant person problem

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<sup>11</sup> This could also be formulated as “..., then plant<sub>2</sub> (which was a stem at the time) must have been blooming...”.

to be a good reason to seriously consider the possibility of you being a brain rather than a human animal.

### 3. Possible Solutions to the Thinking Brain Problem

In this section I will go through some different ways that animalists could possibly refute the brain view through disproving one of the three premises of the thinking brain argument. These various objections are built on the notions that brains do not exist, that brains do not think, or that we can simply know that we are not brains. The first two sections relate to the first two premises of the thinking brain argument, (P1<sub>brain</sub>) and (P2<sub>brain</sub>), while the third and last section relates to its conclusion, that we are identical to brains. There will be no discussion of (P3<sub>brain</sub>), stating that I am the thinking being located in my bed, since this statement is uncontroversial. Everybody thinks that we are the thinking beings, they just do not agree on what these thinking beings are (human animals, brains, neo-Lockean persons etc.).

#### 3.1 Undetached Parts Such as Brains Do Not Exist

Recall the first premise of the thinking brain argument:

(P1<sub>brain</sub>) Presently located in your bed is a brain.

This probably strikes most as an apparent truth, but it has been questioned by some who would argue that you cannot be a brain, simply because there are no brains. Below, I will discuss the existence of parts in general and brains in particular.

According to what van Inwagen calls the Doctrine of Arbitrary Undetached Parts (DAUP) it is the case that

For every material object M, if R is the region of space occupied by M at time *t*, and if sub-R is *any* occupiable sub-region of R *whatever*, there exists a material object that occupies the region sub-R at *t*. (Van Inwagen, 2001, 75)

Philosophers who defend DAUP cannot state that the northern part of the Eiffel Tower just exists in some abstract way, they must commit to the claim that the northern part of the Eiffel tower is a concrete material object, just like the Eiffel tower as a whole (ibid. 76f.). An interesting example that includes such arbitrary undetached parts is Chrysippus's puzzle of Dion and Theon (Burke, 1994).

Dion is a man with a complete human body and Theon is a proper part of Dion, more precisely all of Dion except for his left foot. Theon is Dion's left foot complement. Now imagine that

Dion's left foot is amputated. What would happen to Dion and Theon? We have four options to choose from;

- (a) Theon and Dion both survive and are now separate objects or;
- (b) Theon or Dion goes out of existence or;
- (c) Theon and Dion both go out of existence and are replaced by a third object or;
- (d) Theon and Dion both survive and are now identical.

If (a) is the case, then Dion and Theon both continue to exist, occupy the same space, and are entirely made up of the same matter, all this while being two separate objects. But this could not be the case according to Chrysippus since he claims that “it is impossible for two peculiarly qualified individuals [...] to occupy the same substance jointly” (cited in Bowin 2003). That must mean that either Theon or Dion went out of existence when Dion got his foot amputated<sup>12</sup>. This brings us to (b). It seems unlikely that Dion would have gone out of existence, since losing a foot should not cause such a drastic change. But Theon came out of surgery fully intact, so which one of them could have disappeared? The same goes for (c), why would both Theon and Dion go out of existence when neither one of them experienced any important intrinsic change? You might rather want to argue that (d) is true, Theon and Dion both survived the operation, but now exist as one. After the operation Theon is no longer a proper part of Dion, but rather an improper part. The reason for this is that Theon no longer consists of only some of the same particles as Dion, but all of them. This would suggest that Theon and Dion are now identical. If we assume the *indiscernibility of identicals* or  $x = y \rightarrow \forall F(Fx \leftrightarrow Fy)$ <sup>13</sup> this would not be a conceivable option, since there is something that is true of Dion, but not of Theon (Dion used to have two feet) (Burke 1994, 129). This also goes against the *transitivity of identity*<sup>14</sup> which says that for any objects  $x$ ,  $y$ , and  $z$ , if  $x = y$  and  $y = z$ , then  $x = z$ . In Chrysippus's puzzle

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<sup>12</sup> Sometimes it would perhaps be true that two different objects share the same matter, like a statue and a lump of clay. The lump/statue case is different, though, since the lump of clay could be said to constitute the statue. You would not say that Theon constitutes Dion, or the other way around. The statue and the lump also have different persistence conditions – the lump would survive getting smashed while the statue would not. On the other hand, it is hard to see how Theon and Dion might have different persistence conditions, since the only difference between them is that Dion used to have a foot.

<sup>13</sup> This principle is commonly known as *Leibniz's law*, though Leibniz's law could also refer to the *identity of indiscernibles* ( $\forall F(Fx \leftrightarrow Fy) \rightarrow x=y$ ), or the conjunction of the two principles (Forrest, 2012, sect. 1).

<sup>14</sup> I take such principles as *transitivity of identity* and *indiscernibility of identicals* to be true without discussing them any further, since they are so widely accepted among philosophers. Of course they (like all other principles) have been questioned, but this is not the time or place for that discussion.

(assuming that Theon and Dion are identical after the operation) the relations between Theon and Dion will violate this principle since  $\text{Theon}_{\text{post}} = \text{Dion}_{\text{post}}$  and  $\text{Dion}_{\text{post}} = \text{Dion}_{\text{pre}}$  but  $\text{Dion}_{\text{pre}} \neq \text{Theon}_{\text{post}}$ . We have assumed that Dion and Theon are identical after the operation, and each of them is identical to the version of them that existed before the operation, but Theon that exists after the operation is *not* identical to Dion that existed before the operation, since Dion had an extra part at that time. So, the relation fails to be transitive. This also violates the transitivity of identity *simpliciter*, since it would mean that there is an object that used to exist as two objects (van Inwagen 2001, 81).

This would lead us to conclude that there never was such a thing as Theon and that DAUP is false. But maybe we should not have been so quick in following Chrysippus and refuting (a). In a modern version of Chrysippus's puzzle which was presented by Wiggins (1968, 94), it is presumed that Tibbles and its tail complement Tib are two non-identical individuals, even though they occupy same space<sup>15</sup> after Tibbles tail was removed. The reason why they are not identical is that they do not share the same history and thus the indiscernibility of identicals is not satisfied (Tibbles used to have a tail and Tib did not). This would suggest that Dion and Theon both could continue to exist as two separate objects sharing the same matter through having dissimilar properties that keep them from collapsing into one another. Wiggins sees this as problematic, though, since there are two individuals (Tibbles and Tib), but only one cat on the mat. To uphold the transitivity of identity we would need to assume that there are in fact two cats in the same place at the same time. Wiggins is opposed to accepting this since he believes S\* to be a necessary truth:

S\*: No two things *of the same kind* (that is, no two things which satisfy the same sortal or substance concept) can occupy exactly the same volume at exactly the same time. (ibid. 93)

So even though Theon and Dion have different histories, they could not be spatially (or materially) contingent if they are of the same kind, which seems to be true since they have no intrinsic differences that would cause them not to be. So, (a) should probably be refuted after all.

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<sup>15</sup> Tib and Tibbles are described as sharing the same space while Theon and Dion are said to share the same matter, but this does not seem to make any difference since it would be impossible to share the same space without sharing the same matter and vice versa.

If Theon does not exist, as van Inwagen would argue<sup>16</sup>, then there is no left foot either. It would seem arbitrary to not accept the existence of Theon while accepting the existence of Dion's left foot. It might be harder to accept that there are no feet than to accept that there are no foot complements, but as van Inwagen points out, this is just a result of how we commonly talk about or bodies (2001, 80). You could imagine a culture where it does not make much sense to talk about hands, but where they often mention the object that starts at your fingertips and ends half way up your upper arm.

As a step in showing that DAUP is false, van Inwagen wants to prove that it entails a thesis which he calls *Mereological Near-Essentialism*. According to this thesis it is impossible for an object to survive losing a part if no other part is added to the "remainder" (ibid. 77). This is a weaker version of *Mereological Essentialism Proper* according to which an object must cease to exist when losing a part, whether or not a new part is added to the remainder<sup>17</sup>. We start off by assuming that DAUP is true and Mereological Near-Essentialism is false, so we believe that there are arbitrary undetached parts and that it is possible for an object to survive losing a part. If we look back at Dion and Theon, this type of assumption led us to violate the principle of transitivity of identity. Thus it seems like *if* there are arbitrary undetached parts, then objects cannot lose any of its parts, since that would lead to this type of violation. So if you accept the claim that there are arbitrary undetached parts, you must also accept the claim that there are no objects that would survive losing one of its parts (at least not as long as the part is not replaced). It strikes me (and probably most people) as very counterintuitive to say that if I would need to have an appendectomy<sup>18</sup> next month, that would be the end of me. Not because the procedure might not be successful, but because even such a seemingly insignificant part of me would be necessary for my existence.

To avoid the conclusion that there is no Theon, we might state that Theon<sub>post</sub> does not exist, which would save Theon<sub>pre</sub>. Burke believes that Chrysippus's puzzle has a sortal essentialist solution. Burke's argument rests on three assumptions (1994, 134):

1. The concept of a person is maximal, so a proper part of a person is not also a person.

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<sup>16</sup> Van Inwagen's example includes Descartes and D-minus (Descartes's left leg complement), but it is structurally identical to the Dion and Theon case.

<sup>17</sup> Van Inwagen chooses not to raise the question whether DAUP also entails mereological essentialism proper, since he does not find it necessary for his purposes.

<sup>18</sup> Surgical removal of the vermiform appendix.

2. Persons are essentially persons and non-persons are essentially non-persons.
3. If Theon survived the operation, it would have changed from a non-person to a person.

Assuming that these assumptions are correct, that would lead us to the conclusion that Theon could not survive the operation. Starting from the top, Theon is not a person since Dion is a person and Theon is a proper part of Dion. Because Theon is a non-person, it is essentially a non-person. And lastly, Theon could not become a person due to the fact that it is essentially a non-person, which means that it could not survive the operation.

Assumption 2 amounts to what Burke presents as “the now widely, but by no means universally accepted doctrine of sortal essentialism” (ibid. 135). Even if you believe sortal essentialism to be true, you might still argue that 2 is false. Animalists could claim that we are essentially animals and could not exist without being animals (sortal essentialism), but they could also claim that this is not true for *person*, since it is a phase sortal. We are essentially human animals and only contingently persons. So, sortal essentialism is perhaps true, but only for substance sortals, such as *animal*.

I stated earlier that it seems implausible that Theon would go out of existence after the operation, since it went through no *intrinsic* change (it did not have any parts changed or removed)<sup>19</sup>. The change that Theon goes through is purely *relational*, but Burge argues that this is in fact enough for Theon to disappear. This is because the relational change would cause Theon to go through a sortal change from non-person to person, something which would eliminate Theon since it is *essentially* a non-person. This should sound plausible if you are a sortal essentialist who also believes that *person* is a substance sortal. But was Theon a non-person before the operation? Olson is right when he states that Dion after the operation and Theon before the operation are intrinsically no different from each other (Olson, 1997b, 265), so how could they have different persistence conditions (essentially be different kinds of

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<sup>19</sup> It might be possible to destroy an object without changing its intrinsic properties and without mentioning sortals. Imagine that you have a ball of iron placed in a mould larger than the ball itself. You then fill the mould with liquid iron that will soon set and by the time it does, the iron ball can no longer be discriminated from the rest of the iron in the mould. What you now have is a solid block of iron. Does the iron ball still exist? Would you even say that the ball now is a proper part of the block? I have feeling that this could be true of objects made from only one material, like an iron ball, but it does seem very unlikely that this would be the case when it comes to human bodies and their parts.

objects)? Burke's entire argument rests heavily on his assumption that personhood is a maximal property, something that I will bring up later while discussing thinkerhood as a maximal property in section 3.2.

Burke points out that it is not crucial to his argument that the sortal used is person, it could also be human, animal, human body etc. He claims that whichever one of these you choose, a sortal essentialist should accept the statement that there is *some* substance sortal that applies to Theon and one that applies to Dion, and that these two substance sortals will differ (1994, 136). What is crucial, though, is that you accept the principle according to which concepts such as person, human, animal and human body are maximal. So you could be a sortal essentialist animalist and claim that Theon goes from just being a proper part of a human animal to actually being a human animal, and that this change would cause Theon to go out of existence.

Burke's sortal essentialism is also relevant when discussing the problem of remnant persons. If Dion's detached brain is a person, it must also have been a person while it was undetached, otherwise the undetached brain would have gone out of existence in the moment it was removed from the skull. But assuming that Dion was a person before the procedure, his undetached brain was not. So this must mean that Dion shrunk to the size of his brain and the undetached brain went out of existence. But why would it when there was no intrinsic change? If you consider the possibility that Dion is essentially an animal, we should get a different outcome. Dion is an animal and his brain is not an animal, neither when undetached nor detached. So for Dion to shrink and become the undetached brain, it would mean that he goes through a sortal change from animal to non-animal, something that is not possible. The undetached brain, on the other hand, was never an animal. Thus, saying that it is identical to the detached brain is plausible assuming the animalist claim that we are essentially animals. So, sortal essentialism combined with the assumption that we are animals provides reason to believe that undetached brains exist.

One could claim that brains do not exist on other grounds than the assumption that there is no such thing as undetached proper parts. There is a type of ordinary conception of what kind of objects there are, but some argue that we have reason to think that the actual amount of ordinary objects that exist differs from that conception. You can divide these revisionary conceptions into two categories; eliminative conceptions and permissive conceptions (Korman, 2015, sect. 1.1). I will focus on the eliminative conceptions as they have interesting relations to animalism and also because permissive conceptions would acknowledge the existence of brains since they accept more kinds of objects than the ordinary conception.

According to the eliminative conceptions there are less ordinary objects than are identified by our ordinary conception. However, this is not the view that there are no ordinary objects whatsoever (ibid. sect. 1.2)<sup>20</sup>. We can further distinguish the various eliminative conceptions based on their answers to the *special composition question*:

When is it true that:  $\exists y$  the  $xs$  compose  $y$ ? (van Inwagen, 1990, 30)

So, what we are asking is what it takes for some objects to compose an additional object.

According to van Inwagen's biological minimalism the answer to the special composition question is that the  $xs$  compose something when their activity constitutes life, or when there is only one  $x$ <sup>21</sup> (ibid. 82). Consequently there are no such things as undetached brains, heads or even houses, since these are neither simples nor living objects. Olson is optimistic when it comes to biological minimalism providing a solution to the Thinking Parts problem that animalists face; "[A]nimalists can solve all their metaphysical worries at a stroke by adopting biological minimalism. That may seem a high price to pay, but it does the job" (2007, 227). If you can deny the existence of thinking parts, then what is there to worry about? But in some cases you might want to say that the undetached part is actually alive, like in the case of Theon. Why would Dion, but not Theon, be alive when all Theon is missing is a foot? Brains, though, are clearly not alive. A brain could be functioning or not functioning, but it is not alive or dead like an organism would be.

The  $xs$  in van Inwagen's response to the special composition question are supposed to represent simples, but what could count as a simple? If today's physics is correct about elementary particles, then the  $xs$  would include quarks, leptons and bosons. Such particles are at least not *known* to have any parts. We normally say that these particles compose atoms, which in turn compose other things. But how can the elementary particles compose an atom? We would not say that atoms have life, would we? So according to van Inwagen, there are no atoms. Are we supposed to skip all the steps from elementary particle through atom, molecule, cell and so on, till we reach living organisms? Even if you would argue that  $xs$  can compose cells, these cells cannot compose an organism since they are composite objects themselves<sup>22</sup>. It strikes me as very odd to claim that the only parts of human animals are quarks and other elementary

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<sup>20</sup> I will not look into this type of conceptions since I am going to assume that there are full-bodied organisms like Dion. What I am interested in discussing is whether proper undetached parts like brains exist.

<sup>21</sup> An individual  $x$  is an elementary particle or a simple.

<sup>22</sup> Van Inwagen actually claims that cells exist, but I do not see how that would be possible in this framework (1990, p. 180).

particles. What strikes me as even more bizarre is that all that exists are quarks, leptons, bosons and organisms.

Further, as Watson has noted, it appears that Van Inwagen's answer to the special composition question only is successful if we assume that we most fundamentally are living organisms.

If, for instance, someone thought that we most fundamentally are a part of a living organism (its brain, for instance, or its temporal part all of whose temporal parts are connected by ties of psychological continuity), then the idea that biological life is what is metaphysically distinctive about us, as opposed to proper brain function or some set of psychological features, would be entirely unmotivated. (Forthcoming, 7)

As we are trying to defend the thinking animal argument from the thinking parts problem, we cannot start out by assuming that animalism is true. Biological minimalism needs support that is not based on that assumption.

Merricks supports another eliminativist view that he happens to call *eliminativism*. According to this view macrophysical objects can only exist if they have causal powers, and since only living things can have such causal powers, there are no non-living macrophysical objects. What seems to be caused by a baseball is also caused by its atoms, and if baseballs existed they would “at best [be] mere overdeterminers of whatever they cause”, so there are no baseballs (Merricks, 2001, 56). Critics have asked why the same thing is not true for humans<sup>23</sup>. Are we not just overdeterminers of whatever our constituent atoms cause? Merricks denies this, stating that humans can cause things that our atoms do not in virtue of having conscious mental properties. He argues that “our existing and having conscious mental properties does not supervene on the features of, and relations among, our microphysical parts” (ibid. 85).

The statement that conscious mental properties do not supervene on the intrinsic properties of, and the spatiotemporal and causal relations between, the atoms constituting the human being, will “look pretty implausible to anyone at all sympathetic to the physicalist slant of current work in the philosophy of mind” (Carroll & Carter, 2005, 3). Dorr argues that there are empirical indications that should bring us to believe that human organisms are causally redundant, just like baseballs:

[O]ur current theories are all either deterministic, or if they are indeterministic, they predict that the chance of any microphysical event occurring is fixed by other microphysical facts.

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<sup>23</sup> Carroll & Carter (2005), Dorr (2003), Rea (2001) and Watson (Forthcoming).

If any theory of this sort is true, then every microphysical event either has a wholly microphysical cause to which non-microphysical entities are causally irrelevant, or has no cause at all. But if human organisms are ever non-over determining causes, they must be non-over-determining causes of some microphysical events. Hence, every event caused by a human organism has a wholly microphysical cause to which non-microphysical entities are causally irrelevant. (2003, 715f.).

But, even if we assume that Merricks' claim about causal powers being necessary for existence is true, does that rule out the possibility of the existence of brains? Well, it depends on to what you ascribe the causally potent mental properties. I will discuss this in section on thinking brains, but it is at least not obvious that brains do not possess these properties. If brains do have conscious mental properties, then we would have no reason to exclude their existence on these grounds.

I do not find any of the eliminativist conceptions proposed above convincing enough to make me doubt the existence of brains. It is definitely possible to go deeper into this question, but I will settle here and through the rest of the thesis I will assume that there are undetached (and detached) brains.

### 3.2 Brains Do Not Think

Some who believe that we are not brains do so because they are convinced that brains cannot think. This obviously goes against the second premise of the thinking brain argument:

(P2<sub>brain</sub>) The brain located in your bed is thinking.

You and I are thinking beings, so if brains do not think, how could we brains? I agree that we must be identical to something that is a thinker, but I am not so sure that brains do not fit into this category. In this section I will discuss the *maximality principle*, *Madden's function criterion*, and the *problem of too many thinkers*.

According to Burke, brains do not think because "consciousness, thinkerhood and personhood" are maximal properties (2003, 112). If thinking is maximal, that means that no thinker can have a proper part that is also a thinker. So if the human animal is a thinker, its brain is not. Sider, too, endorses a maximality restriction and states that "being conscious is maximal, border-sensitive and extrinsic: whether something is conscious, properly so-called, depends on what external things it is attached to" (2003, 142). To assume that thinking is an extrinsic property is

quite peculiar. One would think that consciousness depends on intrinsic properties such as the proper brain processes.

Madden argues that the maximality clause as a general principle is not true. He imagines a car that has a “quick-escape ‘mini-car’” built into it (Forthcoming, 24). The mini-car, Madden claims, is a proper part of the car while being a car itself. But, Burke actually states in a note that a table, for example, could be a proper part of a larger table (1994, 136 note 16). So being a car could be non-maximal according to Burke’s reasoning. If the entire car except for the mini-car was destroyed, we would not have any issue stating that only the mini-car remains. Problems like the one with Theon and Dion arise when the part and the whole are not classified as the same sortal concept to begin with.

But even if we assume that thinking is in fact maximal, that does not necessarily give us reason to believe that the animal, rather than the brain, is thinking. The maximality principle only states that if the animal thinks, the brain does not, and if the brain thinks, the animal does not. It does not give us any reason to favour one possible thinker over the other (Olson, 2007, 82). It may feel counterintuitive to state that brains, not humans, do the thinking, but that does not mean it is not true. To many neuroscientist, it would seem more outrageous to say that brains cannot remember, believe etc. (Gillett, 2014, 50). Maximality alone does not provide any reason for us to believe that brains do not think. If we had an independent reason to believe that human animals think, then perhaps the maximality principle could provide an argument to support the view that brains are not thinkers. So for the maximality principle to be of any use, we first need to know that humans think. The same goes for the maximality of personhood.

Refuting the maximality principle, Madden presents the outlines of an argument that is based on the idea that undetached proper parts and whole organisms stand in dissimilar functional relations to the T-parts that they contain. A “T-part” in Madden’s terminology is a central part that is sufficient for one to possess a “conscious perspective of the sort one has now” (usually a brain or some specific part of one) (Forthcoming, 4). The reason why undetached proper parts and whole organisms stand in dissimilar relations to the T-parts they contain is that the T-parts have the function of coordinating the human organism, but not the undetached part; “[f]or given that it is the human organism and not the undetached head that is a member of a reproducing population, it is the past success in coordinating the inputs and outputs of ancestors of the organism that causally explains the current presence of the T-parts<sup>24</sup> in the organism” (ibid. 29).

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<sup>24</sup> I am not sure why Madden talks about T-parts in plural, since it seems pretty clear that there is only one.

What if the undetached part is itself a T-part? I am not positive that you could treat the brain as a T-part and an undetached part simultaneously.

It would be true, also of the brain, that it does not have the function of coordinating the inputs and outputs of itself, but the organism only. Madden states that if ancestral T-parts had been successful in coordinating organisms, but not undetached parts like heads, they would still exist (ibid.). He then goes on to say that the same would not be true if the T-parts had been successful in coordinating the undetached head, but not the organism. So, the function of the T-part is evidently to coordinate the organism. This becomes quite confusing if you imagine both the T-part and the undetached proper part as being the brain. How could the brain be successful in coordinating the organism, while at the same time being unsuccessful in coordinating itself? Assuming that the brain's presence *is* explained by its success in coordinating the inputs and outputs of the animal, how does that give us reason to believe that the animal thinks and the brain does not? This may be an interesting explanation when it comes to left arm complements and such, but I do not see how it could work for brains.

Even if Madden is right in claiming that “a system is a [*sic!*] mentally endowed just in case it has parts whose function is to causally coordinate its inputs and outputs in a sophisticated way” (ibid. 28), why does this not apply to brains? A brain does not have T-parts, but it has parts that are responsible for coordinating its inputs and outputs. Imagine that you see a beautiful seashell in the sand and decide to pick it up. Very roughly, and skipping many steps, you might describe this by saying that the visual cortex processes the visual information (input) which then leads to the motor cortex initiating movement (output). So this system seems equally as good a contender to be cognitive as the organism.

As Madden's proposal is only a sketch of an argument that needs a lot more developing, it might be possible that he (or someone else) will present a solution to this problem in the future. But for now, I am not very convinced that function is the right criterion to choose when trying to explain why organisms would be conscious rather than brains.

Assume that you are a proponent of a psychological view and that you believe that you and I are essentially persons, not human animals. You must obviously believe that persons think, but why would the animal not think if the person with whom it shares every single atom has this property? It seems like there are in fact two thinkers, the person and the animal. This is what is known as the *problem of too many thinkers* ((Parfit 2012, 7), (Olson 2007, 35), (Shoemaker 1999, 291)).

The same (or a similar version of) this problem seems to arise when assuming that brains think. If both brains and human animals think, then there is one thinker too many. One response to this would be that human animals do not think, only brains do. Brains and human animals do not share all their parts, but all the parts that are sufficient for consciousness are apparently part of the brain, and thus the animal. So if the human animal has all the parts needed for thinking, why does it not?

Parfit believes that “[t]he Thinking Parts Problem has a thinking parts solution”:

Animals digest their food by having a part, their stomach, that does the digesting. Animals sneeze by having a part, their nose, that does the sneezing. These facts do not create a Too Many Digesters or Too Many Sneezer’s Problem. Human animals think, we can similarly claim, by having a part that does the thinking. There are not too many thinkers here. (2012, 14f.)

So animals do think in a sense, but only in virtue of having the thinking brain as a part. The only thinking that is actually going on, in the strictest, non-derivative way, is that of the brain. The animal can be said to think thoughts, but only in a derivative sense, without doing any actual thinking itself (ibid. 23).

To avoid the problem of too many thinkers you could also claim that animals do not think at all, in any sense of the word. This might seem pretty radical, but I do not find it to be unbelievable. Just because something has a part that is doing something, that does not have to imply that the whole is doing that same thing. The car is not rotating just because its wheels are. I believe that there is reason to assume that brains are the only ones doing any thinking. All that is necessary for conscious thought is located in the brain and this locus of thought can (at least in theory) be moved between different animals and sometimes it might not be attached to any animal whatsoever (like a brain in a vat). Assuming that the brain thinks, why would we assume that the animal is a thinker? Of course the animal exhibits a type of behaviour that one might interpret as a sign of thinking, but I would argue that the behaviour could just as well be understood as the brain expressing thought through a medium which is the body of the human animal.

I do not regard any of these arguments as being successful in providing evidence that brains do not think.

### 3.3 We Know That We Are Not Identical to Brains

This section is not really related to a premise of the thinking brain argument as the two earlier ones, but rather to the conclusion that we are identical to brains. Of course, if the conclusion is false and the argument is valid (as I have assumed that it is), then that would imply that at least one of the premises is false. So if any of the arguments presented in this section gives us reason to believe that the conclusion is false, that would give support to the criticism directed at the premises of the thinking brain argument.

Some think that we can be sure that we are not identical to brains based on the substantial knowledge we appear to inherit about ourselves. In this section I will be discussing personal pronouns, the *psychological properties objection* and the question of why we would differ so radically from other animals that we are in fact not animals, but brains.

One could argue that we know that we are human animals and not brains, since brains are not what we refer to when we use the words “I” or “person”. Noonan makes this claim when discussing the analogous epistemic problem of how we can know that we are persons in the neo-Lockean sense rather than human animals. He states that both human animals and persons have first-person thoughts, but these all refer to the person, not the animal (2012, 317). Similarly, in the case on the thinking brain problem, one might propose that both the brain and the human animal have these first person thoughts, but they all refer to the human animal.

Here is a thinking brain version of Noonan’s argument:

- (a) Personal pronouns do not refer to brains
- (b) We are what the personal pronouns refer to
- ∴ We are not brains

This argument is question begging. (b) is acceptable, I am what I refer to when I say things like “I am tired”. But let us look at the first premise, (a). Why do personal pronouns not refer to brains? Olson notices a flaw in Noonan’s original argument:

Why isn't the animal a person? Noonan says it is because a person is by definition an object of first-person reference: a being that refers to itself by saying 'I'. People are the things that the personal pronouns denote. That's why we call them personal pronouns. But why doesn't the animal refer to itself when it says 'I'? Noonan's answer, apparently, is that the animal doesn't refer to itself when it says 'I' because it isn't a person. But its not being a person was merely its not referring to itself when it says 'I'. The personal pronouns don't refer to human animals because those animals aren't people, and they aren't people because the personal

pronouns don't refer to them. If that is all there is to it, this is no explanation at all. We might as well say that there is no reason why animals aren't people. But then there is no reason to suppose that the animal associated with you refers to you rather than to itself when it says 'I'. (2002, 8)

In the brain case we would perhaps initially state that personal pronouns do not refer to brains because brains are not people, since only animals can be. But if animals only are persons because they are what we refer to when we say "I", that is a useless argument. It seems likely that brains could be people based on other merits, and if a brain can be a person, then personal pronouns would refer to that brain. The first premise needs independent support other than the non-informative claim that brains are not people because the personal pronouns do not refer to them.

You could perhaps argue that we know that we are not brains simply because that is not what we normally attempt to denote when we talk about ourselves. When I say that I am angry, I do not *mean* to say that my brain is angry. I do not consider this an interesting argument since I do not believe that how we ordinarily talk has any real importance when it comes to these kinds of complex issues. Ordinary language does not account for the subtle differences of speaking of a brain that is part of an animal or speaking of the animal itself. For example, if you say "I had pasta for dinner last night", there is more than one way to interpret that sentence. You could mean that I, the animal, simply ate pasta, or that I, the brain, controlled an animal through the activity of eating pasta. Sometimes I say things like "I got paint on me!" when it actually got paint on my clothes, or "I got hit by a motorcycle!" even though that vehicle never touched me, only the car that I was driving. Our expressions are often ambiguous and none of the contenders of what we refer to when uttering "I" could justifiably be excluded by the way we talk.

Another possible difficulty for the brain view is what Parfit calls the *Physical Properties Objection* (2012, 20). We have a number of physical properties that our thinking parts do not, so therefore we cannot be identical to such a part. According to Snowdon, I can know that I am not a brain since I know that I am six feet tall and weigh sixteen stone, while my brain has none of these properties (2014, 247). In a note, Carter writes in a similar manner that "since people have arms and legs and minds don't, people can't be identified with minds", and he would most likely feel the same way about us being identical to brains since they too lack arms and legs (1989, 7, note 9).

This objection does not look very threatening to me. How can I know that *I* weigh sixteen stone? Well, I would get on a scale and check the result. But would I not have that same experience even if I were identical to the brain inside the human body that weighs sixteen stone? Imagine if my brain (and presumably I) were transplanted into a mechanical body, a robot. It appears pretty likely that I would soon refer to the mechanical body's metal arms as "my arms" and not before long I would change the height stated in my passport to that of my mechanic exterior.

My body has certain properties which I may also be said to have, perhaps in a derivative sense, due to being a part of that body. I have arms because my body has arms, but in a stricter sense, I do not have any limbs at all. Being a part of a whole would not imply that you, as the part, have all the (if any) properties of the whole. For example, the engine of a car does not have wheels just because the car does, and it is not fast because the car is. So the relationship between me and the physical properties or parts of the body is not that they are a part of me *per se*, but I may refer to them as such in a more informal manner. Obviously the relationship between me and my arms is much more intimate than that of the engine and the wheels. I get sensory information from them, I can control them and I care about them out of egoistic concern.

One reason why you might be sceptical about the brain view is that even if you can come to terms with it being true of humans that we are brains, how could it be true about other animals? Are cats, dogs and fish not really animals, but brains? When discussing personal identity, we normally talk about the identity of us, human beings. But some would argue that the same identity criteria that is chosen for human beings, also needs to be applicable to other conscious animals. It seems plausible that I should have the same persistence conditions as a chimpanzee, but what about other, less cognitively developed animals such as snakes or starfish? Blatti has presented an argument to support animalism, which could also be used to argue against the view that we are brains:

*Animal Ancestors Argument* (AAA). Assume for *reductio* that animalism is false. If you are not an animal, then nor are your parents animals. But then, nor are your parents' parents, nor your parents' grandparents and so on, as far back as your ancestry extends. In this case, the falsity of animalism entails the rejection of evolutionary theory (or at least that theory's applicability to us), since it means denying that your distant ancestry includes beings who were animals. But, since the rejection of evolutionary theory is too high a price to pay, we should reject the assumption that animalism is false. (2012, 686)

When, during the course of evolution, did we go from being animals to being brains? You would either have to argue that all animals are their brains or that there is something special

about us that sets us apart from this standard of not being identical to brains. It is also important to notice that not all animals have brains similar to our own (if they even have a brain). Some animals have more primitive versions of brains called ganglia which are clusters of neurons, so in that sense they may have more than one brain. Octopuses are intelligent enough to use tools, but only 40% of their neurons are located in their heads while 60% are located in their limbs. Each of the octopus arms can essentially think for itself (Guerra). Some animals, though, like starfish (or sea stars as they are more accurately called) lack brains and even ganglia despite having complex nervous systems. Perhaps you could draw a line between conscious and non-conscious animals, where the conscious ones are actually brains and the non-conscious ones are animals?

Imagine that you go to the vet with your beloved dog, a golden retriever called Pebbles. Pebbles is going to get spayed, a routine procedure. But when you get back to pick up Pebbles, the veterinarian gives you a concerned look. As it turns out, Pebbles was mistaken for a different dog who was in for a brain transplant<sup>25</sup>. Two dogs walk in to the room, one is a golden retriever and the other one is a bulldog. Which one of these two dogs would you bring home with you? I think that it is fairly obvious which one you should pick, and that is Pebbles, the bulldog. I assume that most people, or at least most dog owners, would agree with me on this. So the transplant intuition does not only work as an objection against the claim that humans are essentially animals, it also works for other animals, such as dogs. Campbell and McMahan agree with this conclusion, stating that it “is true of all conscious animals: they are not identical to their organisms either” (2010, 287). In cases like that of the octopus, where the animal is conscious but has no centralised brain, there is a possibility of describing it as a scattered object.

None of these arguments give us any good reason to think that we can know that we are not brains.

## 5. Conclusion

In this thesis I have aimed to show that animalists face a thinking brain problem and that the view that we are identical to brains is far from foolish. I have argued that the transplant intuition and the related remnant person problem both provide good reasons for us to think that we are brains. I have also looked at several different arguments to why we should *not* believe that we are brains, such as the claim that brains do not exist and that

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<sup>25</sup> This is the year 3000 where brain transplants are as common as lip injections are today.

they do not think, but none of these arguments have proven to be very convincing. I do not want to claim to have proven in any way that we are identical to brains, all I am stating is that animalists *do* have a problem of thinking brains and that the brain view *is* a serious contender in the personal identity debate.

There is much more work to be done in developing a substantial brain view, but I hope to have shown that this work would not be in vain. The brain view is a diamond in the rough with a lot of potential waiting to be cultivated.

## 6. References

- Bedau, M., 2014. The Nature of Life. In: S. Luper, ed. *The Cambridge Companion to Life and Death*. New York: Cambridge University Press, pp. 30-46.
- Blatti, S., 2012. A New Argument for Animalism. *Analysis* 72, pp. 685-690.
- Blatti, S., 2014. Animalism. *The Stanford Encyclopedia of Philosophy*. Retrieved March 13 2016 from <http://plato.stanford.edu/archives/sum2014/entries/animalism/>.
- Bowin, J., 2003. Chrysippus' Puzzle about Identity. *Oxford Studies in Ancient Philosophy* 24, pp. 239-251.
- Burke, M. B., 1994. Dion and Theon: An Essentialist Solution to an Ancient Puzzle. *The Journal of Philosophy* 91(3), pp. 129-139.
- Burke, M. B., 2003. Is My Head a Person?. In: K. Petrus, ed. *On Human Persons*. Heusenstamm Nr Frankfurt: Ontos Verlag, pp. 107-125.
- Burke, M. B., 2004. Dion, Theon, and the Many-Thinkers Problem. *Analysis* 64(3), pp. 242-250.
- Campbell, T. & McMahan, J., 2010. Animalism and the Varieties of Conjoined Twinning. *Theoretical Medicine and Bioethics* 31(4), pp. 285-301.
- Carroll, J. W. & Carter, W. R., 2005. An Unstable Eliminativism. *Pacific Philosophical Quarterly* 86, pp. 1-17.
- Carter, W. R., 1989. How to Change Your Mind. *Canadian Journal of Philosophy* 19(1), pp. 1-14.
- Carter, W. R., 1999. Will I Be a Dead Person?. *Philosophy and Phenomenological Research* 59(1), pp. 167-171.
- D'aes, T. & Mariën, P., 2015. Cognitive and Affective Disturbances Following Focal Brainstem Lesions: A Review and Report of Three Cases. *Cerebellum* 14(3), pp. 317-340.
- Damschen, G. G.-L. A. & S. D., 2006. Sixteen Days? A Reply to B. Smith and B. Brogaard on the Beginning of Human Individuals. *Journal of Medicine and Philosophy* 31, pp. 165-175.

- Dorr, C., 2003. Merricks on the Existence of Human Organisms. *Philosophy and Phenomenological Research* 67(3), pp. 711-718.
- Feldman, f., 1992. *Confrontations with the Reaper*. New York: Oxford University Press.
- Forrest, P., 2012. The Identity of Indiscernibles. *The Stanford Encyclopedia of Philosophy*. Retrieved February 11 2016 from <http://plato.stanford.edu/archives/win2012/entries/identity-indiscernible/>.
- Garrard, P. et al., 2002. Cognitive Dysfunction After Isolated Brain Stem Insult. An Underdiagnosed Cause of Long Term Morbidity. *Journal of Neurology, Neurosurgery & Psychiatry* 73, pp. 191-194.
- Gazzaniga, M. S., 2008. *Human: The Science Behind What Makes Us Unique*. New York: HarperCollins Publishers.
- Gillett, C., 2014. Brains, Neuroscience, and Animalism: On the Implications of Thinking Brains. *The Southern Journal of Philosophy* 52(Spindel Supplement), pp. 41-52.
- Guerra, C. L., n.d. *Why the Octopus Brain is so Extraordinary*, Retrieved April 15 2016 from <http://ed.ted.com/lessons/why-the-octopus-brain-is-so-extraordinary-claudio-l-guerra>.
- Hershenov, D., 2002. Olson's Embryo Problem. *Australasian Journal of Philosophy* 80(4), pp. 502-511.
- Hershenov, D., 2005. Do Dead Bodies Pose a Problem for Biological Approaches to Personal Identity?. *Mind* 114(453), pp. 31-59.
- Hershenov, D. B., 2006. The Death of a Person. *Journal of Medicine and Philosophy* 31, pp. 107-120.
- Johnston, M., 2007. Human Beings Revisited: My Body is not an Animal. *Oxford Studies in Metaphysics* 3, pp. 33-74.
- Korman, D. Z., 2015. Ordinary Objects. *The Stanford Encyclopedia of Philosophy*. Retrieved February 18 2016 from <http://plato.stanford.edu/archives/spr2016/entries/ordinary-objects/>.
- Liao, S. M., 2006. The Organism View Defended. *The Monist* 89(3), pp. 334-350.

- Locke, J., 1975. *An Essay Concerning Human Understanding*. In: P. Nidditch, ed. Oxford: Clarendon Press (original work, 2nd ed., first published 1694).
- Mackie, D., 1999. Personal Identity and Dead People. *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 95(3), pp. 219-242.
- Madden, R., Forthcoming. Thinking Parts. In: S. B. & P.f. Snowdon, ed. *Essays on Animalism: Persons, Animals, and Identity*. :Oxford University Press. The version used is available at [https://www.academia.edu/1769608/Thinking\\_Parts](https://www.academia.edu/1769608/Thinking_Parts).
- Merricks, T., 2001. *Objects and Persons*. Oxford: Oxford University Press.
- Naylor, A., 2008. Personal Identity Un-Locke-Ed. *American Philosophical Quarterly* 45(4), pp. 387-396.
- Noonan, H. W., 2012. Personal Pronoun Revisionism – Asking the Right. *Analysis* 72(2), pp. 316-318.
- Olson, E. T., 1997. *The Human Animal: Personal Identity Without Psychology*. New York: Oxford University Press.
- Olson, E. T., 1997b. Dion's Foot. *The Journal of Philosophy* 94(5), pp. 260-265.
- Olson, E. T., 1997c. Was I Ever a Fetus?. *Philosophy and Phenomenological Research* 57(1), pp. 95-110.
- Olson, E. T., 2002. Thinking Animals and the Reference of 'I'. *Philosophical Topics* 30(1), pp. 189-207. The version used is available at [https://www.sheffield.ac.uk/polopoly\\_fs/1.101695!/file/ThinkingAnimals.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.101695!/file/ThinkingAnimals.pdf).
- Olson, E. T., 2003. An Argument for Animalism. In: R. Martin & J. Barresi, eds. *Personal Identity*. Malden: Blackwell, pp. 318-334.
- Olson, E. T., 2004. Animalism and the Corpse Problem. *Australasian Journal of Philosophy* 82(2), pp. 265-274.
- Olson, E. T., 2007. *What Are We? A Study in Personal Ontology*. New York: Oxford University Press.
- Olson, E. T., 2015. Animalism and the Remnant-Person Problem. In: J. Fonseca & J. Gonçalves, eds. *Philosophical Perspectives on the Self*. Bern: Peter Lang, pp.

21-40. The version used is available at  
[http://www.shef.ac.uk/polopoly\\_fs/1.173538!/file/lisbon.pdf](http://www.shef.ac.uk/polopoly_fs/1.173538!/file/lisbon.pdf).

Olson, E. T., 2016. Personal Identity. *The Stanford Encyclopedia of Philosophy*. Retrieved April 12 2016 from <http://plato.stanford.edu/archives/spr2016/entries/identity-personal/>.

Parfit, D., 2012. We Are Not Human Beings. *Philosophy* 87, pp. 5-28.

Rea, M. C., 2001. How to Be an Eleatic Monist. *Noûs* 35, Supplement: Philosophical Perspectives(15), pp. 129-151.

Schmahmann, J. D. & Caplan, D., 2006. Cognition, Emotion and the Cerebellum. *Brain* 129, pp. 190-192.

Shoemaker, S., 1999. Self, Body, and Coincidence. *Proceedings of the Aristotelian Society* 73, pp. 287-306.

Sider, T., 2003. Maximality and Microphysical Supervenience. *Philosophy and Phenomenological Research* 66(1), pp. 139-149.

Smith, B. & B. B., 2003. Sixteen Days. *Journal of Medicine and Philosophy* 28(1), pp. 45-78.

Snowdon, P., 2014b. Animalism and the Life of Human Animals. *The Southern Journal of Philosophy* 52(Spindel Supplement), pp. 171-184.

Snowdon, P., 2014. *Persons, Animals, Ourselves*. Oxford: Oxford University Press.

Van Inwagen, P., 1990. *Material Beings*. Ithaca: Cornell.

Van Inwagen, P., 2001. The Doctrine of Arbitrary Undetached Parts. In: *Ontology, Identity, and Modality: Essays in Metaphysics*. Cambridge: Cambridge University Press, pp. 75-94.

Watson, J. L., Forthcoming. Thinking Animals and the Thinking Parts Problem. *The Philosophical Quarterly*, The version used is available at  
<http://pq.oxfordjournals.org/content/early/2015/09/03/pq.pqv083.full.pdf>.

Wiggins, D., 1967. *Identity and Spatio-Temporal Continuity*. Oxford: Blackwell.

Wiggins, D., 1968. On Being in the Same Place at the Same Time. *Philosophical Review* 77, pp. 90-95.