

Animalism, Dicephalus, and Borderline Cases

Stephan Blatti

The rare condition known as dicephalus occurs when (prior to implantation) a zygote fails to divide completely, resulting in twins who are conjoined below the neck. Human dicephalic twins look like a two-headed person, with each brain supporting a distinct mental life. Jeff McMahan has recently argued that, because they instance two of us but only one animal, dicephalic twins provide a counterexample to the animalist's claim that each of us is identical with a human animal. To the contrary, I argue that in cases of dicephalus it is obvious neither that there is one animal nor that there are two of us. Consequently, the animalist criterion does not straightforwardly apply to cases of dicephalus. I defend an account of dicephalus that is both sensitive to the complexity of twinning phenomena and not inconsistent with animalism. In my view, dicephalic twins are a borderline case of the concept HUMAN ANIMAL. I conclude with some speculative remarks concerning the normative import (if any) of my claim that dicephalic twins are a borderline case.

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1. Introduction

A *duplication objection* aims to demonstrate that a view—when correctly applied in a particular case—is committed to claiming of one thing that it is identical to each of two or more nonidentical things. In other words, the target view is allegedly committed to a claim of the following form:

$$1 = 2. \quad \exists x \exists y \exists z (x = y \ \& \ x = z \ \& \ y \neq z)$$

Of course, given the transitivity of identity, $(1 = 2)$ is necessarily false. Accordingly, one should reject any view whose correct application requires acceptance of it.

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This type of objection will be especially familiar to those acquainted with the personal identity literature. Examples include Bernard Williams' reduplication argument, the hemispherectomy-transplant objection, as well as various "fission" thought experiments (see, e.g., Parfit, 1971, 1984; Shoemaker, 1984; Wiggins, 1967, 1980, 2001; Williams, 1973). Although such objections are typically targeted against diachronic claims, recently Jeff McMahan (2002) has deployed a duplication objection against a synchronic claim.

McMahan's target—a relative newcomer to the personal identity debate—is the view known as *animalism*. (Advocates of this view include Ayers, 1991; Carter, 1989, 1990; Mackie, 1999; Olson, 1997, 2003; Snowdon, 1990, 1995; van Inwagen, 1990; Wiggins, 2001.) Regarding entities like you and me, animalism's hallmark claim is simple:

(A) Each of us is identical to a particular human animal.

McMahan's duplication objection to (A) is prompted by a rare form of conjoined twinning known as *dicephalus*. As the name suggests, dicephalic twins look like a two-headed animal. One much-discussed case of human dicephalus is that of Abigail and Brittany Hensel (see, e.g., Miller, 1996). According to McMahan, cases like the Hensel twins oblige the animalist to identify each of the two subjects of experience with a single human animal. Yet both subjects cannot be identical with the animal, since the subjects themselves are nonidentical. As he puts it:

In dicephalic twinning, as in other forms of twinning, it is clear that there are two people. In a case featured in a recent issue of Life magazine, Abigail and Brittany Hensel present a spectacle of two heads sprouting from a single torso; yet no one doubts that they are separate and distinct little girls. Each has her own private mental life and her own character, each feels sensations only on her own side of the body, and each has exclusive control over the limbs on her side. . . . But, although Abigail and Brittany are two different persons, there seems to be only one organism between them. If so, then neither girl is identical with that organism. For they cannot both be identical with the organism, as that would imply that they were identical with each other, which they are not. . . . So it seems that we should accept that neither is identical with the human organism they share. But if dicephalic twins are not human organisms, this strongly suggests that none of us is an organism. (McMahan, 2002, p. 35)

In this way, McMahan purports to corner the animalist into affirming ($1 = 2$), which in turn is taken to license the rejection of (A). Call this the *dicephalus objection*.

On first hearing, the dicephalus objection seems straightforward, even decisive. But, I will argue, all is not as it seems. In §2, I demonstrate that the dicephalus objection fails to establish either that an animalist, if she counts two of us, must also count one animal, or that an animalist, if she counts one animal, must also count two of us. In §3, I explore an array of issues related to a likely rejoinder to my refutation of the dicephalus objection. In §4, I develop an alternative characterization of dicephalus—one that is both consistent with (A) and more sensitive to the variety and complexity of dicephalic phenomena. Finally, in §5, I conclude with some

speculative remarks concerning the normative import (if any) of my claim that dicephalic twins are a borderline case.

2. The Burden of Duplication Objections

In order for a duplication objection to undermine an opposing theory, it must successfully describe a case in which that theory's correct application requires it both to recognize the existence of three things (x , y , and z) and to relate them (*per impossibile*) in a way that violates transitivity—i.e., in the way depicted in $(1 = 2)$. Any duplication objection that satisfies this condition has, let us say, met its *prima facie* burden.

2.1. The Double-Hemispherectomy Transplant Objection Meets its Burden

An example of a duplication objection that meets this burden is the double-hemispherectomy transplant objection to the psychological continuity criterion of personal identity. To see this, consider a rough version of the psychological criterion: *Psychological Continuity Criterion*; A person (P) existing at t_1 is identical to something (S) existing at t_2 just in case S is psychologically continuous with (i.e., strongly psychologically connected to) P .¹ Regarding a particular person, Peter, the double-hemispherectomy transplant objection to the psychological criterion goes as follows: *Double-Hemispherectomy Transplant Objection*; Imagine that the left and right cerebral hemispheres of Peter's brain are removed, separated (at t_1), and then transplanted into different cerebrum-less bodies (at t_2). The result would be two persons each of whom is psychologically continuous with Peter: Lefty and Righty. But even though Peter is psychologically continuous with both Lefty and Righty, *contra* the psychological criterion, Peter cannot be identical to both Lefty and Righty, since Lefty and Righty are not identical with each other. By describing a circumstance in which the psychological criterion's correct application requires it both to recognize the existence of three things (Peter, Lefty, and Righty) and to relate them in the manner depicted in $(1 = 2)$ (i.e., Peter = Lefty & Peter = Righty & Lefty \neq Righty), the double-hemispherectomy transplant objection meets its *prima facie* burden. It is then incumbent upon the advocate of the psychological criterion to answer this charge.

Of course, the case is hardly closed. Faced with the double-hemispherectomy transplant objection, an advocate of the psychological criterion may select from a wide variety of rejoinders:

- The standard move these days is to amend the psychological criterion to include a “nonbranching” clause. According to this modification, the revised criterion would read: “A person (P) existing at t_1 is identical to something (S) existing at t_2 just in case S is psychologically continuous with P , and there is no thing (T) which is either psychologically continuous with P but not with S , or psychologically continuous with S but not with P .”²

- Following Lewis (1976), one might insist that, contrary to appearances, two individuals were present all along: one associated with the left hemisphere (identical to Lefty, following the hemispherectomy and transplant), the other associated with the right hemisphere (identical to Righty, following the hemispherectomy and transplant). In this way, the violation of transitivity may be avoided.³
- Following Nozick (1981), one might claim that whether Lefty or Righty is identical to Peter depends on whether one of the two is a closer continuant of Peter. If (in some sense requiring specification) the strength of, e.g., Lefty's psychological connectedness to Peter were greater than Righty's psychological connectedness to Peter, then Lefty would be identical to Peter, according to this view. By valorizing relative strengths of psychological connectedness, this model (if successful) manages to answer the hemispherectomy-transfer objection without having to go so far as to introduce a nonbranching clause.
- Following Parfit (1984), one might introduce a distinction between survival and identity and insist that, although neither is identical to Peter, both Lefty and Righty ought be treated as if they were, for all practical purposes.
- Following Johnston (1989), one might suggest that it is indeterminate whether Peter is identical to either Lefty or Righty; there simply is no fact of the matter. On this view, it is neither true nor false that Peter is identical to Lefty; and it is neither true nor false that Peter is identical to Righty (cf. Cartwright, 1993; Sider, 2001).
- Adapting insights drawn from Wilkes (1988) and Williamson (2004), a less familiar option challenges the underlying methodology of the double-hemispherectomy transplant objection. According to this line of thought, the double-hemispherectomy transplant objection could be only as compelling as the counterfactual judgments on which it relies—that is, the intuition that Lefty and Righty would be psychologically continuous with Peter. But the reasons for judging this counterfactual true are, at best, controversial.

But however the ensuing debate proceeds, the main point is that, at least initially, the double-hemispherectomy transplant objection succeeds in demonstrating a possible circumstance in which the psychological criterion would be committed, by its own lights, to a violation of transitivity.

2.2. *The Dicephalus Objection Does Not Meet its Burden*

We are now in a better position to evaluate whether the dicephalus objection meets its *prima facie* burden. Is dicephalus a circumstance in which (A)'s correct application would require the animalist to recognize the existence of three entities

(one animal and two of us)? The question is whether the animalist must accede to the following two claims:

1. In cases of dicephalus, there exists (exactly) one animal.
2. In cases of dicephalus, there exist (exactly) two of us.

If the animalist is committed to both (1) and (2), then the violation of transitivity follows straightforwardly. All that needs to be shown is that, when correctly applied in a case of dicephalus, the advocate of (A) must recognize the existence of exactly one animal and exactly two of us.

Yet, as will emerge in the next section, I doubt that there is any such thing as a correct application of (A) in cases of dicephalus. My view is that, although one's commitment to (A) constrains what its advocate may claim about *both* (1) and (2), such a commitment to (A) is insufficient to force its advocate to deliver a verdict on *either* (1) or (2). The reason is that (A) offers no guidance on how to determine the number of us present at any one time *other than* by counting the number of animals present; likewise, (A) offers no guidance for determining the number of animals present, *other than* by counting the number of us present. Accordingly, no animalist who accepts (1) will accept (2), since (2) must be false if both (A) and (1) are true. And any animalist who accepts (2) will deny (1), since (1) must be false if both (A) and (2) are true. In the double-hemispherectomy transplant objection, the advocate of the psychological criterion cannot consistently deny the existence of Lefty and Righty while simultaneously granting both that Peter exists and that psychological continuity with Peter is sufficient for being identical with Peter. But in cases of dicephalus, consistency requires of the animalist who happens to accept either (1) or (2) only that she not accept both. Therefore, it is not the case that the correct application of (A) *requires* the animalist to recognize the existence of both one animal *and* two of us, since the only basis that (A) provides for determining the number of either is the presence of the other. Not every criterion is a criterion in every case. And animalists may well disagree about how to describe those cases to which (A) does not apply.

That is my cue to offer what I think the animalist ought to say about dicephalus. But before doing so in §4, I shall first consider a likely reply to my skepticism about the applicability of (A).

3. Are (1) and (2) Obviously True?

(1) and (2) seem to capture our initial intuitions about dicephalus. As McMahan (2002) said about the Hensel twins, Abigail and Brittany seem to be “separate and distinct little girls,” each with “her own private mental life and her own character,” even though “there seems to be only one organism between them” (p. 35).

Accordingly, it might seem that the foregoing discussion simply overlooks (or at least sells short) the sheer obviousness of (1) and (2). And if (1) and (2) are obviously true in this way, then (A) is *demonstrably* false; dicephalic twins are nothing less than walking, talking counterexamples to animalism.

3.1. Alternatives to (2)

One reply to this rejoinder begins by highlighting various alternatives to (2): formulations which make a similar point without contributing to a violation of transitivity. In light of these alternatives, it becomes question-begging simply to stipulate the obviousness of (2) in particular. Consider:

- 2'. In cases of dicephalus, there exist (exactly) two subjects of experience.
- 2''. In cases of dicephalus, there exist (exactly) two minds.
- 2'''. In cases of dicephalus, there exists (exactly) one divided mind.

None of these claims seems obviously false.⁴ But since a violation of transitivity does not straightforwardly follow from the conjunction of (A), (1), and any one of (2'), (2''), or (2'''), the truth of (2) cannot simply be assumed. The animalist is owed an *argument* for why she must accept (2) in particular, instead of one of the various alternatives.⁵

Such an argument is conspicuously absent in some of McMahan's replies to the options available to the animalist. For example, McMahan claims that it is a liability of the view encapsulated by (A), (1), and (2'') that, as long as the animal survives, destroying one of the dicephalic animal's two minds would not destroy one of us.⁶ McMahan labels this consequence "unacceptable" on the grounds that it "obviously denies the reality of one or both of the . . . twins" (p. 36). But denying that one of us would be destroyed amounts to denying that one of the twins would be destroyed only on the assumption that the presence of human twins essentially involves the presence of two of us. And it is to this very assumption that (2'') is meant to provide an alternative. Again, the anti-animalist cannot just assume that each of us is an instance of the same type of thing of which each conjoined twin is an instance (whatever that may be), since it is precisely a claim about what each of us is that the animalist purports to provide.

3.2. The Correspondence Intuition

A simple reason why one might think it obvious that in cases of dicephalus there are two of us is that, despite being conjoined, dicephalic twins are, well, *twins*! Being twins, there must be two of them. And if they were not two of *us*—if they were merely two subjects of experience or two minds—then it would be wrong to call them 'twins'. But since it is correct to call them twins, whatever type of thing of which "each twin" is an instance must be the type of thing of which each of us is an instance. The underlying intuition here—call it the *correspondence intuition*—is that the presence of human twins is sufficient for the presence of two of us.

The main problem with the correspondence intuition is that the relevant medical details weigh against it; the presence of human twins is *not* sufficient for the presence of two of us. The reason is that the presence of twins is ultimately established by the character of “their” embryological etiology, rather than by manifest anatomical features or psychological functions.⁷ And given the number of genuine cases of conjoined twins about which not even the anti-animalist would claim there to be (exactly) two of us, the correspondence intuition can hardly be relied upon to ground the claim that (2) is *obviously* true.

Consider, for example, two types of conjoined twinning: monocephalus and cephalothoracopagus. Monocephalus assumes a variety of forms (Creinin, 1995, pp. 94ff). *Monocephalus diprosopus*, for instance, involves duplication in the cranial region. Monocephalic twins look and behave like a single human being with a facial deformity. In fact, these apparent deformities are partial duplications of various physiognomic features (nose, mouth, eyes). Nor is monocephalus limited to cranial duplication. *Monocephalus tripus dibrachius*, for example, involves the partial duplication of the pelvis with a third median leg, while *monocephalus tetrapus dibrachius* involves the partial or complete duplication of the pelvis with four legs. Cephalothoracopagus is characterized by the presence of “two nearly complete components joined front to front over more or less the trunk region, but with a single neck and with heads more or less completely fused into a single compound mass” (Creinin, 1995, p. 107). It is the ‘nearly complete’ and the ‘more or less’ that are significant here, for in each of the three subvarieties of cephalothoracopagus—*deradelphus*, *syncephalus*, and *janiceps*—the precise number of heads, minds, and/or subjects is ambiguous.

So the moral of this and the preceding subsection is that matters are sufficiently complicated and alternative descriptions sufficiently abundant that the truth of (2) cannot simply be assumed. But if (2) is neither obviously true nor required by a correct application of (A), then that is already enough to show that the dicephalus objection has not met its burden.

3.3. *The Fusion Proposal*

One more alternative remains to be considered, namely, the view that dicephalic twins are actually distinct but overlapping animals. Thus, we have the following revision to (1):

- 1'. In cases of dicephalus, there exist (exactly) two, partially fused animals.

In conjunction with (A) and (2), this proposal—call it the *fusion proposal*—would enable the animalist to make a clean getaway: no violation of transitivity here.⁸

McMahan (2002) acknowledges that the fusion proposal seems entirely plausible for less extensive cases of conjoined twinning—cases where there is only limited sharing of organs and where the two animals are potentially separable. But, he says, the fusion proposal is “substantially less plausible” when “there is only very limited

duplication of organs and all the organs function together as a unit” (p. 36). He writes:

Although the Hensel twins have two hearts and two stomachs, they share three lungs, have a single liver, a single small intestine, a single large intestine, a single urinary system, and a single reproductive system The organs are packaged together within a single rib cage and function together in a harmonious coordinated manner. The limited duplication of organs—the two hearts and two stomachs—would appear to be fortuitous. Recorded cases of dicephalus show varying degrees of duplication and it seems possible that there could be an even purer case than that of the Hensel twins in which there would be virtually no duplication of organs below the neck. (p. 36)

On the one hand, I agree that, for any given case, the plausibility of the fusion proposal will mirror the likelihood that the conjoined twins could be separated: the more likely their separation, the more plausible the fusion proposal. Since the separation of dicephalic twins seems impossible, (1') is entirely implausible. On the other hand, there is something duplicitous (so to speak) about McMahan's method of counting. If the presence of fewer than two full sets of internal organs is supposed to lend credence to the presence of fewer than two animals—thereby making “their” separation less than likely—then why should the presence of more than one full set of internal organs not lend credence to the presence of more than one animal? Of course, an advocate of the dicephalus objection must hold fast to (1). But we need not follow McMahan in counting these organs as exactly one full set, with (as if on the side) some “limited” and “fortuitous” duplication. Indeed, this method of counting seems plausible only on the assumption that a full complement of organs fails to include the brain.⁹ Once we revise this assumption, it seems no more plausible to count exactly one animal than it does to count exactly two fused animals. Rather, we should say that cases of dicephalus present us with more than one but less than two complete animals. And it is this proposal that I shall develop in the next section.

4. Dicephalus as a Borderline Case

In weighing the question of how many of us are present in cases of dicephalus, it is instructive to recall Thomas Nagel's (1971/1979) classic paper on brain bisection. Remember that Nagel's attempt to determine the number of minds present in split-brain patients was stymied by contradictory empirical data. While experimentally evoked dissociation was taken to refute the one-mind hypothesis, “the highly integrated character of the patients' relations to the world in ordinary circumstances” was taken to refute the two-minds hypothesis (1979, p. 159). Convinced that this conflict could not be resolved, Nagel concluded that, despite the “powerful inclination to feel that there must be *some* whole number of minds in those heads . . . the data prevent us from deciding how many.” Split-brain patients, he claimed, fall “midway between ordinary persons with intact brains . . . and pairs of individuals engaged in performance requiring exact behavioral coordination” (1979, p. 161).

Nagel's basic point was that, vis-à-vis our ordinary conception of a unified consciousness and its associated behavior, a split-brain patient represents a borderline case. That is to say, such a patient exhibits behavior that is *both* indicative of there being exactly one mind *and* indicative of there not being exactly one mind (by being indicative of the presence of two minds). Whatever the merits of such a proposal in the particular context of split-brain patients, my recommendation will be that an analogous stance ought to be adopted with respect to cases of dicephalus.

To begin, we must clarify what it means to judge of something that it is a borderline instance of a given concept F.¹⁰ One way of defining a concept is by specifying a set of conditions whose satisfaction is necessary and sufficient for the concept's correct application. But if F were defined that way, its sharp boundaries would not admit of borderline cases, since all potential Fs either would, or would not, satisfy the specified conditions.¹¹ Thus, the concept of which dicephalic twins represent a borderline case cannot be defined in this way.

A more promising approach—not quite Wittgenstein's¹²—relies on the notion of a *paradigm*. Here F is defined by reference to a collection of properties whose complete instantiation would make something a quintessential F—an F by any measure. It is not necessary for an instance of F to instantiate all or only these properties. Something may qualify as a perfectly clear instance of F simply by instantiating “enough” of the relevant properties—simply by resembling the paradigm to an “adequate” degree. Because one cannot be very precise about how many or which of these properties are “enough,” there will be borderline Fs: things that instantiate enough of the relevant properties to qualify as candidate Fs, but not enough of those properties to qualify as clear instances of F.¹³

Understanding borderline cases in this way captures Nagel's remarks about split-brain patients. The paradigmatic instance of the concept UNIFIED CONSCIOUSNESS will be any entity that possesses exactly one mind. By contrast, a split-brain patient is a borderline case of that concept because, on the one hand, the integrated character of her ordinary interactions with the world is sufficiently like that of an entity possessed of exactly one mind that she qualifies as a candidate instance of the concept, while on the other hand, her dissociative behavior is sufficiently unlike that of an entity possessed of exactly one mind that she fails to qualify as a clear instance.

Likewise in the case of dicephalus. The concept of which dicephalic twins are a borderline case is HUMAN ANIMAL. A paradigmatic instance of this concept instantiates a variety of characteristics, including anatomical properties (e.g., having one complete set of internal organs; having the normal number of appendages), physical properties (e.g., being a discrete object), biological capacities (e.g., functions whose exercise is directed toward the continued life of a single organism; the capacity to sexually reproduce with a member of the opposite sex), and psychological properties (e.g., instantiating one subject of experience). Because most of us instantiate all of these (and other) properties, most of us qualify as paradigmatic examples of this concept. But something must instantiate only “enough” of these properties in order to qualify as an instance of the concept. So, were it discovered that I possess only one

kidney, for example, I would fail to be a paradigmatic human animal, though, of course, I would not for this reason fail to be a human animal.

In being a borderline case, dicephalic twins both qualify as a candidate instance of the concept *HUMAN ANIMAL* and yet fail to qualify as a clear instance of that concept. On the one hand, dicephalic twins qualify as at least a candidate instance in virtue of those of their properties which are characteristic of exactly one such animal—notably, those biological functions and anatomical parts whose exercise is directed toward the continued life of a single organism. On the other hand, dicephalic twins fail to qualify as a paradigmatic instance in virtue of those of their properties that are not characteristic of exactly one such animal—notably, the presence of two distinct subjects of experience, as well as the overabundance of various organs and appendages.

Among the merits of this approach is its respect for the phenomena first. Neither the animalist criterion nor the concept *HUMAN ANIMAL* has been stretched past its breaking point. Moreover, any appeal of the present proposal is independent of a commitment to animalism. By the same token, proceeding in this way enables one who does accept (A) both to avoid the logical blunder of which the dicephalus objection accuses her and to account for dicephalus in a way that incorporates what is nevertheless right about the objection: that dicephalic twins do not clearly qualify as an instance of one of us.

5. Conclusion

While that concludes the main discussion, I would like to close with a speculative note about the normative import (if any) of my claim that dicephalic twins are a borderline case.

It is beyond dispute that, in addition to the metaphysical questions just discussed, dicephalus also raises a variety of normative questions regarding ethical treatment. What is less clear is how our judgments in these two areas might be related. Does the conclusion that cases of dicephalus embody more than one but less than two human animals inform our evaluative judgments about how dicephalic twins ought to be treated, morally speaking? And do our convictions about the appropriate treatment (medical, moral, legal, etc.) of dicephalic twins help to settle the dispute over how many of us are present in such cases? One's answers to these questions will depend, ultimately, on how one envisions the interface between metaphysics and moral philosophy. That understanding will be grounded in substantive commitments regarding a thicket of interrelated concepts (e.g., *PERSONHOOD*, *AGENCY*, *MORAL STATUS*, *AUTONOMY*), and those commitments should, in turn, be informed by consideration of a wide variety of hard cases—including not only morphogenetic anomalies like dicephalus, but also various psychiatric conditions (e.g., dissociative identity disorder, various delusional misidentification syndromes), not to mention the no-less-hard non-anomalous cases (e.g., the metaphysical and moral status of a normal human fetus at various stages of development).

Clearly, this is not the place to undertake that wide-ranging project. Still, I will say (if not defend fully) what is perhaps already implicit in the preceding discussion: I do not believe that our evaluative judgments about hard cases (like dicephalus) ought to determine, or even constrain necessarily, our metaphysical views about those cases.¹⁴ In saying this, I do not deny the importance of our evaluative judgments about dicephalus; I deny only that those judgments can be invoked to “settle” the metaphysical questions at stake.

On behalf of this stance, note first that, while physicians, family members, bioethicists, and others may have perfectly good medical, personal, and moral reasons for treating dicephalic twins as if they were two of us, those reasons are perfectly compatible with the conclusion that, in fact, “they” embody more than one but less than two human animals. The tension in this conjunction, I would suggest, derives from the difficulty of the case.

Note also that, because our evaluative judgments about hard cases usually derive from considerations that are more far-reaching in their scope than is demanded by the specific case at hand, when one attaches binding, metaphysical significance to these judgments, one invites analogous determinations regarding other hard cases—cases where our normative intuitions may be either less clear or (worse) altogether contrary. Consider, for example, the critic who rejects my borderline case view of dicephalus on the grounds that dicephalic twins present exactly two loci of moral status, and the number of such loci correlates with the number of us. Since moral status is typically attributed to an entity in virtue of its psychological capacities (e.g., the capacity to suffer, the capacity for self-consciousness), this critic should also attribute an analogous moral standing to each of the multiple personalities belonging to those who suffer from dissociative identity disorder (DID).¹⁵ Now, the customary treatments for DID emphasize the individuality of the human animal and its principal subject. These cognitive and behavioral therapies promote the disappearance of secondary *personae*, either by eliminating them altogether (restoration), or by assimilating them with the subject’s dominant personality (integration). But according to my critic, since moral status carries with it the right to continued existence, such therapies would involve a moral violation, and thus ought to be stricken from the psychiatrist’s repertoire—even though, as Bayne (2001) notes, there appears to be “little concern within the psychiatric community, or indeed the general public, over the ethical probity of restoration and integration” (p. 99).

For these reasons, I am disposed not to look to our evaluative judgments to “settle” borderline cases like dicephalus. However apt they may be for particular cases, such assessments threaten to prove too much, and anyway, borderline cases do not stand in need of resolution.

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Notes

- [1] The reader who is unsympathetic to this particular, technical gloss of ‘psychological continuity’—which is, of course, owed to Parfit (1984, Part 3)—is invited to substitute her preferred formulation. Secondly, the reader who is curious about why this criterion is presented as relating a person at t_1 not with a person at t_2 (as most have it), but rather with *something* at t_2 , should consult Olson (2002).
- [2] This is Brueckner’s (1993) way of formulating the nonbranching clause on Parfit’s behalf (cf. Parfit, 1993). Of course, the nonbranching clause faces its own challenges. For instance, not only does its inclusion seem to many to be ad hoc, it also seems to recast identity as an extrinsic relation.
- [3] Of course, in order for Lewis’ strategy to succeed, additional qualifications would need to be articulated and defended. For example, it would have to be ensured both that Lefty is psychologically continuous with the left hemisphere only and that Righty is psychologically continuous with the right hemisphere only; for if each of the resulting persons were psychologically continuous with both hemispheres, transitivity would be violated twice over. Thanks to an anonymous referee for pointing this out.
- [4] I do not purport to have motivated any of these alternative characterizations. But since the view that I am here challenging is that (2) is *obviously* true, it seems that the alternatives considered here need satisfy only the relatively low standard of being not obviously false, and, of course, the requirement of being non-equivalent to (2).
- [5] The ‘straightforwardly’ is important here. More might need to be said in order to fully justify the implication that one or more of (2’), (2’), or (2’’) could be true without (2) being true as well. But since the dicephalus objection has been offered as a straightforward refutation of (A), for the purpose of showing that the right to assert (2) must be earned and cannot simply be assumed, it is enough to sketch an alternative, plausible description of the case that does not explicitly rely on (2).
- [6] Similarly, McMahan considers it a liability of the view encapsulated by (A), (1), and (2’’) that, as long as the animal survives, destroying half of the dicephalic animal’s single mind would not destroy one of us.
- [7] This is not to deny that the etiology of conjoined twinning remains *somewhat* controversial. But the most widely held theory contends that conjoined fetuses result from the partial fission of a single ovum—an ovum which would have resulted in disjoined, identical twins had it undergone normal fission. A staggering diversity of defects can arise from this anomaly in monozygotic twinning, and this diversity is reflected in the standard classifications of those defects (cf. Cuq & Woronoff, 1980; Potter & Craig, 1975). Harma, Harma, Mil, & Oksuzler (2005) provides a useful review of the most recent clinical literature on dicephalus.
- [8] McMahan (2002, p. 36) tentatively attributes this view to van Inwagen (1990, p. 189).
- [9] This assumption is perhaps understandable in the case of McMahan (2002, pp. 66–94), since he advocates an “embodied brain” view.
- [10] In this effort, I have been aided by the discussion found in Lycan (2006, §4).
- [11] For the purposes of this discussion, I am assuming that it is determinate whether a potential F instantiates the properties specified in the definition. In general, I do not deny that x could

be a borderline F, even if F is precisely defined, simply by its being vague whether *x* instantiates the specified properties.

- [12] According to Wittgenstein (1953, §66ff), the explanation of a family resemblance concept requires a series of paradigmatic examples and the proviso “and similar things.” These examples will feature properties all of which could not be instantiated by a single instance of the concept. See Baker & Hacker (1980, pp. 320–343).
- [13] The theory of concepts in play here bears some resemblance to the *prototype theory*. For discussion, see Laurence & Margolis (1999, pp. 27–43).
- [14] Nor, *vice versa*, do I believe that our metaphysical judgments should determine or constrain our views about the normative questions raised by these cases.
- [15] I am indebted here both to Bayne (2001) and to an anonymous referee for directing me to Bayne’s work.

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