

The ethics of separating conjoined twins: two arguments against

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Abstract I argue that the separation of conjoined twins in infancy or early childhood is unethical (rare exceptions aside). Cases may be divided into three types: both twins suffer from lethal abnormalities, only one twin has a lethal abnormality, or neither twin does. In the first kind of case, there is no reason to separate, since both twins will die regardless of treatment. In the third kind of case, I argue that separation at an early age is unethical because the twins are likely to achieve an irreplaceably good quality of life—the *goods of conjoinment*—that separation takes away. Evaluation of this possibility requires maturation past early childhood. Regarding the second type, I point out that with conceivable but unrecorded exceptions, these cases will consistently involve sacrifice separation. I present an argument that sacrifice separation is unethical, but in some cases a moral dilemma may exist in which separation and refraining from separation are both unethical. Perhaps in such cases a decision can be made on non-moral grounds; however, the possibility of such a decision serves not to mitigate but to underscore the fact that the separation is unethical. My conclusion, which applies to all three types of cases, is that it is unethical to separate conjoined twins before their developing personalities give some reliable indication as to whether they desire separation and whether they will achieve those goods of conjoinment.

Keywords Conjoined twins · Quality of life · Autonomy · Organ transplantation · Self-defense · Necessity (legal doctrine) · Moral dilemmas

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Introduction

My argument proceeds as follows. First, I discuss what I call the general argument: a general bias in the medical literature toward separating conjoined twins. This bias is based on quality-of-life considerations, but I argue that quality-of-life considerations do not justify such a general bias toward separation. In so doing, I consider both internalist and externalist accounts of quality of life. The defeat of the internalist version of the general bias toward separation is based on anecdotal biographical accounts of conjoined twins who have survived past early childhood. The defeat of the externalist version additionally requires a full discussion about the impact of a reduction in autonomy on the quality of life of conjoined twins. I argue that the reduction in autonomy experienced by conjoined twins is often more than compensated for by a set of relational goods that I call the *goods of conjoinment*.

Second, following my analysis of the general argument, I turn to local arguments in favor of separation in specific cases. To defeat these arguments, I develop a metaphysical argument that the separation of conjoined twins is equivalent to amputation and/or transplantation. This discussion leaves behind somewhat of an ethical quandary about how to proceed in certain cases of conjoinment. I address this quandary by giving a positive analysis of when a conjoinment case presents a moral dilemma and how one should proceed in such a case.

My analysis concludes that planned separations in early childhood should not be performed, with the possible result that emergency separations would become more common. I finish by considering the objection that emergency separations are riskier than planned separations.

The general argument

A bias toward separation

It is probably unnecessary to argue for the thesis that separation is the default approach toward conjoined twins in the current state of pediatric medicine. An ethical principle promulgated by Lewis Spitz of Great Ormond Street Children's Hospital in London [1] is commonly cited in resources on pediatric surgery (e.g., [2–4]). The principle is sometimes referred to as the Great Ormond Street Ethical Guidelines for Conjoined Twin Separation:

Where separation is feasible with a reasonable chance of success it should be carried out; when surgery is not possible, custodial care should be offered and nature allowed to take its course; where one twin is dead or has a lethal abnormality and cannot survive independently from its normal twin and if not operated on both twins could die, separation to save the healthy twin should be attempted. [2, p. 934]

Of course, this principle's significant philosophical commitment is explicit in its first independent clause: separation, if possible, "should be carried out." This is a bias toward separation. Little justification for this bias was given by Spitz at the time of

the 2002 lecture where the phrase originates [1], but in his more recent articulation of Great Ormond Street's philosophy of separation, quality-of-life considerations are clearly at the fore:

In dealing with conjoined twins, we have adopted a pragmatic approach in balancing what is possible, parental wishes, and the likely outcome for the children.... The advice that we give balances the very real risks of surgery against the type of life the twins will experience if they remain joined. In some types of union such as end to end ischiopagus,¹ the twins will never stand and will be bedridden. With other types of union, independent walking is not possible. Such limitations on living seem intolerable to us, but we have left the final decision to parents. [6]

The deference to parents' wishes is not entirely absent from earlier discussions [7], but it is significant that Spitz now places it as an immediate condition on the rest of the factors he mentions. Nevertheless, it is clear that if parents choose to leave their twins conjoined, their choice will contradict the counsel afforded by Spitz's quality-of-life considerations.

In view of Spitz's construal, I suggest that the justification for the prevalent bias toward separation is a poor outlook on the quality of life of twins who remain conjoined. I argue that this justification is deeply flawed. The conclusion I draw goes strongly against conventional wisdom and the predisposition toward separation discussed above.

The truth about the quality of life of conjoined twins

An internalist theory of quality of life² holds that individuals' quality of life is best assessed through an analysis of their internal states—thoughts, beliefs, emotions, attitudes, desires, and the like. This does not necessarily mean complete dependence on patients' self-reports regarding their own quality of life, since some theorists hold that people can easily be mistaken about their own internal states (even about what emotions they are feeling) [9]; but self-reports are at least an important part of most internalist theories of quality of life. A common sort of internalist theory, then, would claim that good quality of life consists in having a sufficient level of

¹ Classification of conjoined twins, while still difficult, has been most fully standardized by Rowena Spencer [5]. In general, the taxonomy is as follows: *thoracopagus* (joined chest-to-chest), *pygopagus* (joined back-to-back at the buttocks or pelvis), *parapagus* (joined side-by-side, sometimes with a total of only two or three legs), *omphalopagus* and *ischiopagus* (joined belly-to-belly or perineum-to-perineum at the pelvis), *dicephalus* (two heads or upper bodies united into a single lower body at some point), and *craniopagus* (joined at the head). These terms are used throughout this paper's discussion without additional definition, so the reader may wish to refer back to this note as a guide. My thanks to an anonymous reviewer for requesting this clarification.

² By *quality of life* I am including ideas like happiness, well-being, life satisfaction, flourishing, the so-called good life, and so forth. Important distinctions are made between these in the philosophical literature, but my discussion is broad and general enough to conflate them all under the more common medical term *quality of life*. See [8] on the distinction between internalist and externalist theories of well-being.

positive emotions, a sufficient number of things in life that bring about those positive emotions, a sufficient number of things that one values, sufficient fulfillment of one's desires, and so forth [8, 9]. An externalist theory of quality of life, on the other hand, holds that there are certain external factors that are necessary for a good quality of life, regardless of their impact on someone's internal states in any given case. So, for example, health, well-functioning eyesight and/or hearing, good education, and close friends might be deemed necessary for a good quality of life irrespective of whether one desires them, values them, or gets positive emotions from them.³ To summarize, internalist theories hold that internal considerations are all that is needed, while externalist theories hold that internal considerations are not all that is needed. These two positions (as I have defined them) are exhaustive of the options for assessing quality of life; that is to say, any theory of the nature of quality of life will be either internalist or externalist.

Given the lack of controlled studies on conjoined twins, an appraisal of expectations for quality of life is limited to anecdotal data.⁴ But such data need not be inferior sources of generalization, so long as the anecdotes offer a representative sample of the group being assessed. Alice Dreger and Christine Quigley have both studied a large number of conjoined twins who survived early childhood, and their summary statements undercut the general bias toward separation when considering quality of life from an internalist perspective. It might even be argued from Dreger and Quigley's studies that on an internalist account, conjoined twins do not generally have a lower quality of life than unconjoined people. As Dreger points out:

in the history of conjoined twins apparently only one pair—Ladan and Laleh Bijani—have chosen separation surgery for themselves. I have been unable to locate any evidence that a conjoined person wished his or her parents had chosen separation surgery for him or her; even Laleh and Ladan Bijani apparently did not express this wish.... Yet there are many published sources in which conjoined twins say that they accept and even prefer conjoinment to the idea of having been born a singleton. [11, p. 67]

To my knowledge, this is still true.⁵ After surveying 150 biographies, Quigley notes: "For some twins, separation surgery is not an option due to the sharing of organs. And yet from an early age, many state—most of them emphatically—that they would not want to be separated" [13, p. 4]. The internal states of surviving conjoined twins appear from these studies to be no different or more negative than those of unconjoined people. Therefore, on an internalist conception of quality of life, the

³ Michael Bishop would include whether they are "states that the agent's culture values" [10, p. 41].

⁴ Indeed, the rarity of the condition means that a controlled study of a statistically significant group would be unusually costly and logistically difficult. But hopefully this will be done at some point.

⁵ I have since encountered an additional example where the parents of five-year-old conjoined twins are quoted as saying that the twins desired to be separated [12]. This may or may not be taken as a second example of what Dreger (calls "[choosing] separation for themselves" [11, p. 67]). This example probably presents a borderline case for my pre-assent test, detailed later in this paper. If pre-assent, my conclusion entails that this separation [12] was unethical. If not pre-assent, it may have been ethically justified.

general argument—the idea that conjoined twins generally suffer a dismal quality of life that calls for separation—is refuted.⁶

From an externalist perspective, these cases certainly exhibit variety. Some twins are unable to walk or have difficulty walking, but this impairment is not characteristic. Sexual relationships and marriage clearly present challenges, but their absence is not characteristic, even for those who share genitalia.⁷ Education, travel, earning a living through means other than exhibiting oneself as a spectacle, and having close relationships all seem to be within the grasp of some, even most, surviving conjoined twins. The only external good that appears to be characteristically absent is autonomy. But even here, one must be careful: conjoined twins are characteristically quite autonomous with regard to their personalities and wills.⁸ Thus, they normally do not appear to suffer from relational enmeshment,⁹ despite their constant proximity. There are, however, clear constraints on their autonomy as far as the goals they can pursue and actions they can perform at any given time. Indeed, these limitations are appealed to in Spitz's form of the general argument when he comments that a life without independent walking "seem intolerable" [6]. However, I now turn to argue that conjoined twins' reduction in autonomy does not justify the conclusion that their quality of life is generally lower on an externalist account, with the result that the general argument for the preferral of separation is mistaken in both its internalist and externalist iterations.

How autonomy applies to quality of life for conjoined twins

My argument takes the following form: first, I show that conjoined twins do not suffer a loss of autonomy but experience only a constraint on autonomy; second, I point out that constraints on autonomy are not always bad; and third, I argue that the constraint on autonomy experienced by conjoined twins is such that it can be bad, neutral, or even good, depending on the personalities and idiosyncrasies of the individuals involved. Specifically, it appears that for most pairs the constraint on autonomy is a positive for significant portions of their lives, and sometimes for their entire lives,

⁶ Other original sources to which the interested researcher may refer for examples of both the bias toward separation and the life quality expectancy for surviving conjoined twins include [5, 14–48].

⁷ Although the Hensel twins' father has expressed concern for their future in this regard, Abby and Brittany have expressed optimism [11, 49]. Twins with shared genitalia who are known to have had sexual relationships and/or marriages include the Toccis, Rosa and Josephina Blazek (pygopagus twins who bore a son) [50], and Violet and Daisy Hilton (pygopagus) [11, 51]. It has been reported that some conjoined twins with shared genitalia experience reduced sexual sensation, leading some to speculate that this is characteristic of such cases [50]. Twins with separate genitalia who have had such relationships include at least the Bunkers, Godinos, and George and Lori Schappel (craniopagus) [11]. In this regard, one might also mention Myrtle Corbin, born in Texas in 1868, who had a parasitic twin from the waist down with a fully developed reproductive system. She married and gave birth to two children from one uterus and three from the other [13]. The Galyon brothers are said to have had "large numbers of female admirers" [13, p. 72], although their shared genitalia was apparently a factor preventing them from forming long-term relationships [52].

⁸ J. David Smith argues this quite forcefully [53].

⁹ A term in psychology for unhealthy symbiosis in families or codependent relationships that leads to a loss of autonomous development [54, 55].

while perhaps for no pairs is this constraint a negative for their entire lives. This last point far exceeds what is needed to defeat the universal negativity of the general argument (being merely that a possible world exists in which the constraint is a positive for some portion or another of the lives of some pairs).

Conjoined twins do not suffer a complete loss of autonomy: Spitz's example of twins' lacking a capacity for "independent walking" is flawed [6]. If I am conjoined to another person and we both walk to where I wanted to walk, then my autonomy is served just as well as if I had walked there in an unconjoined state. This, of course, is what often happens with conjoined twins: they walk to where at least one of them wants to walk and, in general, do what at least one of them wants to do. Sometimes they compromise, sometimes they both want the same thing, and sometimes one defers to the other. In the first case, there might be a loss of autonomy for both,¹⁰ in the second case for neither, and in the third case for only one. It has been pointed out that the Bunkers adopted an arrangement, particularly later in life, in which Chang completely deferred to Eng in all things for several days, before they switched and Eng completely deferred to Chang in all things for several days—thus alternating who had license to exercise complete autonomy [53]. As children, Abby and Brittany Hensel were known to "make decisions by flipping a coin, taking turns, or allowing their parents to make a ruling," using "a puckish sense of humor" to contend "with all the other sharing they must do day in and day out" [13, p. 79]. To the extent that conjoined twins wish to retain pure autonomy, this remains possible for both up to half of the time.

There are obvious cases in which everyone would agree that a constraint on autonomy is neutral, or even good. A patient who obsessively cuts himself might be put under observation for his own good. A convicted drug dealer might be forced into a rehabilitation program as part of her sentence and wear a tracking bracelet as part of that rehabilitation. Examples need not be negative: in many cases people trade some autonomy for something better that requires that their autonomy be constrained. Having a close friend sometimes means compromise and deferral, yet we still think that having a close friend is better than not having a close friend. A good marriage can require tremendous resignation of autonomy, yet we still often pursue marriage and consider those with good marriages to have added to their quality of life.¹¹ In this way, a constraint on autonomy does not entail a reduction in quality of life; it depends on what is received in return for the constraint on autonomy. Notice that various quality-of-life considerations can override the value of autonomy to some extent, regardless of whether autonomy is regarded as a simple contribution to quality of life or as an independent value.

The cases of close friendship and marriage are in the neighborhood of the kinds of goods possible for conjoined twins in return for their reduction in autonomy, but the goods are not exactly the same in all three cases (friendship, marriage,

¹⁰ Is compromise a loss of autonomy? Perhaps not, but I will concede this possibility for the sake of argument. If it is not a complete loss, then my case is yet stronger.

¹¹ In fact, a good marriage or similar long-term close relationship is one of the few things that can produce a *sustainable* uptick in happiness for a person [56].

and conjunction). While they are all goods of close relationships, the relationship between conjoined twins is different in important ways from that between unconjoined close friends and that between spouses. Conjoined twins share experiences that close friends and spouses do not, and they share them out of a necessity that is distinct from the bonds experienced by close friends and spouses. It would be impossible for me to gain the goods of being a conjoined twin simply by tying myself to another person.¹² Conjoined twins grow up conjoined with no choice in the matter, and, as detailed below, they share bodily function, sensation, and (sometimes) control in a way that is impossible for the unconjoined to replicate. Nevertheless, the goods of being conjoined can be triangulated by noting some of the goods of close relationships. A few such benefits include:

- Building conflict resolution skills [57, 58].
- Creating situations that require and empower forgiveness [59, 60].
- Fostering authenticity and vulnerability: letting another know one's true personality, desires, and values [61, 62].
- Empowering trust and trustworthiness [63, 64].
- Causing a greater general sense of well-being and pleasure in life [56].
- Increasing the frequency with which one experiences episodes of happiness and pleasure [10, 56].

Note that this list includes things that would contribute to quality of life on either an internalist or an externalist theory. Though the inventory is rudimentary and incomplete, the listed goods help to explain why close relationships can be a tremendous factor in high quality of life, perhaps even a necessary one. But these goods are all merely possible: close relationships *can* result in higher quality of life in these ways, but they may fail to do so in specific instances. Whether a particular close relationship is good, bad, or neutral with regard to its members' quality of life depends on contingent factors—including personalities, choices, and physical needs—along with contingencies of the environment—including societal and financial factors, some under members' control and some not [10, 65, 66].

If the goods of close relationships that are discussed above also hold for the close relationship between conjoined twins, then these benefits begin to reveal a value experienced by conjoined twins which could potentially outweigh the constraint on their autonomy.¹³ One response to my argument might be that unconjoined people

¹² In a particularly adventurous example, two artists tied themselves together for a year [13].

¹³ One might worry that psychological research on unconjoined people is irrelevant to conjoined twins. I simply use this literature to demonstrate some of the benefits of close human relationships. Since the relationships between conjoined twins are human relationships, our default should be to assume that participants in these relationships experience the same benefits as do other humans. Conjoined twins are different from other humans in some areas, but the benefits experienced in their relationships has not traditionally been thought of as one such difference. The burden of proof is on someone who thinks that conjoined twins do not experience relational benefits that are similar to those experienced by other humans. I think the anecdotal evidence from Dreger, Quigley, and others [11, 13] clearly supports my claim that conjoined twins do indeed experience the same relational benefits.

can also gain these relational goods; however, conjoined twins can possess each potential good on the above list to a degree and in a way impossible for the unconjoined to experience. For example, Craig Murray describes the powerful psychological effect on conjoined twins elicited by constantly feeling the somatic pushing and/or pulling of each other's bodies [67]. The Hilton sisters described how such sensations helped them decide what to say while giving testimony in a court case, and it is clear from their description that these sensations created an intimacy that they highly valued [51]. Such constant intimacy is inaccessible to the unconjoined and, if experienced as a good, would result in versions of the above relational goods that are hard for the unconjoined to comprehend. So the above list of relational goods is merely a starting point to help the unconjoined reader begin to imagine the degree to which and the ways in which such goods might be experienced in a conjoined relationship.

If conjoined twins have been rational in their desire to remain conjoined, then these unique relational goods are in large measure what makes this desire rational. I call these the *goods of conjoinment*.¹⁴ Conjoined twins thus constitute a unit, like a family, a couple, or a friendship, that has a good way of being. A conjoined life, despite its constrained autonomy, can be a very good life. This helps to explain why the quality of life for the conjoined twins in Dreger and Quigley's studies seems so normal and often positive. For pairs whose conjoinment appeared to have a negative impact on quality of life, the negative experience resulted from factors that could not have been predicted in infancy or even in early childhood. If, as some reports state [6, 53], the Bunkers grew weary of their conjoinment, it was not until late in life. The Tocci twins, if they were miserable (again uncertain) [13], seem to have felt afflicted by their inability to walk—an inability that was not inevitable considering the ambulatory proficiency of other dicephalic twins and people with clubfeet—and/or their 'freak' status—a contingent societal factor that some conjoined twins have not experienced as a negative [68]. The Bijani sisters apparently did not desire separation until their mid-twenties when their developing personalities and careers began to pull them in incompatible directions, even then saying they had "enjoyed [their] lives together" [69]. I take such cases to demonstrate two things. First, they demonstrate that the constraint on autonomy experienced by conjoined twins can be negative, neutral, or positive depending on the factors involved in each individual

¹⁴ An anonymous reviewer wondered whether this good might be driven by the fact that conjoined twins live that way by necessity; then what I call the *goods of conjoinment* are best thought of not as goods but as something more like an accommodation to a disability. It may be that I am embracing a sort of essentialism about the kinds of relational goods involved in my account: that they are goods regardless of the causal or explanatory story of how and why they ended up in one's life. But I think this is plausible in the friendship and marriage cases: if I am forced into a situation that is non-optimal, or even very bad in some way, and out of that situation I develop a good close friendship or a good marriage that I would not have developed otherwise, then the goods I experience in that friendship or marriage should not be considered mere accommodations to the bad situation. They really are great goods for me even though a bad or non-optimal situation forced me into them. The same point applies to the goods of conjoinment, since they are analogous relational goods. The goodness of the goods of conjoinment is not driven by anything about how or why the conjoined twins acquired them; rather, the goodness is simply driven by what those goods are.

case, and, in fact, the constraint enhances most pairs' quality of life for a significant part of their lives (frequently their entire lives). In this way, separation of conjoined twins is likely to eliminate a constraint on autonomy that positively affects their quality of life. Second, the cases demonstrate that while a positive impact is probable, it cannot be determined in infancy or early childhood whether the constraint on autonomy entailed by conjoinment will have a negative, neutral, or positive impact on the quality of life of a specific pair of conjoined twins. If the goods of conjoinment are realized, the impact will be positive. Whether the potential goods of conjoinment are realized in any given case depends on the development of idiosyncratic features of personality and environment that cannot be predicted so far in advance. As a result, only after the twins are beyond infancy or early childhood can a realistic assessment be made as to whether separation will, in effect, remove an enhancement to their quality of life.

The failure of the general argument

With respect to an internalist account of quality of life, biographical studies of conjoined twins demonstrate that they experience ups and downs, highs and lows, that are analogous to those experienced by unconjoined people. With respect to an externalist account, conjoined twins do not appear to exhibit a characteristic lack of any external good other than full autonomy; and even then, their autonomy is merely constrained rather than fully absent. Moreover, frequently the constraint on their autonomy seems to be experienced as a positive contribution to their quality of life. If these things are so, then there is no general or universal reason to think that transitioning conjoined twins to an unconjoined state would improve their quality of life.

I have not argued that being conjoined is characteristically better than being unconjoined, but I have argued that there are special goods, enhancements to quality of life, that are probable for conjoined twins and impossible for unconjoined people. Conjoined twins form an entity that has a good way of being, since the reduction in the external good of autonomy has the possibility of being equally or more than equally compensated. If, as I think they are, the cases discussed are representative of the possibilities for post-infancy conjoined life, then it looks probable that conjoined twins will achieve this good way of being. But probability aside, even the mere possibility for this achievement causes the general argument for separation to fail, for then on any account of quality of life—internalist or externalist—it is not true that conjoined twins in general can expect a dismal, or even a low, quality of life. Further, as I have shown, there is a general ethical reason to keep conjoined twins together in infancy and young childhood: on either an internalist or an externalist conception of quality of life, separation would probably deprive them of significant goods, the goods of conjoinment.

Nonetheless, my quality-of-life argument seems defeasible. It is effective against a general bias towards separation, but I have noted that some conjoined twins may *not* get the goods of conjoinment. As such, this argument does not forestall separation for twins who desire separation, or even for those whose early development or environment makes it highly unlikely that they will achieve those goods. An

important question, then, is whether the quality-of-life argument implies that decisions about separation *must* wait for the twins' involvement. Particularly on an internalist account of quality of life, their self-reports would be vitally important. Yet even on an externalist account, their self-reports might be necessary in order to reliably judge whether the constraint on their autonomy has and will continue to have an objectively good or bad impact. Note that the judgement need not wait until the age of legal consent: one simply needs to be able to accurately judge conjoined twins' developing relationship with one another and, preferably, to get some input from them. I call this pre-age-of-consent involvement process assent, while I use *pre-assent* to refer to the procedures that happen before the twins are mature enough for this process.¹⁵ Does the quality-of-life argument imply that there should be no pre-assent separations? I suggest that there are two kinds of considerations that threaten to defeat my quality-of-life argument in some specific, unique cases: inconvenience and risk. I now turn to these individual, local sorts of arguments for separation.

The local argument

Consider a hypothetical case: a pair of twins is conjoined by a small fleshy bridge. Separation would be easy, with very minimal scarring and cost, and no resulting disability or therapy required. Thus, risk is not a significant factor. But if the twins are separated pre-assent, then an important choice is being made for them by someone else: that they will not get the goods of conjoinment. Why not wait to find out whether they would like to pursue this good way of life, and whether their relationship is such that they might achieve it? Determination of self-interest on behalf of infants is notoriously difficult:

Congenital impairments may be less burdensome for some infants because their perspective is different. We may not think it is in our best interests to live with the impairments of some infants, but ... what we would consider a terrible loss may not be experienced as such a loss by him because he never had what he now lacks. [70, p. 292]¹⁶

There is no pressing need to separate: neither twin is in any danger, and very little inconvenience is created by such a minor joining site. The benefits of separation in this case would be a slight increase in convenience for the parents, while the potential harm of separation would be the closing off of a significant opportunity for the twins to have a rare and valuable kind of good quality of life. Thus, it appears that my quality-of-life argument can overcome this local argument for separation. It is conceivable, though, that my quality-of-life argument might be defeated even without introducing risk: there could be unique reasons why a particular conjoinment may be extremely inconvenient even though it does not pose a health risk to either

¹⁵ Standards exist for such involvement by children in decisions regarding their own procedures; indeed, it is increasingly argued that this is desirable whenever possible [11].

¹⁶ This is also supported by the distinction in the well-being literature between "loss" and "lack" [8].

twin. Perhaps in some of these non-risky cases parents would be justified in depriving their children of the possibility to become happy conjoined twins, but I do not know of any such examples.¹⁷ Some of the (seemingly) most inconvenient conjoinments have been experienced as quality-of-life enhancements, refuting local arguments like that made on the behalf of Patrick and Benjamin Binder, joined at the back of their heads:

Both infants were neurologically normal: other minor abnormalities included scoliosis, torticollis, and several hemivertebrae in each child. Although this form of craniopagus was compatible with long-term survival, quality of life was likely to be poor. The parents requested that surgical separation be attempted. [39, p. 961]

The Schappells [11], Bijanis [11, 69], and Hogans [71–73]—all craniopagus, joined at the head—stand as counterexamples to the claim that the Binders' quality of life was likely to be poor.

One of Spitz's local arguments has already been introduced: "In some types of union such as end to end ischiopagus, the twins will never stand and will be bedridden" [6]. Yet Ronnie and Donnie Galyon seem to have obtained the goods of conjoinment [13, 52]. An assessment of the biographies of surviving conjoined twins challenges the confidence of such appeals to extreme inconvenience.¹⁸ But even granting this possibility, it should not be assumed that an inability to stand or walk necessarily justifies the stark imagery of being confined to a bed for one's entire life. Those living with various forms of disability have various ways of getting out and about, so to speak. Even granting highly limited mobility, the twins may develop in such a way that their conjoinment will become a very great good for them; given the relational goods mentioned earlier, there is no reason to assume otherwise. Conjoined twins who remain unseparated have shown what to many is a surprising and unnerving reluctance to trade their conjoinment for greater freedom of movement. Perhaps there are some kinds of conjoinments whose inconvenience makes normal quality of life improbable, but drawing this line is problematic when twins are too young for their personalities to be factored into decisions on their separation. So the

¹⁷ Earlier, I mentioned that families, like conjoined twins, have good ways of being. Might it not be the case that part of a family's good way of being includes the parents' freedom to make decisions about whether to separate their conjoined children? And does my conclusion not imply that the parents have no such freedom? My response is that *freedom* can be interpreted in two ways: either there are some ethical considerations that the parents should be guided by in such free decisions or there are not. I take the first stance. The point of this paper is to demonstrate and clarify the ethical considerations that should be taken into account by any individuals considering a separation, whether they be doctors, parents, judges, or the twins themselves. Giving parents the freedom to make the decision then simply means trusting them to be the ones to weigh the ethical considerations. Given that there are such ethical considerations that should be weighed, questions about who should be trusted to weigh them are important, but they go beyond the scope of this paper. Thanks to an anonymous reviewer for raising this issue.

¹⁸ The Galyon brothers are ischiopagus, nearly end-to-end, and while walking is difficult, they are nowhere near to bedridden. The Hogan sisters are joined not far from the top of their heads so that their heads must be cocked about 60% while standing, yet they appear very little hindered in walking and running. Such confident predictions of disability reveal a lack of imagination and a discounting of human flexibility and ingenuity.

quality-of-life argument appears to defeat local arguments for pre-assent separation that are based solely on inconvenience.

Now consider a different case: a pair of twins is conjoined in a risky way, perhaps with insufficient cardiac function to support both. This situation can arise due to a shared heart, cardiovascular abnormalities, or simply asymmetrical development—one twin might have a heart that is too weak to fully support her on its own, so she depends in part on her stronger sibling. The prognosis in such cases is frequently that without separation the twins will deteriorate and die. Clearly, remaining conjoined in this case is very likely to result in worse quality of life: my quality-of-life argument is defeated by such local arguments. Such a case opens up the issue of sacrifice separations, in which a staged procedure is carried out before the twins deteriorate too far. These staged procedures are expected to result in the immediate death of the weaker twin, while hopefully allowing the long-term flourishing of the stronger twin. Julian Savulescu and Ingmar Persson give a local argument for separation in such cases, based largely on utilitarian considerations:

The consequences of depriving Mary of the use of the healthier heart—to which she has a shared right when she is a conjoined twin and a sole right when she is a separate twin—are overall reasonably good enough, since it does little to reduce her life-prospect, but a great deal to enhance Jodie's life-prospect.... Rights are not absolute but can be overruled if the consequences for life-prospects are good enough. [74, p. 51–52]

Before moving on to consider these cases, it is worth taking a moment to reflect on another way to partition the different possibilities. For any given set of conjoined twins, lethal abnormalities might be suffered by both twins, only one twin, or neither twin. In the first case (which encompasses the majority of conjoinments), there is no reason to separate: both will likely die soon regardless of treatment.¹⁹ In the third case, unless there is risk of some kind other than risk to quality of life—and I know of no examples where such other risk has obtained²⁰—my quality-of-life argument shows why there is insufficient reason for a pre-assent separation. In the second case, quality-of-life considerations do appear to provide a reason for separation. However, I now argue that in such instances, there is an equal or stronger reason against separation.

¹⁹ However, the existence of surprising recoveries gets insufficient recognition. One might even think that most conjoined twins who survive infancy have “defied the odds.” But even thoracopagus twins sharing a single heart periodically survive for years with high life quality (e.g., the Cadys, seven years [13, 34], and the Baileys, 3 years [37, 38]). Spitz states that “with thoracopagus, death will generally occur within 2–4 weeks but survival for many months has been recorded” [6, p. 263]. His attempt at generosity is admirable but needs to be expanded even further: survival for years with high life quality has been recorded.

²⁰ The nearest to such a case that I know of would be Duc and Viet Nguyen, parapagus twins born in 1981. Viet contracted life-threatening meningitis when the twins were seven years old, and they were separated in an attempt to keep the illness from spreading to Duc. This case should likely be categorized as one of the middle cases—one twin with a lethal problem, one without. But it points to a possible middle case in which one twin suffers a debilitating, but non-lethal illness. As it turned out, Viet survived for 19 more years, though with severe health problems [75].

The metaphysics of separation

In this section, I describe an argument against separation that is disturbingly powerful, but I think can be made intuitive. It is particularly disturbing because it ostensibly weighs most heavily against the separation of conjoined twins in the situations where one might feel most compelled to separate them. The basic idea is simply that separation is always an amputation for both conjoined twins. Under this assumption, separations performed before the twins are able to offer consent, assent, or input are a particularly questionable kind of involuntary amputation. Pre-assent separations that involve the appropriation of shared organs to one twin are cases of amputation and re-apportionment of organs—involuntary organ transplantation. Finally, pre-assent separations that will lead to the death of one twin are the most objectionable kind of involuntary amputation/transplant. I primarily consider this last case, in which a pre-assent separation will result in the death of one of the twins, concluding that this is never morally permissible. However, the argument can be adjusted *mutatis mutandis* to imply that any pre-assent separation that will be detrimental to the quality of life of one twin is morally impermissible.²¹

Conjoined twins have ambiguous body boundaries, such that they are rightly described either as having overlapping bodies or as sharing body parts. All conjoined twins have regions of shared function—at the very least, there is always some sort of circulatory connection, meaning that the twins share blood and some percentage of a joint cardiovascular system. Along with sharing function, conjoined twins seem to characteristically, if not always, have regions of shared sensation. Those pairs that share limbs sometimes share control of those limbs. Craig Murray considers numerous examples of shared areas of sensation (e.g., the McKoy twins, who strikingly shared all sensation in all four legs) and shared control (e.g., the Krivoshlyopovas and the parapagus twins Duan and Dao, who shared control of third legs). Numerous sources also note that parapagus, pygopagus, and ischiopagus twins frequently share urges to urinate and/or defecate, which are also instances of shared control. Murray concludes that

Siamese twins challenge our a priori notions of bounded individuality. Unlike the individual body in embodiment research, Siamese twins do not have a clear physical body boundary. They share bodily sensation and the ability to move limbs. Therefore, our conventional explanations for how an individual can ‘know’ or experience their body boundaries are actually contingencies which, while for most of us are extremely reliable, contribute to ambiguities of body and self for conjoined twins. [67, p. 128]

His conclusion that conjoined twins “do not have a clear physical body boundary” is an empirical observation very similar to my observation that such twins have overlapping bodies and/or shared organs and parts.

²¹ It is important that I refer to quality of life rather than “life-prospects,” as Savulescu and Persson do [74].

In a second empirical observation, Murray points out instances where intuitive descriptions of conjoined twins, and testimonies from conjoined twins themselves, support the characterization of separation as amputation:

Duan and Dao were joined side by side, sharing a third leg (a double femur). Though the surgeons discussed dividing it, they concluded that this would give both a poor leg. It was therefore decided to give it to Duan as she had the *most* control over it. An issue here is particularly interesting. The surgeons are *constructing*, rather than separating, bodies. They are able to choose who has the third leg. This demonstrates that the third leg as part of the Siamese twins is both part of Duan and Dao. Only when a separation has been made and the third leg ‘given’ to one twin does its dual ‘ownership’ expire. The significance of this surgical activity is reflected in the comments of the narrator as the surgery progresses

“The surgeons continue *carving out the boundary* that will physically define Dao and Duan.... O’Neil and his team have given Duan the third leg, the common rectum, and the largest part of the bladder, because the blood and nerves that serve these organs are *principally* under Duan’s control....”

... As well as her separation from her sister, Dao underwent an amputation of her leg (when it was given to Duan), and the same would have been true for Duan if Dao had been given the leg. [67, p. 125–126] (*italics original*)

My argument connects Murray’s two empirical observations by showing how it is conceptually the case that if conjoined twins have overlapping bodies, their separations are amputations and/or transplantations.²²

The argument is straightforward. An amputation is a surgery that removes a part of someone’s body, and a transplant is a surgery that removes a part of someone’s body and places it in someone else’s body. If conjoined twins have overlapping bodies or shared body parts, then a shared heart (or even a bit of fat tissue) is located inside the body of *each* twin. Thus, any surgery that eventuates in the location of a heart (or fat tissue) within the body of one twin and not in the body of the other is a surgery that removes a heart (or fat tissue) from the body of one person for the purpose of its use in the body of someone else. The reverse claim has been made, and as Dreger points out, it is inexplicable: “One possible response is to say (as one surgeon did in conversation with me) that it wasn’t as if you were taking the heart from Amy and giving it to Angela. But how *wasn’t* it like that?” [11, p. 95] (*italics original*).

²² Murray additionally comments: “Shortly after formulating this argument I came across the article by Cleveland et al. [76]. Within this paper is a quote from a Siamese twin studied by Jones, Younghusband, and Evans [77]. When offered the opportunity of separation the twins refused, and one twin is said to have responded, ‘it would be like an amputation of a personal appendage’ [76, p. 269]. The fact that the twin referred to the process of separation as an amputation, and of their sibling as an appendage is striking.... Both Jones et al. [77] and Cleveland et al. [76] treat this as a strict analogy or metaphor. However, I believe that they have missed the physical and psychological truth of this statement” [67, p. 124, fn. 1].

In one such case, the possibility of procuring a second heart through donation was explored. Emma and Taylor Bailey, born in the U.S. in 2006, were thoracopagus twins sharing a heart. They were soon to be placed on the heart transplant list (in preparation for a separation after which both were hoped to survive) when they died at age three during a procedure to adjust a pulmonary band that had been installed to increase the heart's efficiency [37]. Three years is a long time for twins sharing a heart to survive, though, so it might seem preferable to attempt the introduction of a second heart much earlier—although the extreme rarity of infant donor hearts makes them among the most difficult to procure. Nonetheless, there has been insufficient discussion of this option for thoracopagus conjoined twins. Additionally, it should be noted that the Baileys were slated to receive a donor heart as part of their separation, but my earlier quality-of-life argument implies that such a transplantation procedure should be conducted, if possible, while leaving the twins conjoined. I am not sufficiently knowledgeable in the technical aspects of infant heart donation to say any more on this point, but this area appears to be ripe for future research.²³

Leaving aside the possibility for the donation of a second heart, doctors are forced to decide which twin has a right to the single viable heart. Since Amy, in Dreger's discussion above, was (rightly) not diagnosed as acardiac,²⁴ she had a heart—the one that was separated from her during the surgery. If such allocation constitutes amputation, then sacrifice surgeries are amputations of parts of the weaker twin; they are surgeries carried out at the expense of the weaker twin for the benefit of the stronger twin.²⁵ This argument has immediate implications for the cases I mention at the close of the previous section—where one twin has a lethal abnormality, but the other does not. I now explore the implications of these cases.

In 2000, thoracopagus conjoined twins Gracie and Rosie Attard were separated against their parents' wishes because it was expected that the poor cardiac function of Rosie would soon result in the deaths of both. The appeals court that allowed the separation to proceed consisted of three judges, each of whom presented a different line of reasoning in concluding that the separation could proceed. Lord Justice Ward reasoned (the names Jodie and Mary were used as aliases for Gracie and Rosie in the legal proceedings):

²³ My thanks to an anonymous reviewer for pointing out that the possibility for donation of a second heart to conjoined twins should be discussed.

²⁴ Even had Amy been diagnosed as acardiac, the question would remain as to whether this diagnosis was correct. The metaphysical argument described here would entail that such a diagnosis is incorrect. Dreger comments on the case of the Lakeberg twins, thoracopagus twins sharing a complex six-chambered heart and one liver, who were separated in 1993 at the Children's Hospital of Philadelphia by assigning the heart and liver to the twin considered more likely to survive. A report of the situation by some of those involved commented: "Amy died during the surgery as planned. One of the surgeons said that when the blood vessels connecting Amy with Angela were severed, cutting off the blood flow and causing her death, 'nothing was said, but I know everybody felt it' " [78, p. 5].

²⁵ The perverse reasoning that it is to the weaker twin's benefit to die—which has been made more than once (see, e.g., [78] and [79])—has been effectively addressed by my quality-of-life argument: twins consistently have normal quality of life despite disabilities that can seem quite significant.

If Jodie could speak, she would surely protest, “Stop it, Mary, you’re killing me”. Mary would have no answer to that ... Mary uses Jodie’s heart and lungs to receive and use Jodie’s oxygenated blood. This will cause Jodie’s heart to fail and cause Jodie’s death as surely as a slow drip of poison.... I can see no difference in essence between that resort to legitimate self-defence and the doctors coming to Jodie’s defence and removing the threat of fatal harm to her presented by Mary’s draining her life-blood. The availability of such a plea of quasi self-defence, modified to meet the quite exceptional circumstances nature has inflicted on the twins, makes intervention by the doctors lawful. [79]

Setting aside worries regarding the efficacy of “made-up monologues” [80, p. 1107], my metaphysical argument demonstrates the paucity of this reasoning. Ward seems to assume that the weaker twin has no right to be draining the life-blood of the stronger twin.²⁶ But, of course, she does: since the blood is shared as part of their overlapping bodies, it is the weaker twin’s life-blood as well! If a person does not have a right to her own life-blood, then her rights must be very limited indeed.

This perspective—namely, that conjoined twins in some way share or overlap in parts of their bodies—is consistent with a number of other specific metaphysical accounts. Jeff McMahan argues that conjoined twins are either distinct persons inhabiting overlapping organisms or distinct persons inhabiting a single organism:

The third and most promising option is to claim that dicephalic twins are actually two distinct though overlapping organisms. Van Inwagen may hold this view, for at one point he writes, parenthetically, of “a fusion of two or more multicellular organisms, after the manner of Siamese twins.”²⁷ This understanding is, of course, entirely compelling in the case of conjoined twins who are only superficially melded (and therefore potentially separable) and who each have a full complement of organs and parts. It is also plausible in cases in which there is a limited sharing of certain organs or parts but extensive duplication of others. It is substantially less plausible, however, when, as in the case of the Hensel sisters, there is only very limited duplication of organs and all the organs function together as a unit.... Dicephalic twins such as the Hensel girls constitute a single integrally functioning set of organs wrapped in a single skin, sustained by a single coordinated system of metabolism, served by a single bloodstream, protected by a single immune system (which, significantly, recognizes every cell that either twin could claim to be a part of her body as “self”), and so on.... There are, of course, two personal or biographical lives.... In cases of dicephalus, a single biological life supports the existence and thus the lives of two distinct persons. [82, p. 36–37]

²⁶ *Life-blood* is Ward’s phrase, not mine, but I suppose it means something like “the blood necessary to maintain life.”

²⁷ Citing [81].

McMahan suggests that Peter van Inwagen may be committed to the first view, which for various reasons McMahan rejects it in favor of the second view in the case of dicephalus twins. But my metaphysical argument is supported either way: since, as argued earlier, there are always shared parts, any separation of conjoined twins will involve removing from person *A* (the first twin) some biological parts that belong to her and, in turn, removing from person *B* (the second twin) some biological parts that belong to her. This is simply because some parts of the organism(s) belong to *both persons*. Therefore, any separation that involves twin *B*'s giving a shared organ or part to twin *A* is an amputation/transplant of that organ or part from twin *B* into twin *A*.

I have so far begged the reader's patience as I trade on unexpressed assumptions that involuntary amputations/transplants should not be performed, particularly if they will be detrimental to the (involuntary) donor. But to draw out the full strength of this argument against sacrifice separations, consider a famous thought experiment from the normative ethics literature: "Transplant."

Imagine that each of five patients in a hospital will die without an organ transplant. The patient in Room 1 needs a heart, the patient in Room 2 needs a liver, the patient in Room 3 needs a kidney, and so on. The person in Room 6 is in the hospital for routine tests. Luckily (for them, not for him!), his tissue is compatible with the other five patients, and a specialist is available to transplant his organs into the other five. This operation would save their lives, while killing the "donor". There is no other way to save any of the other five patients.²⁸

... With the right details filled in, it looks as if cutting up the "donor" will maximize utility.... Most people find this result abominable. [87]

Consider the connections between "Transplant" and conjoined twin separation: in both cases it is important that the involuntary operation cannot be said to benefit the patient who loses body parts, and in both cases it is important that there is lack of consent. One might think that amputation without consent is morally problematic in itself,²⁹ but surely this intuition is stronger when the amputation will be detrimental for the patient, and stronger still when it will kill the patient. This reasoning is not affected by the impending death of the possible beneficiaries. But what if the potential involuntary donor is also deteriorating, with the likelihood that she will die at about the same time as the possible beneficiaries? It is still not permissible to kill her by removing her organs.³⁰ This is a positive objection to sacrifice separations, even in the face of impending death for both twins. It is created by metaphysical

²⁸ Citing [83, 84] and related cases in [85, 86].

²⁹ There is significant literature on this issue (e.g., [88]).

³⁰ Again, this is obviously a highly controversial area of medical ethics, involving the definition of death, which varies in different jurisdictions. But I defer to the prevailing general ethical principle, sometimes called the *dead-donor rule*: a practitioner who hastens the death of a patient for the sole purpose of procuring his or her organs for transplant acts unethically. Some argue that living donors should be allowed to give consent for lethal transplants, but this would not affect my argument: I am addressing *involuntary* transplants/amputations [89].

considerations regarding the ambiguous body boundaries and overlapping bodies of conjoined twins. So long as the weaker twin is not yet dead, a separation means killing her by removing her own body parts. One might simply view this metaphysical argument as the reverse of Savulescu and Persson's argument. They argue that certain separations are permissible and use this as a wedge against the so-called dead-donor rule (on this rule, see note 30); I accept something like the rule and use it to argue against separations. However, it is important to note that I am in fact using something a little different and less controversial than the dead-donor rule. My metaphysical argument has only three provisions: first, that there be a defeasible moral requirement against involuntary lethal transplantation/amputation (as opposed to an absolute rule, as the dead-donor rule purports to be); second, that this moral requirement not be defeated in the "Transplant" case; and third, that conjoined twin separation be analogous to transplantation/amputation (a point that Savulescu and Persson actually argue in favor of [74]), specifically the procedure in the "Transplant" case.³¹

Recall now those cases in which the local argument seems to defeat my quality-of-life argument against pre-assent separation—cases where remaining conjoined engenders a significant risk to the twins' quality of life because their death is probable. Also recall the three partitions: for any given set of conjoined twins, lethal abnormalities might be suffered by both twins, only one twin, or neither twin. Contingently, for pairs whose continued conjoinment presents a lethal risk that separation could alleviate, it is consistently the case that only one twin suffers from a lethal abnormality. As long as this is true, local arguments that defeat my quality-of-life argument will consistently apply to sacrifice separations, but those sacrifice separations will consistently be disallowed by my metaphysical argument as lethal involuntary amputations/transplants.

It is not apparent what circumstances would have to arise to make separation necessary for saving the lives of *both* twins. While I know of no cases where this has happened, such circumstances may be conceivable, so I merely assert that the local arguments that defeat the quality-of-life argument consistently pertain to cases of sacrifice separations. However, these are precisely the cases for which the metaphysical argument seems impregnable: a sacrifice separation is an involuntary and

³¹ Savulescu and Persson [74] present an argument in favor of sacrifice separations, which they extrapolate to argue against the dead-donor rule. It is worth pointing out that their justification for doing the lethal transplant—"organ retrieval euthanasia"—is simply that there is a large utilitarian imbalance: "one party would lose very little by the treatment and another would gain a lot" [74, p. 52]. This would plausibly justify transplanting in the "Transplant" case, since that case also involves a large utilitarian imbalance. They claim that consent should be secured when possible, but they suggest a framework for proceeding in the absence of consent: "hypothetical consent," which obtains when "a person could reasonably consent to this treatment" [74, p. 52]. When would a person reasonably consent? When directed to by the same utilitarian calculus mentioned earlier. Consent, then, is immaterial to Savulescu and Persson's argument: whenever the utilitarian calculus is satisfied (as I take that it is in "Transplant"), reasonable consent would be satisfied, and thus hypothetical consent would be satisfied, so practitioners would be justified in proceeding in the absence of actual consent. Savulescu and Persson themselves recognize that eliminating the need for consent seems to go too far [74], but their utilitarian argument justifies eliminating consent nonetheless. More needs to be said to make this objection water-tight, but I take such considerations to ultimately refute their argument against the dead-donor rule.

lethal amputation/transplant. Recall that based on quality-of-life considerations, I concluded in my analysis of the general argument that in non-sacrifice scenarios, pre-assent separations probably deprive both twins of valuable goods that are not equally compensated for by separation. Between quality-of-life considerations and metaphysical considerations, then, I have established the following principle:

Pre-assent separations of conjoined twins are ethically unjustified unless they are necessary to save *both* twins' lives or unless one twin is already dead.

Moral dilemmas

I recognize that the principle I have just articulated might seem outrageously stringent at first glance, but I invite the reader to criticize the arguments rather than the conclusion. Pre-assent conjoined twins who are not in danger have every reason to expect irreplaceably high quality of life by remaining conjoined, and those who are in danger consistently become cases of sacrifice separation, which amounts to involuntary and lethal amputation/transplantation. However, it is certainly worth explaining a further complication that exists in the case of sacrifice separations, which forces further adjustment to, and perhaps weakening of, the above principle. This is the possibility that sacrifice separations constitute moral dilemmas.

A moral dilemma is not simply a situation in which moral considerations make a decision difficult, since moral considerations can make a decision difficult even when the morally right decision is clear—in which case the dilemma is not moral. In unfortunate circumstances, putative moral requirements or obligations can come into conflict; yet in such cases it is often thought that one requirement is overridden either by the other requirement or by some other relevant considerations. Walter Sinnott-Armstrong defines a moral dilemma as a case of two conflicting presumptive moral requirements, neither of which is overridden by any other relevant considerations. He argues convincingly that such dilemmas can exist: there can be “conflicting non-overridden moral requirements” [90, pp. 18, 29].

On this view, a moral dilemma is a case in which one is forced to do something morally impermissible because of conflicting moral obligations, neither of which justifies violation of the other or is overridden by additional considerations. My metaphysical argument about amputation creates the presumption that a sacrifice surgery is impermissible. It is easy to think that a moral dilemma might thus arise from the existence of a moral requirement to separate, since one presumably has a moral obligation to save the stronger twin's life when possible. However, this situation is not yet a moral dilemma: in addition to having conflicting moral requirements, the situation must be such that neither moral requirement is overridden. Recall again the “Transplant” case, where the impending death of five other patients is insufficient to override the provision against involuntary and fatal amputation/transplantation. “Transplant” ostensibly presents a case of conflicting moral requirements: the requirement to save as many lives as possible (or the like) conflicts with the requirement not to perform an involuntary and fatal amputation/transplant. If Sinnott-Armstrong is right that doing the amputation/transplant in “Transplant” would be “abominable” [87], then the requirement not to do the involuntary and fatal

amputation/transplant overrides the requirement to save as many lives as possible. There are conflicting moral requirements, but one of them—the requirement to save the lives—is overridden. If the moral provision against performing an involuntary and fatal amputation/transplant overrides the moral requirement to save five lives, then it certainly overrides the moral requirement to save one life. Yet this latter scenario is precisely that presented by conjoined twin sacrifice surgery. In this sense, it looks like sacrifice separation does not constitute a true moral dilemma; rather, it is a case of conflicting moral requirements, one of which is overridden.

It is worth noting quickly that the third case I mention near the end of the previous section—where one twin suffers a debilitating but nonlethal illness or injury that could impact the quality of life for both—might, on my argument, license an involuntary amputation/transplant that harms the quality of life of the donor while helping the quality of life of the recipient. To block this exception, I specify that my metaphysical argument implies separation is not morally permissible when it degrades the quality of life of one of the twins. But this is an area for future research. The moral considerations that apply in such a case might be rather different from those that apply in a sacrifice separation: while there may be a requirement to save as many lives as possible, it seems dubious that there would be a requirement to improve each individual's quality of life as much as possible. Nonetheless, I will not consider this issue further, since I know of no historical examples that clearly fall within this category.³²

What could strengthen the requirement to save the stronger twin's life such that it is no longer overridden? Several options are presented in the legal reasoning of the three appellate judges overseeing the infamous *Re A (children)* case, in which the British court of appeals allowed conjoined twins to be separated (against their parents' wishes) in a surgery that would necessarily kill one twin, since it was predicted that both twins would die if left conjoined. The three judges each used different reasoning to arrive at the same conclusion. Lord Justice Walker reasoned that it was in the weaker twin's interest to die because she could expect only a short and miserable life; Lord Justice Ward reasoned that self-defense considerations justified the assertion of the stronger twin's right to life over that of the weaker twin; Lord Justice Brooke reasoned that the legal doctrine of necessity justified an act (killing the weaker twin) that would normally be impermissible [79]. My quality-of-life argument is incompatible with the first reason: when conjoined twins survive to make decisions regarding their own self-interest, it seems that they often choose surprising levels of disability over separation. This indicates that, even as infants, conjoined twins may experience unexpectedly high quality of life. In any case, if expectation of a short and miserable life justifies an involuntary and lethal amputation/transplant, then Sinnott-Armstrong's intuitions about "Transplant" are also wrong

³² Earlier, I mentioned the Nguyen twins as near-candidates. Other near-candidates might be the Bunkers (one of whom suffered a stroke) and Lori and George Schappel (the latter of whom has spina bifida and cannot walk). However, there is insufficient evidence to say much about how the Bunkers' quality of life was affected. The Schappels emphatically disdain separation in the face of the difficulties that George's condition creates for them. This indicates that the goods of conjunction that Lori has obtained more than outweigh the drawbacks that George's condition creates for her.

when the patient in room six is suffering and doomed to a short life. Lord Justice Walker's reasoning would, I take it, allow far too lax of an organ donor policy, and thus it can be dismissed. I think that the other two reasons given by the judges are also mistaken when applied to conjoined twins, but each points to a different kind of consideration that is legitimate.

Both self-defense and necessity, as legal justifications, have the effect of removing an override from a right or requirement. I have a right to protect my life with deadly force, but this right is overridden by my attacker's right to life unless a certain self-defense condition is met (which is defined differently in different jurisdictions). If this condition is met, and my situation is a legal case of self-defense, then my right to protect myself with deadly force is no longer overridden. Similarly, the doctrine of necessity can apply to some cases where a right or moral requirement appears to be blocked by a law: if the right conditions are met (conditions that vary across jurisdictions and situations), necessity states that the law does not override that right or moral requirement. For example, a military courier has a moral responsibility to deliver messages as quickly as possible, even driving a vehicle at high speeds, if need be. This requirement may seem overridden by applicable traffic laws and speed limits. However,

The Supreme Court of Rhode Island held that a member of the United States Naval Reserve Force, on duty as a despatch driver, was not amenable to the speed laws of the state while on his way to deliver a message, at the command of his superior officer, which that officer deemed urgent.³³ The decision rested on the principal of public necessity.... The defendant admitted intentionally exceeding the speed limit knowing the act was illegal. But under the pressure of circumstances the act was justified by "necessity." [91, p. 289]

This case is analogous to the self-defense example above. Here, since a necessity condition was met, the requirement on the driver to proceed as fast as possible was no longer overridden by the law. If the situation of sacrifice separation is appropriately analogous to that of a self-defense or necessity defense, then it may be possible to show that the requirement to save a life is no longer overridden.³⁴ As such, sacrifice separation would present two conflicting moral requirements, neither of which is overridden, and a true moral dilemma would obtain.

Lord Justice Brooke's application of necessity in the separation case has been condemned as a dangerous precedent that opens the door to a wider use of this defense in killing (the Supreme Court of Canada has explicitly refused to follow suit) [92]. Specifically, critics claim that Brooke's application offers a *justification*

³³ *State v. Burton*, 41 R.I. 303, 103 A. 962 (1918).

³⁴ One might wonder whether the idea of self-defense applies, given that it is a third party and not the threatened twin that makes the medical decisions. Savulescu and Persson [74] also note this wrinkle, adding that it is controversial whether lethal third-party defense is ethical when the attacker and the victim are both innocent (this would challenge the analogy with necessity cases). This is a good area for future research, but it does not seem to affect my argument. One could just as well substitute in "defense on behalf of a minor" and the same conclusions would follow. Additionally, there is already legal precedent to sustain the self-defense analogy in the court decision here, as discussed by Lord Justice Ward.

for killing an innocent person, while the most one might want in any circumstance is an *excuse* for such killing [92]. This criticism comes close to my solution. The idea is that self-defense can be characterized as having two sides—the side that reinstates my right and the side that removes my attackers’ right:

- a. If an evil with deadly force is being perpetrated against me, then my right to self-protection with deadly force is no longer overridden (on the doctrine of necessity); and
- b. If a person is perpetrating a moral evil against me—that is, if that person is not innocent—then certain of his or her rights against me are forfeited.

If necessity in a case of killing is seen as an excuse rather than a justification, only the first of these two conditions is satisfied: my right is no longer overridden. Since any other persons involved are still innocent, their right to life is not forfeited; thus, one does not have a justification for killing them, but rather an excuse. So Brooke’s dangerous mistake was interpreting a case where only (a) occurred as justifying an override of the weaker twin’s rights—effectively, casting it as a case of both (a) and (b). The stronger twin was the victim of an evil, but the weaker twin was yet innocent, and hence her rights were not overridden. In order to defend this, I need a sense of evil that can coherently stand in here, such that neither the stronger twin’s right nor the weaker twin’s right is overridden.

Just such a notion is found in the distinction between moral evil and ontic evil. Louis Janssens explains:

Of old, a distinction between *malum physicum* and *malum morale* was made. Nowadays, we prefer the term “ontic evil” to the term “physical evil”.... It is true, of course, that there is evil in the material world. We say that an earthquake which destroys human lives and entire regions is an evil. A devastating flood is an evil.... There are evils which disrupt the corporal life of man, e.g., death (which radically defeats our will to live), pain, sickness.... Ontic evil is a lack of perfection which impedes the fulfillment of a human subject.... It is harmful and damaging to human beings. [93, p. 60–67]

An ontic evil (sometimes called a natural evil) is an evil with no guilty perpetrator, while a moral evil is an evil with a guilty perpetrator. The application is straightforward. A naturally occurring threat to a human, one that was not intended by anyone, one that is no one’s responsibility, is an ontic evil. The kind of conjunction under consideration, then, in which a weaker twin taxes the systems of a stronger twin to their breaking point, is an ontic evil. The stronger twin is the victim of an evil, giving her the right to protect herself with force proportional to the nature of the threat.³⁵ However, the weaker twin is not *guilty* (a moral term) of any wrong. She is

³⁵ This principle may give guidance in adjudicating the third case mentioned earlier (for which I can offer no real examples)—that is, when one twin suffers a debilitating but nonlethal illness or injury. Could this be seen as a sort of ontic-evil attack on the quality of life of the twin who is not ill or injured, which would favor a separation so long as it constituted force against the ill twin that is proportional to the threat on the well twin? I am not sure, and space does not permit me pursue this issue further.

morally innocent, and her rights to life and self-protection are not overridden.³⁶ This presents a true moral dilemma: there is no morally permissible option.

As mentioned, there is some favor in the legal literature for the idea that necessity can be invoked as an excuse for killing, but not as a justification [92]. The sentence for murder and cannibalism in the infamous *R v. Dudley and Stephens* case was reduced from death to six months' prison even though the defendants were found guilty [94].³⁷ This is my conclusion as well: suffering a moral evil can justify the performance of an otherwise impermissible act (as in self-defense), but suffering an ontic evil can merely excuse the performance of such an act. Yet saying that one is excused rather than justified is just saying that some opposing moral requirement has not been overridden. I may be excused in attacking an innocent person who presents me with an ontic evil (hence the leniency of the magistrate in *R v. Dudley and Stephens*), but I cannot be justified (hence the guilty verdict).

Extending this analysis to the case of sacrifice surgeries: if a lethal abnormality in one twin threatens the lives of both, then the stronger twin is threatened by an ontic evil. This does not justify any lethal action on the stronger twin's behalf, since the weaker twin is yet an innocent: her right to life is not forfeited. However, the threat of a lethal evil is sufficient to mean that the stronger twin's right to deadly self-protecting force is no longer overridden—as in (a) above. Therefore, this is a case of conflicting non-overridden moral requirements. In the excuse/justification language: one is not justified in separating the twins, and one is not justified in leaving them conjoined, but one may be excused for doing either.

However, note that in both self-defense and necessity, the emergency and imminence of the situation is pivotal to invoking the defense [92, 95]. Self-defense can be invoked only when one is under attack. Recall the court's judgment that the military courier was allowed to break a speed law because his commanders' message was urgent. In general, self-defense and necessity require that a response be proportional to the *immediate* threat. By analogy, my ontic-evil defense should require that the obligation to use deadly force to protect the stronger twin against the weaker twin remains overridden so long as the ontic evil afflicting the stronger twin is not itself of imminent deadly force. I leave for another time a discussion of how such a situation would be medically constituted,³⁸ but it is clear that the mere potential that the weaker twin will, in the future, cause the death of the stronger twin does not

³⁶ Savulescu and Persson [74] point out that it is disputable whether someone's right to self-protection necessarily creates a right for a third party to step in and protect. I assume here (as does much of the relevant literature) that it does—at least in the case of infants, including infant conjoined twins.

³⁷ The interpretation and use of the legal doctrine of necessity is still controversial, and I do not here have space to discuss to what extent the *R v. Dudley* case turned out properly. The defendants were sentenced to death but given clemency by the chief executive in a pre-arranged agreement with the judges. For various views, see [92, 95, 96].

³⁸ Spitz gives a list that can provide some beginning guidance as to what constitutes an emergency: "Emergency separation is recommended under the following conditions: (a) one twin is dead or dying, (b) one twin has a lethal congenital abnormality, (c) intestine within an omphalocele is dead, and (d) the bridge connecting the twins ruptures" [6, p. 263]. My account collapses this list to the first item along, noting that any of the subsequent three conditions (as well as numerous others) may become the catalyst that catapults the twins into that first category.

constitute an emergency or an imminent deadly ontic evil against the stronger twin. Assuming this stance would be like claiming that I am justified in killing someone when I can build a good circumstantial case that this person will involuntarily kill me at some point in the future. Perhaps this person is involuntarily threatening me in lesser ways at the moment. My right to defend myself at the lethal level in this case, and the stronger twin's right in the case of separation, is overridden until the attack is in progress. A moral dilemma obtains only in an emergency separation: before the emergency is occasioned, the only non-overridden moral requirement is the one not to perform an involuntary and lethal amputation/transplant. If the emergency is indicated by saying that one twin is dying, then my separation principle should be revised as follows:

Pre-assent separation of conjoined twins should not be performed unless necessary to save *both* twins' lives, or unless one is already dead *or dying*.

Since, as mentioned earlier, separations necessary to save *both* twins are unattested, the effect of this principle would be that pre-assent separations are performed only in emergencies (and, even then, it is conceded that the separation is unethical, with unethical action forced by a moral dilemma). If, in a pre-assent emergency sacrifice separation case, both separation and non-separation are morally impermissible, on what grounds can a decision be made? Plenty of practical grounds exist: emotional, financial, and so forth. But giving a moral reason for using one such consideration over another constitutes giving a moral justification for doing something morally unjustified. If this is morally problematic (I think it is), then one is morally required to stick with non-moral reasons. In this way, the "unless" in "should not be performed unless" does not create a *moral* exception in this version of the principle, since the moral imperative against pre-assent separation performed to save only one twin is never overridden. This principle simply recognizes that when one twin is dying, there is an equally non-overridden imperative to separate, making it necessary to decide on non-moral grounds.

An objection

I appreciate the reader's indulgence as I have presented an argument that goes against the conventional wisdom. I will only take space to deal with one objection for now. It is an objection of probabilities: it is claimed that infant separations are more likely to be successful than those performed on older children or adults, and that staged separations are more likely to be successful than emergency procedures. These issues are broached in a number of different ways:

That the Bijani sisters were adults, all experts agreed, only made the odds for them worse than for infant patients: the women's skulls had thickened and hardened; their brains had developed to maturity and would therefore be less resilient. [11, p. 67]

Emergency separation is associated with high mortality because of serious organ dysfunction and physiologic deterioration in subjects with immature

organ systems. We have found that urgent or emergency separation before 6 months of age is associated with higher mortality than separation performed after that age. [97, p. 2084]

Specific statistics are available with regard to the difference in mortality rates between emergency and staged procedures:

Emergency separation resulted in an up to 70% mortality rate compared with 20% for elective procedures, emphasising the need to stabilise the infants initially and to postpone surgery until the basic investigations have been completed.... Delaying separation into early childhood may result in increased postnatal deformities and psychological problems. [2, p. 935]

However, a closer look at the statistics throws this stark contrast into question. Rode et al. report on three emergency separations with only two survivors, hence a “dismal” 33% percent survival rate [2, p. 934]. But in each case, the emergency situation was precisely that one of the twins was dead or dying. If the denominator is narrowed to only those twins whose continued life was the goal of surgery, then the report shows a 66% survival rate, since two of the three survived [2, p. 933]. Spitz [98] reports on seven emergency separations with four survivors, claiming a 28% survival rate, while noting that the rate rises to 44% “if two infants already dead and three with lethal abnormalities are excluded” [98, p. 233]. But even this adjusted statistic does not quite do justice to the results: of the nine potentially salvageable children in Spitz’s group, four were alive and well at the time of his writing, while two others lived for 6 weeks after the procedure [98, p. 233]. Counting these two among the surviving children, the survival rate for emergency separation raises again to 66%. This is certainly lower than the 72–83% reported survival for staged procedures [2, p. 934], but it is not the dismal situation that some authors depict.

Perhaps even more importantly, subscribing to my separation principle might not result in much change to the quantity of emergency separations. In the current atmosphere, the twins presented for emergency separation almost always have some catastrophic defect, congenital or otherwise. Twins with less considerable defects, or twins who are both well developed, are allowed to live conjoined for 2–12 months before a staged separation [97]. The only additional emergency separations that my principle would engender are for better-developed pairs who manifest catastrophic problems in later infancy or early childhood—under current practice, such twins are almost certain to have been separated earlier in life by way of a staged procedure.

It is possible that concerns about the physical problems associated with separation procedures postponed until later childhood have been reduced in recent years and that worries about the additional emergencies that may arise by waiting longer are also overblown. In 2002, Spitz expressed himself in this way: “As far as the ethics are concerned, I am firmly of the belief that where separation is feasible with a reasonable chance of success, it should be carried out. Emergency separation is clearly more hazardous than the planned procedure” [1, p. 287]. By 2015, his view had been nuanced somewhat:

One could argue that the decision about separation should be deferred until the children are old enough to decide for themselves. This is not unreasonable but the earlier in infancy that the separation is carried out the easier the surviving twin/s can adapt to their new body image. Also, the difficulties of dealing with large body wall defects in older children or adolescents would be greatly magnified and of a different order from the same problem in infancy. [6, p. 264]

Nowhere does he mention worries that later procedures would precipitate increased emergencies. Dreger also presents a nuanced, realistic discussion of these issues:

Some kinds of normalization surgery are likely to have significantly better functional outcomes if performed in infancy. For example, the separation of craniopagus (head-joined) twins is best done before the skull has completely hardened and early in mental development. Other types are likely to have better outcomes if done well after infancy. For example, vaginoplasties (operations to construct vaginas for girls born without them) appear to provide the best long-term outcome if performed during or after puberty, rather than in infancy.

As a general rule, surgeries performed early in life are less likely to cause severe scarring than surgeries done later. But functional outcome and visible scarring are not the only factors that should matter in decision making.... The question of *when* a surgery is optimally done should never supersede or erase the question of *whether* it should be done without the patient's assent or consent. [11, p. 73–74]

It seems to me that there is somewhat of an increased risk in emergency separations when compared to elective separations, but this risk differential is not as great as some have claimed. There are also some health concerns that increase with age for certain kinds of separations, but, again, these concerns appear to be mitigated by advances in technique.³⁹ There is a bullet that I must bite here, but given the strength of the quality-of-life argument and the metaphysical argument, I think it is not a large one. A medical procedure that is morally objectionable does not become justified merely because there is an opportunity to do it more safely.

Conclusion

The preceding sections arrive at the following separation principle:

Pre-assent separation of conjoined twins should not be performed unless necessary to save both twins' lives, or unless one is already dead or dying.

³⁹ Hence, Spitz fails to mention increased risk for older twins in his more recent statement [6]. Even with craniopagus twins, recent advances in multi-stage separations may mitigate concerns about performing surgeries on older twins.

However, this is not an *ethical* principle: the “should” here is not a moral “should,” since it is qualified by an “unless” that provides for the circumstance of a dying twin—a circumstance that does not grant moral permission to separate, but rather creates a moral dilemma. However, a substantial ethical principle that follows from this discussion is:

There should be no non-emergency separations of conjoined twins who are too young for their prospects of achieving the goods of conjunction to be a factor in the separation decision.

The ethically confounding dilemma that was considered at length arises only in emergency situations, so this latter non-emergency principle is strictly an ethical principle for the separation of conjoined twins.

Earlier in this paper, I suggest that quality-of-life considerations are the driving force behind a bias toward separation. I have shown that such quality-of-life considerations fail to justify separation in most pre-assent cases, instead providing a positive argument against separation. Finally, in the cases where quality-of-life considerations seem to weigh in favor of the pre-assent separation of two living twins, it is morally impermissible to separate—barring one kind of scenario, unattested to my knowledge, in which separation is urgently needed to save *both* twins. Ultimately, the pre-assent separation of conjoined twins has been ethically objectionable in every actual case.

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