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An analysis of personhood and its implications for humans, identity, and morality

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The Ohio State University, 1990
AN ANALYSIS OF PERSONHOOD AND ITS IMPLICATIONS FOR 
HUMANS, IDENTITY, AND MORALITY

DISSertation

Presented in Partial Fulfillment of the Requirements for 
the Degree Doctor of Philosophy in the Graduate 
School of the Ohio State University

By

Heidi Storl, B.A., M.A.

* * * * *

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## II. THE NATURE OF PERSONHOOD RECONSIDERED: THE CASE FOR A PURELY PSYCHOLOGICAL ACCOUNT OF PERSONHOOD, AND ITS IMPLICATIONS FOR HUMAN NATURE .................................................................................. 49  
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INTRODUCTION

In Lewis Carroll's *Alice's Adventures in Wonderland*, Alice at one point stomps her foot, shakes her head, and shouts: "WHO ARE YOU?" Though she directs her curiosity to an unusually human-like rabbit, one is struck by the depth of her concern. She is, it may be argued, not asking about the rabbit's name or species. Such questions are pedestrian in light of what Alice wants to know. Alice wishes to uncover nothing less than the nature of that rabbit—for its nature may hold insights to her own puzzling nature.

The ensuing dialogue between Alice and the rabbit raises important questions for our own nature. The most basic question, "Who am I?," has been with us since antiquity. More recent questions, such as "How do I differ from an android?" or "Is the 'I' in the expression 'I am' anything more than a placeholder?," indicate our continuing interest in discovering who and what we are. The answer that we will offer to these puzzling questions is that we are, at bottom, persons. The simplicity of our response, however, vanishes when we turn to the further question, "What is the nature of a person?"

We will argue that the nature of personhood is often taken for granted. Too frequently, it is simply assumed that persons are humans, or that persons are some sort of separately existing, spiritual entity. While it may be true that these
assumptions hold important insights, careful examination reveals that the underlying reasons for their plausibility are quite often not what we would have expected. More specifically, it is not "being human" or "having a soul" that makes us persons; rather, it is the ability of the human or the soul to function in a psychologically complex manner. In short, the cognitive and conative characteristics of a human, a soul, or any other sufficiently complex entity constitute, on our view, sufficient criteria for personhood.

Issues about personhood, however, are not exclusively metaphysical. Much of our interest in personhood is motivated by a concern with how persons should be treated. It is often argued that persons are owed a special sort of treatment. The present debate regarding the moral and legal status of abortion, for instance, arises because of concerns about the status of the fetus. If the fetus is a person (because, for example, it is human), then it is owed certain kinds of treatment which may preclude abortion. A similar concern underlies the controversy surrounding euthanasia. If persons are entitled to certain treatments, is a brain dead human also entitled to such treatment? It quickly becomes apparent that important moral, legal, and social issues are at stake in discussions involving the nature of personhood.

We will examine both metaphysical and normative aspects of personhood. Our conclusions will be based on philosophical considerations as well as on recent findings in cognitive neuropsychology. Though our conclusions will be tentative, they will raise striking new questions about the nature of human persons. More to the point, if the neurological data we consider are correct, and our conclusions regarding the nature of personhood are plausible, then it is likely that each normal adult
human is not one person, but two.

The counterintuitive nature of this conclusion warrants careful examination. We will begin with an overview of several possible theories of personhood. We will argue that each of these theories is subject either to charges involving varying degrees of species chauvinism or to an arbitrariness that threatens the importance of personhood by relegateing it to the domain of social constructs.

Next, we will offer our own account of personhood. We will argue that certain psychological characteristics—namely, intentionality and self-consciousness—are sufficient for personhood. An immediate consequence of our proposal is the widening of the class of persons. Provided that intentionality and self-consciousness are sufficient person-making characteristics, any entity that satisfies these characteristics is a person. At the same time, however, our proposal will limit the class of human persons to those humans who have beliefs, desires, and other intentional states, and who are self-aware.

Though in some respects the class of human persons may be smaller than we ordinarily believe, in another respect, the class is much larger. While it may not be the case that fetuses and brain dead humans are persons, it may very well be the case that most other humans are two-personed. Our suggestion that normal human adults are two-personed follows from the data provided by split brain studies. These studies reveal that each hemisphere of a split brain patient more than satisfies the person-making criteria we have posited. Each hemisphere possesses unique intentional states, and exhibits behavior indicative of a self-conscious subject of experience. Moreover, each hemisphere of the split brain patient is not only
functionally integrated, but also functionally independent of the other hemisphere. From these findings, we conclude that split brain patients are two-personed.

More controversially, we also maintain that the two-personed nature of split brain patients is not relevantly different from our own nature. Though some split brain patients suffer from additional neocortical aberrations, many do not. Studies involving these latter individuals reveal that two conscious subjects are present. Further, the only significant difference between these latter subjects and normal humans is the absence (or in the case of normal humans, the presence) of the fibers connecting one hemisphere to the other. When these fibers are severed, "communication" between the hemisphere-based persons stops, and their distinct natures can be observed. When the fibers are intact, the two-personed nature of humans is masked by the cooperation between hemisphere-based persons. Thus, we will argue that the findings of split brain research have important ramifications for our own nature. If our arguments are plausible, we may all be two-personed.

We noted earlier that discussions involving the nature of personhood are not independent of certain other areas of concern. Consequently, if our findings regarding the nature of human personhood are plausible, we must also consider the implications that these findings might have for other debates. We will focus on two additional debates. We will consider the implications our proposal has for theories of personal identity. Some have suggested that split brain research forces us to give-up personal identity. Contrary to this suggestion, we will argue that personal identity need not be rejected. Though the findings of split brain research may require that we reject the view that we survive as single persons, this does not force
us to dismiss personal identity. Rather, we should view our survival in much the same way that twins view their survival. Considered as a pair, we, like twins, survive only if both members of the pair survive. Thus, if a normal human adult were to undergo a hemispherectomy, a person would surely survive; however, the post-operative person would not satisfy all that matters for the pre-operative persons' survival. Survival requires the continued existence of both hemisphere-based persons.

Finally, we will turn to the normative implications of our proposals. These, perhaps, are the most disconcerting. We suggested earlier that persons, unlike pencils, pears, and numerous other entities, should be treated in some ways, but not in others. Persons are "owed" a certain kind of treatment. If this is correct, it follows that each hemisphere-based person should be treated in a manner appropriate to any other person. Hemisphere-based persons should be treated with respect, fairly, and in any other way that corresponds with their unique status. Thus, if the left hemisphere-based person plans and commits a nefarious crime, despite the protests of the right hemisphere-based person, then only the left hemisphere-based person should be punished. The rights of the right hemisphere-based person should be protected. The normative difficulties our theory seems to face loom large. However, we will argue that the difficulties posed do not necessitate a radical revision of our social, legal, and moral institutions. Though an increased sensitivity may be required in certain rare situations, most of our ordinary social, legal and moral policies will remain intact.
In the end, our proposals regarding the nature of personhood, and the resultant implications for human persons, are not as threatening as they may initially appear. Though we are forced to reconsider our nature in new and interesting ways, our lives, for the most part, will continue as usual. In unusual circumstances where our two-personed nature may make a difference, we can only benefit from the increased sensitivity we will have gained for our own nature, as well as the nature of others.
CHAPTER I
THE NATURE OF PERSONHOOD:
AN OVERVIEW OF APPROACHES

Introduction

Persons: what are they? What do they do? Almost everyone who has been confronted with these sorts of questions is quick to offer a reply. With very little or no reflection, we learn that persons have a unique and privileged status, and that they are the kind of entity that is most readily identified as human. As with most quick and ready replies, these claims should be greeted with caution. In the following, we will look closely at the nature of the entity we hold so dear. We will argue that the nature of a person may be markedly different from what we ordinarily believe. In the end, we may be faced with conclusions that we will not particularly relish. This, however, should not discourage us from investigating who and what we really are.

In answering the crucial question, "What is it to be a person?," we will not adopt the skepticism of Daniel Dennett, and claim as he does that the concept 'person' is only a free-floating honorific that we haphazardly apply to ourselves and others—"just as those who are chic are all and only those who can get themselves considered chic by others who consider themselves chic." Rather, we will argue that the ascription of personhood to an entity is not an arbitrary decision, or merely a
matter of taste, but, on the contrary, involves an objectively specifiable set of criteria.

In order to motivate the thesis that personhood is an objective classification, we will devote this chapter to a consideration of various rival theories of personhood. We will begin with brief discussions of the Soul Theory, the Species Theory, and the Social Constructionist Theory. Advocates of the Soul Theory maintain that a person is a separately existing entity—an entity that exists independently of the body with which it is associated. Species Theorists, in contrast, maintain that what is essential to personhood is the genotype that an entity possesses. Finally, Social Constructionists argue that the nature of personhood is determined by a defining society. Our discussion of these three theories will be brief, for much of the current literature focuses on yet another theory of personhood. We will call this fourth theory an "Impure" Psychological Theory of personhood. In general, Impure Psychological Theories maintain that what is essential to the nature of personhood is a combination of biological and psychological considerations. Finally we will consider Derek Parfit's proposals regarding the nature of personhood. On the surface, Parfit's view appears to be yet another instance of an Impure Psychological Theory. However, we will show that it is actually an interesting variant of Social Constructionism. In the end, each of the above theories will be rejected in favor of a Pure Psychological Theory of personhood. It will be argued that only a Pure Psychological Theory goes far enough in capturing what is really relevant to personhood.
Section One: The Soul Theory

Some have claimed that what determines personhood is the presence of a soul, a spirit, or a pure ego. Each of these views holds that persons, per se, are separately existing entities; they are distinct from the body, the brain, and any series of physical events. In short, persons are unextended subjects of thought and experience. Let us call the proponents of this view, Soul Theorists. Descartes is the paradigmatic representative of the Soul Theory. Consider, for example, the following claim from Part V of Descartes' Discourse:

I thence conclude that I am a substance whose whole essence or nature consists only in thinking, and which, that it may exist, has need of no place, nor is dependent on any natural thing; so that "I", that is to say, the mind by which I am what I am, is wholly distinct from the body, and is even more easily known than the latter, and is such that although the latter were not, it would still continue to be all that it is.²

Karl Popper and John Eccles have continued in the Cartesian tradition. According to their "strong dualist-interactionist hypothesis,"

The self-conscious mind is an independent entity that is actively engaged in reading out from...the active centres in...the dominant cerebral hemisphere. The self-conscious mind selects from these centres in accord with its attention and its interests.... [The strong dualist interactionist hypothesis] restores to the human person the senses of wonder, of mystery and of value.³

On this view, a person is defined as a separately existing, invisible and immaterial entity, which is responsible for most, if not all, uniquely human behavior.
Despite Popper and Eccles' efforts, the Soul Theory—once the most dominant view—has slipped in popularity as a result of numerous metaphysical and epistemological problems. Proponents of the theory have, for example, never satisfactorily solved the problem involving the interaction between fundamentally different substances. If, as most Soul Theorists hold, a person is a rational being governed by moral law, its bodily associate, which manifests the behavior, must be subject to the person's dictates. How, on this view, is this possible? In other words, how does the nonphysical person interact with its physical body?

The Soul Theorist must also address the largely epistemological question of whether we are, or even can be, aware of ourselves as separately existing entities. It is not at all clear what such an awareness would consist in, or what it would be like. This, of course, invites the larger issue, discussed by John Locke, that the continued existence of a person cannot be known. Specifically Locke inquires whether a rational, thinking person at time $T_1$, is the same persisting person at time $T_2$. Locke's worries arise when he realizes that we are not continuously aware of ourselves: "the consciousness of our own existence in youth and in old age, or in any two joint successive moments, is not the same individual action, that is, not the same consciousness, but different successive consciousnesses." Since the separately existing substance (that is, person) of which we are at any one moment aware may be replaced by a different one with which it is psychologically continuous, we cannot know whether the object of our current introspection will continue to exist. We cannot know this because a person's self-awareness is not diachronic, but relative to various points in time. Moreover, any external means of identifying a continuant
person are precluded by the supposition that persons, by their very nature, are separately existing, immaterial entities. Consequently, the Soul Theorist’s conception of the nature of personhood makes the (epistemic) problem of personal identity impossible to solve.

Given that the Soul Theory has been extensively criticized in the philosophical literature and is no longer commonly espoused, let us turn our attention to a second common theory of personhood.5

Section Two: The Species Theory

The Species Theory is, perhaps, the least complicated theory of personhood. According to this theory, persons are all those entities who are members of the human species. One of the most explicit formulations of this view is given by Philip Devine. Devine states "...all human organisms, whatever their degree of maturity or decay, including fetuses and embryos, but not robots or nonhuman animals, whatever the attainments of such beings might be...are persons."

A purported advantage of this theory is its uncomplicated nature, as well as its ease of application. It is not unusual for a Species Theorist to maintain that there is nothing problematic in the identification and reidentification of persons—all that is required is an examination of genetic structure. Devine, for example, maintains that "scientists are now well able to recognize biological humanity in the fine structure of an organism, without reference to such things as opposable thumbs."

As we shall see the purported strengths of the Species Theory are also its weaknesses. But first, it is worth noting that the reidentification of persons, or for
that matter, ordinary physical objects, is not as unproblematic as Species Theorists often suggest.

Suppose that a mad scientist has developed a technique whereby he can replace, cell-by-cell, damaged human body parts. He may begin by replacing such seemingly uncontroversial parts as fingers and toes, and gradually proceed to replace the larger appendages. Each replacement, in turn, is functionally indistinguishable from the original, undamaged, body part. At this point, most would argue that this case, like real cases of limb replacement, is inconsequential—that is, the original human survives. Suppose, however, that our imaginary scientist gradually replaces all body parts, cell-by-cell, including the brain. Moreover, each replacement is functionally-equivalent with the original, and at no point does the human body under consideration cease to function. It is not at all clear, contrary to the Speciesist’s claim, that the reidentification of the original person in cases such as this is "reliable and unproblematic." Is the original person its functional equivalent, or is the original person replaced by it?

For the sake of argument, let us bypass these difficulties and grant that we can, without difficulty, reidentify humans and ordinary physical objects. Nonetheless, the proferred ease of application is quickly complicated by individuals possessing certain chromosomal aberrations involving the number and quality of chromosomes present and their distribution. Are these nonnormal "humans" also persons? If so, such an admission reveals that the possession of a normal human genetic code is not a necessary condition for personhood. On the other hand, if not, why not? We can, for example, imagine someone seeking genetic counseling for the first time, and
discovering that she does not possess the usual forty-six chromosomes characteristic of human beings, though she is indistinguishable from others with respect to normal function and behavior. (This may occur, for example, in individuals who have forty-five chromosomes, but are nevertheless phenotypically normal because the missing chromosome (or most of it) has translocated to or merged with another chromosome.) Must the proponent of the Species Theory, if he is to be consistent, deny her personhood? If so, this seems to be a dangerously narrow criterion, which, in the end, depends on a possibly arbitrary preference for our own, strictly defined, species.

The Species Theory seems to be faced with the following dilemma. If personhood requires the possession of a narrowly defined, species-specific genotype, then it is too restrictive, for it will thereby exclude entities, such as the woman seeking genetic counseling, from the set of persons. Yet, if personhood is defined more broadly, such that certain deviations in genetic structure are permissible, as long as the human functions and behaves in a characteristically human fashion, then the Speciesist runs the risk of arbitrarily broadening the definition of admissible genetic structures. In other words, the Speciesist must offer a specific account of what it is to function in a "characteristically human way," such that certain genetic deviations are irrelevant, whereas others are not. Without such an account, the Species Theory invites an element of arbitrariness which will enable some to claim that those with Klinefelter's syndrome function in a "characteristically human way," whereas those with Turner's syndrome, or Down's syndrome, do not; while other Speciesists may argue just the opposite.10
It is worth noting as well that the Species Theorist's solution to the arbitrariness problem cannot be found in a simple appeal to the genetic similarity among humans. Any such criterion will need to be extremely complex (and given current genetics, incomplete) because it must be able to account for those aberrations in genotype which may produce no change in characteristics or behavior (or any aspect of the phenotype), and those, less dramatic, aberrations in genotype which might result in a markedly different phenotype. For instance, the criterion must be able to distinguish those purported humans who are phenotypically normal (and "characteristically human"), despite the fact that they have forty-five chromosomes and possess two copies of chromosomes 14 and 21 (or at least most of these chromosomes—the segments lost are apparently not essential) from other purported humans who have less dramatic changes in genotype, but are phenotypically quite different. While we may acknowledge that the above difficulty is primarily a problem in practice, and not in principle, it is, nevertheless, worth noting that no simple appeal to genetic similarity will be plausible.

At this point, it is possible for the Speciesist to bypass the difficulties posed above by arguing that a nonnormal "human" is just an abnormal "person." Devine and others seem to be sympathetic to this strategy.1 It is argued that a human defective is, nevertheless, a defective human, and consequently, a defective or abnormal person. This strategy is not without its difficulties. Consider the following scenario: our mad scientist has recently developed a technique whereby the manipulation of chromosomes guarantees the continued functioning of characteristically human traits. This discovery not only offers relief from severe illnesses, but
also provides a means for prolonging life indefinitely. The technique is actually quite simple: a human's chromosomes are removed. The human's chromosome-free body is infused with synthetically produced chromosomes. The human's post-infusion cellular activity is functionally equivalent to his pre-infusion state. The white blood cells, for example, continue to fight infection and disease; while certain haploid cells continue to be generated by meiosis. On a molecular level, however, the human is remarkably different. On this level, the proteins constitutive of the chromatin contain a nonstandard amino acid structure. Usually, amino acids have a common structure involving one acidic (carboxyl) end and one alkaline (amino) end. In our newly infused human, however, the amino acids constitutive of the chromatin have two acidic and four alkaline ends. Though the human, his cells, and his chromosomes continue to function as before, the so-called "building blocks" of his molecular genetic structure have been radically transformed.

Given the above scenario, the claim that nonnormal humans are just abnormal persons seems questionable. Provided that full cognitive and conative abilities have been restored, normal personhood is preserved. In virtue of what might the Species-ist consider the post-infusion human an abnormal person, while, at the same time, maintaining that the pre-infusion human is perfectly normal? If the distinction is made solely on the grounds of genetic considerations, such that the presence of the altered amino acid structure threatens the human's personhood, further arguments will have to be provided as to why this is so. Arguments will need to be provided which reveal why humans with radically different molecular structures, but fully normal cognitive and conative abilities, fail to be normal persons. On the other
hand, if the Speciesist concedes that the post-infusion human is a normal person, this invites consideration of other, not strictly speciesistic, criteria. Thus, there is the resultant risk of de-emphasizing biological considerations in favor of certain psychological considerations. If such a shift in emphasis occurs, then it is unclear what role genetic structure plays in the definition of 'personhood'. There may be additional problems for the Species Theory as well, for the present, however, let us proceed to a third commonly proposed theory of personhood.

Section Three: The Social Constructionist Approach

The weaknesses associated with the preceding accounts of personhood might cause some to become skeptical about the real nature of personhood. Consequently, some have suggested that personhood is nothing more than a social construct based on social practices. Following the lead of John Dewey, William James, and George Herbert Mead, the so-called Social Constructionists have argued that personhood is imputed to those organisms that can participate in at least a minimal amount of social interaction—where the appropriate degree of social interaction is determined by the defining society. This, in turn, is claimed to be an advantage, for the Social Constructionist view is typically not subject to charges of speciesism; nor, on the other hand, does it appeal to the existence of a separately existing soul or spirit. Rather, personhood is determined on the basis of a defining society's stance on an organism's ability to act and react to the social environment.

Despite the above strengths, Social Constructionism is subject to numerous criticisms. Most importantly, it must be noted that what distinguishes Social
Constructionism from other theories of personhood yet to be discussed here is not so much its emphasis upon the capacity for social interaction, but its concentration on social practice. It is social practice, or the dictates of a defining society, that determine which entities are to be considered persons. An obvious consequence of this approach is that personhood is not determined on the basis of the way things are by nature, rather it is acquired by common social practice. It is not unusual for a Social Constructionist to maintain that "...generalized social attitudes are what make the person possible." Or, "without society there can be no self [or person]." Thus, while we may grant that Social Constructionism is not typically subject to the criticisms facing the Soul or Species Theories, there are problems with the method by which personhood is determined. Let us turn briefly to these problems.

Given that Social Constructionist accounts of personhood rely on social practice, a person is any entity that sufficiently satisfies the criteria established by social agreement or convention. This, in turn, raises a number of interesting questions. For example, do persons cease to exist when the defining society dissolves? In other words, if the person-making conventions and attitudes of a society change, or dissolve, are previously existing persons no longer persons? Secondly, since the person role is acquired by consensus, where a society draws the line between persons and nonpersons is a matter of prevailing beliefs. Thus, what is a person in one society may not be a person in another. While it may be argued that "drawing the line" arguments are notoriously inconclusive, and thus, not particularly threatening to the Social Constructionist position, the arbitrariness present in the Social Constructionist position is actually much deeper than this. Not
only is the distinction between persons and nonpersons arbitrary, but the very criteria relevant to establishing personhood are arbitrary as well. While one society may view Latvians as nonpersons in virtue of their social demeanor and nonintegrative character, another society may regard them as persons in virtue of just these "criteria." Similarly, the Antebellum South regarded skin color and skull formation as relevant criteria for determining personhood, whereas most modern societies do not regard such criteria as relevant. The foregoing criticisms of the Social Constructionist theory reveal that, in the end, the theory is both too narrow and too broad. Social Constructionism is too narrow because it allows certain humans who clearly are persons not to be recognized as persons. On the other hand, the Social Constructionist's theory is too broad because it allows certain other entities (such as the Brahmin cows of India) to be considered persons, when they are not persons. While still further questions may be raised (for example, is it plausible to assume, as the Social Constructionists do, that society precedes persons, and not vice versa?), let us turn to a fourth theory of personhood.

Section Four: Impure Psychological Theories

While the preceding accounts of personhood continue to be represented in the literature, an ever-increasing number of accounts emphasize the psychological aspects of personhood. In large part, this shift in emphasis has occurred because of an increasing interest in contemporary philosophies of mind and artificial intelligence studies. In the following, we will examine what we will call Impure Psychological theories of personhood. In general, these theories maintain that some subset of the
following characteristics is necessary for personhood: consciousness, self-consciousness, intentionality, empathy, sentience, emotionality, and communication. Unlike Pure Psychological Theories, Impure Theories supplement these cognitive and conative abilities with the requirement that the substrate in which they are located be biological. Consequently, some advocates of an Impure Psychological Theory argue that an appropriate subset of psychological characteristics in a human is required for personhood. Others require that an appropriate psychological subset be augmented with any sufficiently complex biological substrate. Regardless of the resultant differences in scope, Impure Psychological accounts, at least theoretically, escape many of the problems associated with the more traditional approaches considered earlier. For example, Impure Psychological accounts are not generally subject to charges of biological or species chauvinism. While some Impure Psychological accounts may maintain that only animals, or only humans, are persons, they do not do so solely on the basis of species considerations. Unlike the Species Theory, then, advocates of an Impure Psychological account may deny that all humans are persons. Similarly, an Impure Psychological account avoids the dualism associated with the Soul Theory: persons are not separately existing, invisible, and immaterial substances. Impure Psychological accounts also avoid the conventionalism characteristic of the Social Constructionist position by holding the criteria of personhood constant from society to society. In other words, what it is to be a person is not dependent on a defining society--nor, for that matter, is it merely a free-floating honorific.
In this section, we will focus our attention on three Impure Psychological theories of personhood. Our extended focus on Impure Psychological theories is warranted by the popularity these views currently enjoy in the personhood literature. More specifically, we will consider the proposals offered by John Perry, Mark Johnston, and David Wiggins. Each of these proposals will be subjected to various criticisms. In the end, we will argue that Impure Psychological accounts of personhood, while capturing what is crucial to personhood, nevertheless, fail to recognize all entities that are, or may be, persons. In short, while most Impure Psychological Theories acknowledge the psychological characteristics that are crucial for personhood, the additional requirement that they be instantiated in an appropriate biological organism results in the (very questionable) exclusion of certain psychologically sophisticated, but nonbiological entities.

A. Perry’s Proposal

John Perry advances a theory he characterizes as a "descendent of the memory theories of Locke, Quinton, Grice and others." Accordingly, he is sympathetic to Locke’s claim that persons are "thinking intelligent beings that have reason and reflection...." In Perry’s terminology, persons are entities that undertake "projects": they have desires, goals, loves, and hates. Moreover, Perry claims that persons are "reliable": "it is part of our concept of ourselves, as persons, that we are reliable. I expect to have tomorrow much the same desires, goals, loves, and hates---in a word, projects--as I have today." Thus far, then, Perry’s "Person Theory" posits strictly psychological criteria for personhood supplemented, in turn, with a reliability
relation. Perry calls this latter relation the "P(erson)-relation."

There is, however, a second crucial component to Perry's Person Theory. According to Perry, the relata of the P-relation are not simply persons, but human persons. Perry states: "the entities that stand in the P-relation are stages of human bodies." This component of Perry's Person Theory warrants our careful attention.

For Perry, 'human being' is a purely biological notion denoting "live human body." The stages of a single human body, in turn, are taken by Perry to be H(uman)-related stages. H-related stages are "the stages of a single human being given valid uniformities and causal regularities in human behavior." Such uniformities and regularities enable us to predict how humans may be expected to think and act. Just as we have general theories about the movement of gas molecules under certain conditions of volume, pressure, and temperature, or the reaction of carbon-based molecules in an acidic solution, so too, we have "approximately valid" theories of human behavior. Given normal circumstances, the "Human Theory" can rather successfully predict and explain human behavior.

Let us consider again, now in its entirety, Perry's claim that: "The entities that stand in the P-relation are stages of human-bodies, the very same entities that stand in the H-relation." On Perry's view, the valid uniformities and causal regularities in human behavior are constitutive of the reliability relation necessary for personhood. In other words, the nature of the P-relation is, in the end, determined by the nature of the H-relation. Consequently, Perry claims that the Person Theory is nothing more than "the set of principles we obtain by substituting 'the P-relation' for 'the H-relation' in the Human Theory." Perry acknowledges that there may
be a number of different relations that "fit the description of the P-relation"—however, it is because of the stable relationship between human stages that we define persons as we do. If this stable relation were to cease, "linguistic decisions would have to be made [regarding] our definition of person." In sum, Perry proposes that we can retain our current concept of a person only if (1) there continues to be a "general correspondence" between the H-relation and the P-relation, and (2) the human theory does not break down.

In evaluating Perry's theory of personhood, one point is clear: the species, *homo sapiens*, plays an important role. If the nature of human beings were to undergo a significant transformation, and result in corresponding changes in the human theory, we could, according to Perry, no longer define 'person' as we do. Personhood, as we know it, is fundamentally dependent upon human nature.

Moreover, contrary to Perry's insistence that he is following the strictly psychological theories of Locke and others, it seems more plausible to maintain that Perry is offering an Impure Psychological account of personhood. Given both the human and the Lockean aspects of his theory, he is not an advocate of the Species Theory, for it does not follow on his view that all humans are persons. Nor, on the other hand, is he an advocate of a purely psychological theory of personhood. As we have seen, Perry maintains that if we are to keep our concept of a person, then the "thinking intelligent beings that have reason and reflection," must be human.

What reasons can be offered in support of Perry's claim that personhood as we know it can only be maintained if we limit the class of persons to humans? Were we to encounter androids, language-speaking chimps, and other "thinking and
intelligent" nonhuman entities, would we refuse to admit that these entities are persons? Presumably, we would not. Moreover, recognizing them as persons would not alter our current concept of personhood. Persons would continue to be just those entities that have hopes, beliefs, desires and goals—in short, those entities that are "project-makers." By admitting these creatures as persons, it becomes clear that the possession of a well-functioning human brain is not necessary for personhood as we know it. Rather, the human brain is only one of (perhaps) many suitable substrates for personhood. Thus, while we may be sympathetic to Perry's claim that persons, by their very nature, are project-makers, this does not commit us to the view that if we are to preserve this conception of personhood, we must limit the class of persons to humans.

There is another difficulty as well. Perry states that in normal circumstances the person theory is the set of principles we obtain by substituting the P-relation for the H-relation in the human theory. This, of course, assumes that such a substitution is possible. Is it indeed the case that the P-relation can be substituted for the H-relation? It seems conceivable that there are cases in which the H-relation would hold between distinct human stages, whereas the P-relation would not. Consider, for example, the H-relation that holds between two distinct stages of a normal infant. The H-related stages of an infant do, in accordance with Perry's view, conform to the valid uniformities and causal regularities posited by a complete human theory. For example, if a pencil is placed in the vicinity of an infant's projected hand, the infant will (most likely) grasp it. At the same time, however, the P-relation cannot plausibly be claimed to hold between the H-related stages of the
infant. Unless the H-relation and the P-relation are equivalent (thus collapsing the
distinction between humans and persons), the infant stages cannot be unified by the
P-relation. Thus, it is not obvious that the P-relation can be substituted for the
H-relation in all normal cases. Accordingly, Perry should specify in which cases the
substitution holds, and in which cases it does not. Unfortunately, however, Perry
simply offers the substitution as a condition the P-relation should satisfy.*4

Before examining a second Impure Psychological account of personhood, it is
worth noting that if Perry intends the above substitution to hold only for all humans
with normally functioning, fully mature brains, then he is moving toward a more
purely psychological theory of persons. In other words, if the P-relation can be sub­
stituted for the H-relation only in cases in which the human has a fully functioning,
mature brain, then what is relevant to the substitution is not so much the brain, but
the types of processes the brain is capable of performing. On the other hand, if
Perry intends the substitution to hold for all humans with normally functioning
brains, regardless of their maturity, then he is faced with difficult cases involving
human fetuses, neonates, and the very old. Each of these humans can satisfy Perry's
requirement of a normally functioning brain only relative to a particular stage of
development. Consequently, if the substitution of the P-relation for the H-relation
is to apply to these cases, then it does so solely on the basis of the type of brain
involved--the homo sapien's brain. If this latter case of substitution is the intended
substitution, then Perry does not move to a more purely psychological theory, but to
a more purely Speciesistic theory.
B. Johnston's Proposal

Mark Johnston proposes that our "point of departure" in investigations involving persons and their identity be:

[the] position that we are essentially organisms of a particular animal species, namely homo sapiens, so that the locus of mental life that we reidentify when we reidentify a person...is just an instance of a biological kind, a kind whose members typically exhibit a complex mental life.31

At first blush, it appears as though Johnston is advocating a variant of the Species Theory. Persons are all and only those entities which are homo sapiens. Upon closer analysis, however, it becomes clear that he draws a distinction between human organisms and human beings. According to Johnston, human organisms are homo sapiens—a purely biological kind. Human beings, on the other hand, are "partly psychological." Johnston states:

The kind human being...gives primary importance to mental functioning among the various life functions exhibited by human beings. In this sense 'human being' names a partly psychological kind, whereas 'human organism', as we were understanding it, names a purely biological kind, a kind such that mental functioning is given no special...status among the various life functions exhibited by the instances of that kind.32

According to Johnston, persons are essentially human beings, not human organisms. For this reason, he can escape the problems associated with the Species Theory. Human beings are not persons because they are human organisms; rather, they are persons because they possess an appropriate level of mental complexity.
Johnston's proposal invites the following sort of inquiry. If human beings are persons because of the type of mental life they exhibit, is it possible for a nonhuman entity to be a person if it, too, is capable of sophisticated psychological functioning? Johnston's response to this question makes clear the real nature of his theory. Johnston maintains that only the human brain is capable of realizing the psychological complexity characteristic of personhood. Furthermore, given any particular human being, only that human being's (functioning) brain is sufficient for that human being's personhood. In short, what is essential to any particular person is the continued functioning of that person's brain. It is for this reason that Johnston concludes: "It is crucial to the tracing of a human being [person] that there be something that is the continued functioning of that human being's [person's] brain, and so a human being [person] cannot survive teletransportation and the like." In sum, Johnston's Impure Psychological theory of personhood requires a complex mental life manifested by a properly functioning human brain.

While we may grant that Johnston's theory of personhood is not a pure Species Theory, for it does not entail that all humans (human organisms) are persons, it is, nevertheless, subject to numerous criticisms. For example, it is unclear what Johnston means by 'human being'. Johnston claims that human beings are partly biological and partly psychological. Presumably, Johnston considers the brain the biologically relevant part, and the mental characteristics of the brain, the psychologically relevant part. Why, however, must both the brain and its psychological processes be required for personhood? There are a number of reasons for arguing that psychological characteristics alone are sufficient. If an entity is conscious and
possesses an array of intentional states, it seems plausible to assume that that entity is a person. What reasons can be given for maintaining that the human brain must be the substrate which manifests the psychological states and processes? If all persons were necessarily organisms with the *homo sapiens* brain, then Johnston's position might be satisfactory. However, it is not out of the question that certain aliens and androids could satisfy the psychological criteria Johnston posits. In other words, it is possible that certain nonhuman entities have the "mental life" that Johnston associates with persons. Given this possibility, Johnston's position seems unduly speciesistic. Consequently, it inherits many of the problems associated with the purer forms of speciesism discussed earlier.

There are further inquiries that could be made as well. For instance, since not all human organisms are human beings, which human organisms fail to be persons? Like Perry, Johnston must address these sorts of questions in order to make clear the extent to which psychological considerations are relevant. Rather than speculate about their respective positions on these issues, let us turn to the theory proposed by David Wiggins. Unlike Johnston and Perry, Wiggins clearly delineates why, and to what extent, psychological considerations must be supplemented by biological considerations.

C. Wiggins' Proposal

David Wiggins' theory of personhood is psychological insofar as "feeling, purposive, concerned, desiring, self-motivated things" are viewed as persons. Accordingly, Wiggins acknowledges that normal human beings qualify for
personhood. Wiggins also concedes that certain nonhuman and even alien life forms may qualify. On the other hand, Wiggins limits personhood to animals of known biological kinds. So long as an entity is a member of a zoological taxon, the typical members of which possess the requisite psychological abilities, the entity qualifies for personhood. In short, Wiggins maintains that we should supplement (the above) psychological criteria with an "animal attribute." He argues:

\[ x \text{ is a person if and only if } x \text{ is an animal falling under the extension of some natural kind whose typical members perceive, feel, remember, imagine, desire, make projects, move themselves at will, speak, carry out projects, acquire a character as they age, are happy or miserable, are susceptible to concern for members of their own or like species,... conceive of themselves as perceiving, feeling, remembering, imagining, desiring, making projects, speaking ..., have, and conceive of themselves as having, a past accessible in experience-memory and a future accessible in intention,... etc. [According] to this view, a person is any animal that is such by its kind as to have the biological capacity to enjoy fully the psychological attributes enumerated....\]

Given that Wiggins argues not only for a psychological (or "systematic") component of personhood, but also for a biological one, it is not surprising that he concludes that we must

Rewrite Locke's famous sentence, and say a person is any animal the physical makeup of whose species constitutes the species' typical members thinking intelligent beings, with reason and reflection, and typically enables them to consider themselves as themselves the same thinking things, in different times and places.\[4\]
Similarly, with respect to the criterion of personal identity, he concludes:

Defining (personal identity) is just one part of the general exercise of describing a persisting material entity essentially endowed with the biological potentiality for the exercise of all the faculties and capacities conceptually constitutive of personhood—sentience, desire, belief, motion, memory, and so forth.⁹

As with the other Impure Psychological theories we have discussed, we may grant that Wiggins’ account is more liberal than that offered by the Species theorist. Unlike the Species theorist, Wiggins concedes that there are possible nonhuman persons (for example, dolphins, chimps, and porpoises). At the same time, however, Wiggins limits the scope of personhood to animals alone, thereby excluding all non-biological entities.

Peter French maintains that Wiggins’ sole motivations for limiting the class of persons in the described manner are "widely held convictions or intuitions regarding the way robot cases should be handled."⁴⁴ According to French, Wiggins believes that we would "be reluctant to issue civil rights to robots and we would probably say that we do not want to do so because such artifacts ought not to be given the kind of consideration owed to living or actual things."⁴⁵ While Wiggins may be sympathetic with this, it is not his sole motivation for restricting the class of persons in the prescribed manner. Rather, Wiggins insists on coupling the psychological criterion of personhood with an animal element in order to give the concept of personhood a "determinate centre of gravity."⁴⁶ Wiggins is motivated by the worry that a purely psychological approach will result in an (among other things, politically
dangerous) principle of individuation that is "purely a matter of convention," "primarily a social concept," and moreover, devoid of the "objective empirical scrutiny which is our sole mode of access to man's real capacities." Accordingly, he supplements psychological criteria with an animal element, and concludes that "by person we mean a sort of animal, and for purposes of both politics and morality that is the best thing for us to mean."

In evaluating Wiggins' view, we may surely agree that any threat of conventionalism has been eliminated. The boundaries of personhood have been clearly specified. We must ask ourselves, however, whether a purely psychological approach inevitably results in something like Social Constructionism. Does a purely psychological criterion of personhood inevitably entail a principle of individuation that is merely conventional? Is objectivity in these matters to be achieved only by adhering to biologically determined boundaries? It seems plausible to argue that it is not. If we accept the strictly psychological aspects of Wiggins' proposal (namely, that membership in a species whose typical members "perceive, feel, remember, imagine, desire, make projects, move themselves at will, speak..." is constitutive of personhood), then it seems reasonable to argue that an objective, functional, but nonbiological specification of personhood is possible. Accordingly, in Chapter Two, it will be argued that entities exhibiting the psychological characteristics enumerated in Wiggins' proposal cannot fail to be persons in virtue of the complex causal role their psychological states play in ordinary behavior. In short, Wiggins' forecast that there will be no "determinate center of gravity" or "objective empirical scrutiny" will be shown to be false by arguing that the cognitive and conative capabilities of some
organisms are sufficient to guarantee personhood to those organisms. This is not
the result of mere convention or arbitrary deliberation; rather, it results from the
realization that the causal relations psychological states sustain can be realized in a
variety of substances. As a result, it will be argued that any entity, organism, or
system, biological or other, that can satisfy the strictly psychological aspects of
Wiggins' proposal is a person.

Apart from the question of whether a purely psychological theory inevitably
results in some form of Social Constructionism, Wiggins' view may be subjected to
the following criticisms. According to Wiggins, a nonbiological entity, such as a
robot or an android, will always fail to be a person. Even if such an entity is
capable of fulfilling his (quite elaborate) psychological criteria, it would not gain
admission to the class of persons. It seems, however, that reflective consideration
forces us to conclude the opposite. Surely an android that is capable of perception,
feeling, memory, imagining, desiring, project-making, character development, and so
on, is a person. Interestingly enough, this conclusion is encouraged when we
discover that when Wiggins argues for the possibility that some nonhuman animals
are persons, he does so on the basis of the above sorts of abilities. According to
Wiggins, an animal of another species is a person if and only if "its species' typical
members are thinking, intelligent beings capable of having purposes, desires, etc.,
and of considering themselves as themselves, the same thinking things, in different
times and places." Thus, given that Wiggins' denial of robot or android
personhood is motivated by the fear that if we dispense with the animal element, we
can define personhood in any way we wish, he has not provided us with a
compelling reason to accept his thesis. Moreover, even if we have been convinced by Wiggins' fear, it is, nevertheless, suspect to exclude rational, sentient agents from the class of persons solely on the basis of their nonbiological nature.

There is a more serious problem as well. Recall that Wiggins argues that an entity is a person if and only if it is an animal falling under the extension of a natural kind whose typical members perceive, feel, remember, imagine, and so on. This entails that any animal is a person if the typical members of its species perceive, feel, remember...and so on. Thus, Wiggins' view implies that all human beings are persons, if the psychological characteristics Wiggins proposes are typical of the members of the species, *homo sapiens*. This, in turn, has important consequences. For example, on Wiggins' view, an irreversibly comatose human, a fetus, and perhaps even a zygote, are persons because they are members of a biological kind, the species' typical members of which exhibit the requisite psychological characteristics. In this respect, it seems plausible to argue that his theory is too broad. In short, it seems plausible to hold that an entity's personhood should be determined by the characteristics of that specific entity, not by the characteristics of its species' typical members. We may argue as well that Wiggins' theory is too narrow. On Wiggins' view, Wilbur the pig and Washoe the chimp would fail to be persons. Though they satisfy the animal requirement, they fail to satisfy the psychological component because the typical members of their respective species fail to fulfill the requisite psychological criteria. It seems, then, that Wiggins' theory is subject to criticism. On the one hand, his theory is too broad (it grants that all humans are persons); on the other hand, it is too narrow (it denies that intelligent, species' atypical animals are, or can be, persons).
Given the above criticisms, we can begin to see that although Wiggins is not speciesistic in the Species Theory sense, he is speciesistic in another sense. In order to see this, let us draw a distinction between "direct speciesism" and "indirect speciesism." According to direct forms of speciesism, membership in a certain named species is a necessary and/or sufficient condition for personhood. In contrast, Wiggins maintains that any entity that is a member of any species whose species' typical members possess certain abilities is to be considered a person. It is the abilities of the typical members of a species that are relevant to the personhood of an individual of the species. Wiggins' "indirect speciesism" is analogous to certain kinds of racism and sexism. Consider, for example, the claim that men are typically more muscular, and hence, stronger than women. Even if this claim is generally true, it is nevertheless (indirectly) sexist to judge any given individual on the basis of this claim. Similarly, even if species typical humans have psychological traits that are relevant to personhood, it is only on the basis of speciesistic reasoning that the conclusion that all humans are persons follows. Thus, if certain animals are denied personhood because "typically such animals do not imagine, desire, make projects, and so forth," then an unjustifiable prejudice is present. More directly, if certain animals are denied personhood because they were evaluated on the basis of traits characteristic of the species to which they belonged, (and not on the basis of their individual merits), then the denial of their personhood is a result of the kind of bias inherent in "indirect speciesism." So, while Wiggins' theory of personhood escapes the charges of more direct forms of speciesism, it is, nonetheless, subject to charges of indirect speciesism.
Concerns regarding the scope of the concept of personhood bring us to one final theory of personhood. Though Wiggins' theory is more liberal than the other Impure Psychological Theories we have considered, we have found that it is still too exclusive. Our final theory is claimed to be more liberal than any of the preceding views. Whether this claim is true, remains to be seen.

Section Five: Derek Parfit's Theory of Personhood

Derek Parfit claims to be a "Reductionist" with respect to personhood. He believes this is a desirable middle ground between the belief that persons are separately existing entities and the belief that persons are mere fictions. In general, Parfit maintains that persons are psycho-physical complexes that are self-conscious, aware of their identity, and aware of their continued existence over time. More specifically, Parfit maintains that (1) a person just consists in a brain and a body, and the occurrence of a series of interrelated physical and mental events. This claim is indicative of an Impure Psychological theory of personhood. Purely psychological considerations are supplemented with the requirement of a brain and body. Surprisingly, Parfit also maintains that (2) a person is an entity that is distinct from a brain, a body, and a series of physical and mental events. He argues that (2) is consistent with (1) and that together, they offer a "better" account. Finally, and perhaps even more surprisingly, Parfit claims that (3) personhood is only a fact about the way we talk. Given the distinct nature of these claims, we will need to determine what precisely Parfit means by 'person'. As we will soon see, this is not an easy task: Parfit is quite right when he warns his reader, "My claims...draw
distinctions that...are hard to grasp." In the end, we will argue that (1) and (2) offer no positive conception of personhood, and that Parfit’s Reductionism leads to the view that persons are mere fictions. Let us begin our analysis of Parfit’s theory by sampling some of his claims about persons.

A. Parfit’s Existence Claims

Parfit states:

(1) On the Reductionist view that I defend, persons are not separately existing entities. The existence of a person just involves the existence of his brain and body, and the doing of his deeds, and the occurrence of his mental states and events. But though they are not separately existing entities, persons exist.... A person is an entity that has a brain and body and has different experiences.

(2) A person’s existence just consists in the existence of a brain and body, and the occurrence of a series of interrelated physical and mental events.

It seems plausible to argue that the preceding claims are intended to reveal that persons, though not separately existing entities, such as souls or spirits, are, nevertheless, actual existents. Let us call claims of this nature, Existence Claims. According to Parfit, a person exists in virtue of his brain, body, and various experiences.
B. Parfit's Distinctness Claims

At the same time, Parfit maintains:

(3) A person is an entity that is distinct from his brain or body, and his various experiences.\(^6\)

(4) [As with nations,] we can refer to something though it is not a separately existing entity. And in referring to such a thing we are not referring to the various other entities that are involved in its existence. If we are Reductionists about persons, we can make similar claims about our use of the word 'I'. This can refer to a person, or subject of experiences, even though a person is not a separately existing entity. And when we decide that a person is not a separately existing entity, we are not forced to conclude that a person must be either his brain, or his whole body.\(^8\)

(5) A person is an entity that is distinct from a brain and body, and such a series of [interrelated physical and mental] events.\(^8\)

According to Parfit's Distinctness Claims, persons exist, but independently of the brain, body, and any series of psychological events. Though Parfit concedes that personhood "involves" or "just consists in" the brain and body, he is quite adamant in maintaining that personhood is distinct from, and does not reduce to, the brain, body, and any series of physical and mental events.
C. Parfit's Impersonalist Claims

Finally, Parfit argues:

(6) We (can) redescribe any person's life in impersonal terms. In explaining the unity of this life, we need not claim that it is the life of a particular person. Persons would be mentioned here only in the descriptions of the content of many thoughts, desires, memories, and so on.

(7) We can refer to and describe different thoughts, and describe the relations between them, without ascribing these thoughts to thinkers. We do in fact ascribe thoughts to thinkers... because we talk this way.

(8) I am not a series of experiences, but the person who has these experiences. In this sense, a person is what has experiences, or the subject of experience. This is true because of the way in which we talk.

(9) [Personhood] is only a fact about our grammar, or our language. There are persons or subjects in this language-dependent way. If, however, persons are believed to be more than this...[it] is denied.

And finally, Parfit cites the Buddhist 'anatta', or "no self" view:

(10) Buddha has spoken thus: 'O Brethren, actions do exist, and also their consequences, but the person that acts does not. There is no one to cast away this set of elements, and no one to assume a new set of them. There exists no Individual, it is only a conventional name given to a set of elements.'
(11) ...it is just an appellation, a form of speech, a description, a conventional usage. 'Nagasena' is only a name, for no person is found here.\textsuperscript{2}

According to the Impersonalist Claims, personhood is a linguistic construct, and completely language-dependent.\textsuperscript{11} Here 'person' does not identify any particular subject of experience or consciousness; rather, 'person' is that which "describes the content of experience." On this view, there is no literal agent of action or responsibility.

We can now clearly see the diversity present in Parfit's claims regarding personhood. According to the Existence Claims, persons are identified in terms of their psychological abilities which are realized by the brain and body. (These claims most clearly resemble the Impure Psychological theories we have considered.) The Distinctness Claims characterize persons as subjects of experience that are distinct from the brain, body, and any related series of physical or mental events. (This set of claims may or may not commit Parfit to an Impure Psychological theory. If persons, as subjects of experience, are substrate-independent psychological entities, then Parfit is not committed to an Impure theory. Yet, if persons logically must be realized in a physical substrate, though not necessarily the brain, then Parfit may still be committed to an Impure Psychological account.) Finally, according to the Impersonalist Claims, persons are considered to be nothing more than linguistic constructs. (On this view, Parfit's theory ceases to be a psychological account of personhood. Rather, it is a theory about the role 'person' plays in ordinary discourse.)
Prior to considering some difficulties Parfit must face, there are two points to note. First, it will become increasingly clear that Parfit's Impersonalist Claims follow closely on the heels of David Hume's views on personhood. According to Hume, persons are just bundles or series of perceptions (experiences) which are unified by numerous types of causal relations. Given the resultant variableness of a person, any consequent claims regarding a person's diachronic identity, or a person's persistent self, are mere fictions. Interestingly, Parfit considers this to be part of the charm of his own Impersonalist claims: they accurately and completely redescribe a human being's life without reference to the fictitious notion of personhood.72

The second point to note is that despite Parfit's unclarity regarding the importance and role of the body and brain to personhood, he does seem to take psychological characteristics, *per se*, seriously. This is most clearly revealed by the Existence Claims. Here persons are said to exist in part because of "the occurrence of mental states and events." That psychological characteristics are relevant to the Distinctness Claims is revealed by Parfit's statement that persons are subjects of experience, even though they are neither the brain, nor the body, nor any series of physical or mental events.73 Finally, if persons are linguistic constructs, talk of persons is justified only by the occurrence of various psychological activities such as thoughts, desires, memories, and so on. Persons, though fictitious constructions, are appropriate posits only when certain psychological states and processes occur.

Let us turn, now, to the difficulties Parfit must address. Fortunately, for us, these difficulties can be limited to two major areas: terminological difficulties and conceptual confusions.
1. Terminological Difficulties

With respect to the Existence Claims, there is an absence of a clear explanation of the crucial notion of "just involving" or "just consisting in." When Parfit claims "the existence of a person just involves the existence of his brain, body, and a series of interrelated physical and mental events," he fails to provide his reader with any clear indication of just what this may mean. Granted, he does claim that "just involves" does not mean "is identical or reducible to," but this is not particularly helpful, given that we are also told that a person does not "involve" a "further fact" or a separately existing entity.

In answering the question, "What are we referring to when we use the word 'person' or the word 'I'?," Parfit claims: "a person is not a separately existing entity, [nor] are we forced to conclude that a person must be either his brain or his whole body." Moreover, this question "does not involve a further fact." All that Parfit is willing to commit himself to is the claim that:

On the view that I defend,...[m]y use of the word 'I' refers to myself, a particular person, or subject of experience. And I am not my brain."

Parfit still needs to explain the kind of existence personhood entails. We know that persons are not bodies or brains, nor are they souls or spirits, but what, then, are they? In what sense do they "involve" or "consist in" the brain and body? If, in light of the Existence Claims, they are emergent entities of some sort, Parfit certainly is required to give his reader an account of their ontological status. After
all, on these claims, persons are said to exist and engage in thought and other activities. This becomes especially important, since Parfit also maintains that persons are the appropriate subjects of such moral/legal notions as blame, praise, and responsibility.

2. Conceptual Difficulties

The conceptual confusions involve two specific issues: (1) Parfit's unhelpful appeal to Hume, and (2) Parfit's inconsistent definition of 'person'.

a. Parfit's Unhelpful Appeal to Hume

Recall that Parfit maintains that the Existence Claims are consistent with the Distinctness Claims. We are told that persons are entities that "involve" bodies, brains, and a series of mental and physical events, but are not identical or reducible to them. Moreover, persons are not separately existing entities, involving some "further fact," but are, quite simply, existing entities. At the same time, we must remember that Parfit also believes that personhood is dependent upon the way we think and speak. "[Personhood] is only a fact about our grammar, or our language. There are persons or subjects in this language-dependent way." As such, it is incumbent upon Parfit to make plausible how persons, so conceived, can really be said to exist.

Parfit believes that Hume's famous nation analogy will enable him to show in what sense persons exist. He asks us to consider the following passage from Hume:
The true idea of the human [person] is to consider it as a system of different perceptions...which are linked together by the relation of cause and effect. Our impressions give rise to their correspondent ideas... One thought chases another, and draws after it a third, by which it is expelled in its turn. In this respect, I cannot compare the soul more properly to any thing than to a republic or commonwealth... as the same individual republic may not only change its members, but also its laws and constitutions; in like manner the same person may vary his character and disposition, as well as his impressions and ideas, without losing his identity. Whatever changes he endures, his several parts are still connected by the relation of causation."

Armed with this analogy, Parfit claims a nation's existence "just involves" the existence of its citizens, acting together in various ways. So, too, a person's existence "just involves" the existence of a body, brain, and a series of mental and physical events. Assuming that we adequately understand Parfit's notion of "just consisting in" or "just involving," we should also understand in what sense persons, like nations, exist. But can we understand this? Certainly we can understand that nations emerge when people are organized in a suitable manner, just as human persons emerge when the neural substrate is adequately organized. In this sense, we can grant that nations and persons exist—not as separately existing entities, but as entities that are dependent upon certain other factors. However, Parfit urges that "though nations are not separately existing entities, we are not forced to conclude that a nation must be either its government, or its citizens, or its territory, or all three. A nation is none of these." By analogy, Parfit reasons that a person is not a spirit or a soul, nor, however, is the person identical or reducible to a body, brain, or series of psychological events. If a person is none of these, then in what sense does the person (or nation) exist?
Parfit's appeal to Hume at this point is unhelpful. Though Parfit is a Humean in many respects, he nevertheless seems to misunderstand the purpose of the nation analogy. Hume intended that the analogy explain our tendency to associate perceptions (or experiences) in such a way so as to posit the self as a separately existing entity such as a soul or ego. While Parfit correctly appeals to Hume on this point, he mistakenly believes that Hume's analogy will support the additional claim that the person is not the body, brain, or any series of psychological events. Hume clearly states that persons are "systems of different perceptions" and "bundles or collections of differing perceptions." For Hume, personhood is "merely a quality which we attribute to our perceptions." Characterizing personhood in this way is a far cry from Parfit's claim that a person is "none of these"; that is, that a person is neither his brain, body, nor any series of interrelated psychological events. Thus, it is hard to see why Parfit cites Hume's analogy in order to help his reader understand how and why persons exist. Hume grants that persons are not souls or spirits, but allows that they are "nothing more" than "bundles of experience."

b. Parfit's Inconsistent Definition of 'Person'

We have just seen that Parfit urges us not to conclude that a person is identical with or reducible to his brain, his body, or the set of relations and events typically associated with him. This results in an interesting and practical question: how do we "pick out" particular persons? How are we to identify our friends and family members? If our friends are really not identical with or reducible to their brains, bodies, and psychological characteristics, what are they?
These questions make clear an inherent difficulty in Parfit's position. Parfit maintains that persons exist and can be identified, but that they remain distinct from what are usually taken to be their distinguishing features (bodily and psychological traits). While Parfit's position is laden with difficulties, it is nonetheless consistent to claim that persons do not involve a "further fact" (soul or spirit), yet are distinct from the things with which we usually identify them. Moreover, these claims are consistent with Parfit's declared task in *Reasons and Persons* (Part Three) wherein he intends to show that "we are not what we believe ourselves to be."* Despite this consistency, a problem soon surfaces. While conceiving of persons in this way enables us to formulate a hypothesis about what persons are not (a person is not a soul or a spirit, nor is a person his body, brain, or psychological traits), we are unable to discover what, in turn, persons are. Parfit tells us "how we are not what we believe," but fails to tell us anything informative about what we actually are. Consequently, if we are to take Parfit's Existence and Distinctness Claims seriously, and grant that they are consistent, then the "better" view we are confronted with is no view at all. In other words, when Parfit says that we can identify a particular person, \( P_1 \), how are we to do so? We can identify the body associated with \( P_1 \), but this is not the person. We can identify the psychological features of \( P_1 \), but, again, we are told that these are not the person. Moreover, we know that person, \( P_1 \), does not involve a "further fact." What, then, constitutes \( P_1 \), and how do we identify him? The answer Parfit seems to accept is that \( P_1 \) "is only a fact about our grammar, or our language...it is just an appellation, a form of speech, a description."*5 In short, person \( P_1 \), like all persons, is a linguistic construct--the
"person" captured by Parfit's Impersonalist Claims.

This, in turn, brings us to the most serious problem facing Parfit—namely, that "Existents persons" are not, and cannot be, "Impersonalist persons." This final problem points to an inconsistency at the very core of Parfit's position. On the one hand, the Existence Claims hold that persons exist and are subjects of experience. On the other hand, the Impersonalist Claims maintain that "persons" are, at best, linguistic constructs, or grammatical facts, that need only be mentioned in the descriptions of the content of experience; and at worst, are mere fictions produced by the human imagination. Unless Parfit can show that persons in this latter sense are real existing entities with brains, bodies, and/or experiences, his view is inconsistent.

Recall that Hume argues that personhood is nothing more than a "quality which we attribute to our associated perceptions because of the union of their ideas in the imagination." In many respects, this is reminiscent of Parfit's Impersonalism. In general, the Impersonalist claims state that talk of persons is necessary only insofar as it enables us to describe the content of experience. However, given that Parfit argues for both the Impersonalist Claims and the Existence Claims, he cannot agree that personhood is "nothing more" than a quality that we attribute. Quite specifically, he argues that persons exist as entities—entities that have bodies, brains, numerous interrelated psychological experiences, and moreover, act as moral/legal agents. It appears that Parfit wants the best of both worlds. On the one hand, he argues that 'person' is a convenient linguistic label ("just an appellation, a form of speech, a description, a conventional usage") that describes human beings, while, on the other hand, persons are entities in their own right.
D. An Alternative Interpretation of Parfit

Now that we have completed our (terminological and conceptual) criticisms, let us briefly consider an alternative interpretation of Parfit's theory.

According to Hume, the self is "nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement." The self is merely a bundle of experiences (thoughts, sensations, and so forth) occurring in succession. The entire series, in turn, constitutes what may be called the person. Given such a view, one can argue that a predicate picks out a class of stages. Taken together, this class is the person. Accordingly, to say that a person, \( P_I \), exists is to say that a certain stage \( qua \) member of the class in question now exists. Perhaps, when Parfit claims that a person exists, existence is given the above sort of interpretation.

This alternative explanation of Parfit's account of personhood has some initial plausibility. It may, for example, help to explain Parfit's fondness for Hume's nation analogy. However, there are numerous points it does not help to explain. First, given the Bundle Theory, a person is said to be defined in terms of the stages of a particular series. This series, however, is composed of stages of different psychological states and events. If this is so, why does Parfit maintain that a person is an entity that is distinct from his brain, his body, his series of psychological experiences, and that personhood does not involve a further fact? As we have already noted, if a person is distinct from all these things, in what does the person consist? Parfit's answer that a person is "none of these," is far from satisfying.
Secondly, in "Divided Minds and the Nature of Persons," Parfit makes the following, telling claim:

In a sense, a Bundle Theorist denies the existence of persons. An outright denial is of course absurd. As Reid protested in the eighteenth century, 'I am not thought, I am not action, I am not feeling; I am something which thinks and acts and feels.' I am not a series of events, but a person. A Bundle Theorist admits this fact, but claims it to be only a fact about our grammar, or our language. There are persons or subjects in this language-dependent way. If, however, persons are believed to be more than this—the Bundle Theorist denies that there are such things.*

From the above, we can clearly see that Parfit's three claims are irreconcilable. Though he wishes to argue that persons really exist (Existence Claims), his assertion that they are distinct from the brain, body, and psychological experiences of a human (Distinctness Claims), leaves him with less than what he needs. In particular, Parfitian persons lack not only an identifiable substrate, but more crucially, any identifiable set of (psychological) characteristics. Parfit's persons cannot be so distant that they are devoid of all identifiable traits. Moreover, given his affinity for the language-bound nature of personhood (Impersonalist Claims), it is just a short step to the claim that there is no literal agent of action at all.

Conclusion

We have examined several theories of personhood: the Soul Theory, the Species Theory, the Social Constructionist Theory, various examples of Impure Psychological theories, and Parfit's recent proposals. Against the Soul Theory, we,
like many others, maintained that the implications of dualism are highly questionable, if not implausible. Contrary to the Species Theory, we argued that there are good reasons for denying that biological considerations alone are sufficient for personhood. With respect to Social Constructionism, we argued that person-making criteria are not themselves arbitrary, nor, should they be chosen arbitrarily. Each Impure Psychological theory was criticized for being too exclusive in determining the appropriate scope for the domain of persons. Finally, we argued that certain unclarities and inconsistencies posed by Parfit's Existence, Distinctness, and Impersonalist Claims call into question the overall plausibility of his theory. In the end, we conclude that the problems posed by the above theories of personhood are sufficient to warrant further proposals regarding the nature of personhood. Consequently, in Chapter Two, we will offer our own, purely psychological account of personhood. This account will adopt many of the same psychological criteria thought to be relevant to Impure Psychological accounts; yet, it is hoped that our account will avoid the kinds of problems posed above.
CHAPTER II

THE NATURE OF PERSONHOOD RECONSIDERED: THE CASE FOR A PURELY PSYCHOLOGICAL ACCOUNT OF PERSONHOOD, AND ITS IMPLICATIONS FOR HUMAN NATURE

Introduction

Contrary to current trends in the philosophical literature on personhood, we will maintain that psychological considerations alone are sufficient for determining personhood. More specifically, we will argue that the psychological criteria of personhood are met by certain functional events, states, or processes. The realization of these criteria is not dependent on any one type of physical event, state, or process; rather, the criteria may be realized in many different ways. In normal human persons, they are satisfied by certain neocortical states and capacities; in some imaginable nonhuman persons, the same criteria may be satisfied, for example, by certain states of metal, plastic, or silicon.

Our general strategy in defending this thesis will be twofold. We will begin with a consideration of the types of psychological traits and characteristics taken to be relevant to personhood. Then, we will turn to the nature of the persons we hold most dear—human persons. Our conclusions regarding the nature of humans will be somewhat counterintuitive. It is our aim, however, to show that there may be more to human personhood than originally thought. If so, we can only stand to gain by coming to know ourselves and others more completely.
Section One: The Psychological Criteria of Personhood

Those who argue that 'personhood' is merely a "free-floating honorific" that we "haphazardly" apply to ourselves and others are driven to their skeptical stance by the belief that personhood is a hopelessly amorphous concept. Against such skeptical positions, we will maintain that person-making criteria can be posited. More specifically, if person-making criteria are defined in terms of their functional role, then these criteria become much more tractable.

Defining person-making characteristics in terms of their functional role involves emphasizing the abstract causal roles such characteristics play within an entity. Stressing the causal role, in turn, enables one to focus on the manner in which inputs are mediated within the entity so as to produce corresponding outputs. Accordingly, concentration on the manner in which an entity responds to internal as well as external stimuli allows one to bypass considerations pertaining to the type of entity in question. All that is relevant to the functional analysis is a consideration of the causal role certain states play. What, then, are the functionally-characterizable states relevant to personhood?

Lists of psychological criteria for personhood commonly include such characteristics as the ability to act, form intentions, react emotionally, participate in linguistic exchange, behave in a rational or thoughtful manner, form beliefs and desires, form self concepts, have concern for others, and so on. As we have seen, such characteristics, or a subset thereof, are frequently supplemented by substrate considerations. Recall, for example, David Wiggins' requirement that the psychological component of personhood be supplemented by "an animal element." Unlike
Wiggins and others, we will argue that any entity possessing these types of psychological characteristics should be deemed a person. More specifically, we will argue that two of the above characteristics, intentionality and self-consciousness, are sufficient for personhood.4

Before we turn to a discussion of intentionality and self-consciousness, let us briefly emphasize the sufficiency of these criteria. According to our proposal, if an entity is a self-conscious, intentional system, then that entity is a person. While the entity may possess various additional traits and characteristics, we will maintain that these are superfluous to its personhood. At the same time, however, it is possible that personhood may be entailed by characteristics other than the ones we have cited. Just as decapitation is sufficient, but not necessary, for death; so, too, intentionality and self-consciousness are sufficient, but not necessary, for personhood. In the end, we posit the criteria we do because, given our normal day-to-day activities, these criteria most objectively reflect that which is fundamental to personhood.5

A. Intentionality and Self-Consciousness

In the personhood and personal identity literature, intentionality and self-consciousness have played a large, if murky, role.6 It is not uncommon to encounter comments such as: "Consciousness [and by implication, self-consciousness,] appears to be the last bastion of occult properties, epiphenomena, and immeasurable subjective states--in short, the one area of mind best left to the philosophers, who are welcome to it. Let them make fools of themselves trying to corral [this]
quicksilver into a respectable theory." To enter into the debate surrounding the nature of intentionality and self-consciousness would take us far afield. Hence, for our present purposes, it will suffice to note certain abilities that intentionality and self-consciousness involve.

Broadly construed, intentionality requires that an entity form beliefs and desires, hopes and fears, about itself or its environment.* In short, intentionality consists in what has come to be known as "object-directedness." Most humans have intentional states. Many of our most popular science fiction characters can be said to have them as well. Spock, for example, certainly has beliefs about himself and the environment. So, too, Data, E.T., and HAL possess an array of beliefs and desires. Moreover, many common pets can be described as intentional systems. Dogs, cats, birds, turtles and many other animals are plausibly said to have beliefs about their respective environments. As a matter of fact, much of the animate world and a large part of the inanimate world can be described in intentional terms.9 Thus, it becomes necessary to distinguish intentional systems that are persons from those that are not.

One possible way of drawing such a distinction would be to argue that those intentional systems that modify their behaviors in accordance with a preference-ranking among beliefs and desires are persons. So, for instance, most humans are persons because they rank certain beliefs and desires above others, whereas turtles, which cannot rank such behavior-directing states, are not persons. Though initially promising, this suggestion is inadequate. While we may be able to exclude turtles and other reptiles from the class of persons, we are unable to exclude other
mammals such as cats and dogs. Cats and dogs, unlike turtles and other reptiles, but like humans, modify their behavior-directing states. Dogs, for instance, prefer certain activities over others, and will actively pursue these favored events. Thus, while the modification of behavior in accordance with a preference-ranking among beliefs and desires is helpful in distinguishing between certain types of intentional systems, it is not sufficient to demarcate persons from nonpersons. Accordingly, we propose that the modification of behavior-directing states be supplemented by the additional requirement of self-consciousness.

If we, once again, bypass the debates surrounding the nature of self-consciousness, we may, for present purposes, view 'self-consciousness' as knowledge of oneself. More specifically, it is by means of a self-conscious state or process that a complex intentional system recognizes that it is the initiator of, or agent responsible for, an action.

The view of self-consciousness that we offer appears, at first blush, to be blatantly circular: an intentional system is self-conscious if it views itself as a self. This criticism can be avoided, however, if we replace the term 'self-consciousness' with a more neutral term, such as 'X-consciousness'. X-consciousness, in turn, may be defined as a state or process that enables an intentional system to recognize that it (the intentional system) is the originator of an action or event. Given X-consciousness, the system is not conscious of itself as a self or person; rather, it is conscious of itself as an agent—the "performer" of an action.

If we are willing to grant that the above provides a suitable working interpretation of 'self-consciousness', then we can begin to distinguish between those
(behavior-directing) intentional systems that are persons and those that are not. Most humans, for example, rank their beliefs and desires in such a way so as to choose certain activities over others, and at the same time, recognize that they are the "choosers" and "actors." Consequently, these humans are persons. In contrast, cats and dogs do not seem to satisfy our additional requirement. While we have granted that they choose between certain desires, it does not seem reasonable to maintain that they are aware of themselves as choosers and actors. The additional requirement of self-, or better, X-consciousness, thus, enables us to distinguish those (behavior-directing) intentional systems that are persons from those (behavior-directing) intentional systems that are not.

If our general orientation has been plausible, and intentionality and self-consciousness (defined as X-consciousness) are sufficient for personhood, then our proposed account of personhood avoids many of the problems associated with alternative accounts of personhood. If other mammals or certain aliens are self-conscious, intentional systems, they are persons. Thus, we conclude that advocates of the Species Theory, for instance, offer an unjustifiably chauvinistic theory of personhood. To claim that all and only humans are persons involves excluding certain (actual and possible) self-conscious, intentional entities from the class of persons while including certain entities which fail to satisfy any psychological criteria. Similarly, advocates of an Impure Psychological Theory of personhood have not gone far enough in emphasizing the importance of the psychological criteria they posit. Why must the psychological criteria be supplemented with substrate considerations? Reflective consideration guides us to the conclusion that such purely psychological
characteristics as feelings, rememberings, imaginings, desirings, and so forth are sufficient for personhood. There are normative issues at stake here as well. Regardless of whether substrate considerations are, in the end, relevant to establishing personhood, entities that are characterizable in terms of the above sorts of psychological traits are owed, and expected to return, certain kinds of treatment. In sum, our proposal implies that personhood can be found in many more kinds of entities than ordinarily thought. Personhood may be located in the "HAL's" of 2001, the platinum-iridium positronic "brains" of an android, the teletransported masses constituting Star-trekkean brains, various extra-terrestrial life forms, and less exotically, in the carbon-based, neocortical structures of human, and some nonhuman, organisms. Opening up the class of persons in the manner suggested is justified not only on grounds of what might be called "metaphysical honesty," but also because of the proper treatment associated with, and expected of, self-conscious, intentional entities.

Prior to considering the implications that this purely psychological account of personhood has for our conception of human nature, it is necessary to comment briefly on the distinction between a person-at-a-time (a synchronic person) and a person-over-time (a diachronic person). Recently, it has been argued that an analysis of personhood must begin with an analysis of a continuant person, a person-over-time, and not with a person stage or a person-at-a-time. Contrary to this suggestion, we will argue that there are sound epistemological reasons for beginning an analysis of personhood with person stages.
Let us begin with a clarification of the terms involved. Persons-at-a-time, synchronic persons, and person stages are typically considered to be entities that fulfill a set of person-making criteria at a particular point in time, or for a short interval. They are frequently taken to be the "time-slices" of a continuant person. David Lewis has defined 'person stage' as:

A physical object, just as a person. It does many of the same things that a person does: it talks and walks and thinks, it has beliefs and desires, it has a size and shape and location. It even has a temporal duration. But only a brief one, for it does not last long. (We can pass over the question how long it can last before it is a segment rather than a stage, for that question raises no objection of principle.) It begins to exist abruptly, and it abruptly ceases to exist soon after. Hence a stage cannot do everything that a person can do, for it cannot do those things that a person does over a longish interval.\(^\text{14}\)

In contrast, persons-over-time, diachronic persons, and continuant persons are regarded as enduring entities. In the past, continuant persons were often considered to be Cartesian Egos or souls.\(^\text{17}\) They were taken to be immaterial, indivisible entities that endured bodily change. As we saw earlier, this suggestion becomes questionable when one considers the nature of an immaterial ego.\(^\text{18}\) If the ego is immaterial, then by its very nature, it is not publicly observable. This, in and of itself, need not be problematic if one can reliably introspect one's ego. There is no reason, however, to assume that one's privileged access to the ego, via introspection, is reliable. As John Locke first noted, it is entirely possible that one's ego is repeatedly replaced by an exactly similar ego.\(^\text{19}\) When, for instance, John examines his thinking self, he may actually be witnessing the succession of several exactly
similar selves. Given that John can discern no difference among the qualitatively identical selves, he mistakenly assumes that he is the same continuing ego he was prior to introspection.

Though far from conclusive, Locke's observation begins to reveal why one may wish to develop a theory of personhood based on person-stages, and not continuant persons. If we can formulate a set of person-making characteristics, and argue that any entity that fulfills these characteristics is a person at a time, we have not made any additional assumptions regarding the continuity of that person. We have not, in other words, assumed that the person at a time is a time-slice of a continuant person. In order to show that the person at a time is a time-slice of a continuant person, further considerations are required. We will turn to these additional considerations in Chapter Three. For the present, it is sufficient to note that there are good epistemological reasons for beginning an analysis of personhood with person stages.

Section Two: The Nature of Human Persons

We have proposed that self-consciousness and intentionality are sufficient for personhood. In this Section, we will continue to explore this thesis by focusing on the question, "What is the nature of human personhood?" Given our emphasis on purely psychological criteria of personhood, it should be clear that, on our view, human personhood consists in more than membership in the species Homo sapiens; human persons are physical entities that instantiate certain psychological traits and capabilities. Humans can (generally) be characterized as persons in virtue of the
(functional) capacities of their brains. However, recent studies of the nature of the brain have raised a number of intriguing philosophical questions. On the basis of this research, it can be argued that each hemisphere of a normal human brain satisfies an adequate set of person-making characteristics, and consequently, that normal humans are two-personed. We will defend this *prima facie* counterintuitive conclusion against various objections. Although the results of such a defense may be initially disturbing, compelling reasons for a two-personed human being emerge.

Let us begin by noting that we will limit our discussion of human personhood to those human beings who are neither very young nor very old. We restrict our discussion in this way so that we can focus on neurological systems, in particular, brains, that are fully developed, but not yet in a state of rapid atrophy. We will also take the liberty of considering only those human beings who are considered to be psychologically "normal"; that is, humans who are not suffering from such psychological anomalies as schizophrenia, multiple personality disorders, or other personality-disordering syndromes. Given these caveats, and the preceding account of personhood, we will find that we are faced with impressive evidence that each human, as characterized above, consists of two persons.

Studies in neurophysiology and cognitive neuro-psychology have provided evidence for the claim that each hemisphere of the normal human brain is capable of functioning independently of the other hemisphere. Moreover, each hemisphere performs tasks that are typically taken to be indicative of personhood. Although the functional duality of the hemispheres had been suspected for years (in part because of the frequently rapid and almost complete recovery of many
hemispherectomy patients), its plausibility has only recently been confirmed by the data furnished by commissurotomy patients. Briefly, a commissurotomy involves the surgical section of the corpus callosum and the lesser cerebral commissures that facilitate interhemispheric communication. Post-operatively, most commissurotomy patients exhibit much the same behavior as before the operation; intellectually, personally, and physically, it is hard to discern any dramatic changes in their day-to-day behavior. However, in carefully controlled studies, these patients display what has come to be known as "the deconnection syndrome." The characteristics of the syndrome are quite surprising: in these specially contrived situations, when each hemisphere is independently stimulated and allowed to respond, it appears that two distinct subjects are present, each with its own perceptions and experiences. For example, when the left visual half field of a commissurotomy patient is stimulated by the color blue, while the right half field is stimulated by yellow, the commissurotomy patient will claim to see only one color. When asked to identify the color, the patient says "yellow"; but may simultaneously write, or point, to blue. This, in turn, has led some researchers to conclude that within the commissurotomy patient reside two conscious entities.

The data of commissurotomy research call into question the common conception of human beings as single conscious subjects. How many consciousnesses do commissurotomy patients possess? How many persons are they? If personhood is defined in terms of a consciousness with a certain complexity and organization, are commissurotomy patients two-personed humans? If so, is the same true for noncommissurotomized humans? The possible implications of this research for our
conception of human nature, our moral practices, and our political and legal institutions are radical enough to warrant careful philosophical evaluation.

A. Four Interpretations of Commissurotomy Research

Let us proceed by considering several possible interpretations of the commissurotomy research. The literature provides us with at least four interpretations of the data:

(1) Commissurotomy patients are single persons in virtue of the psychological abilities characteristic of the dominant hemisphere.

(2) Commissurotomy patients are single persons in virtue of the sum of psychological abilities displayed by both hemispheres.

(3) Commissurotomy patients, under experimental circumstances, but not otherwise, are two-personed in virtue of the independent (psychological) abilities of each hemisphere.

(4) Commissurotomy patients, in both experimental and nonexperimental situations, are two-personed--again, in virtue of their independent psychological abilities.

Of these four interpretations, we will argue that, given the account of personhood sketched above, the last offers the most plausible account of the data. In other words, commissurotomy patients, at all times, are two-personed. We must ask ourselves what implications this conclusion has for our understanding of normal humans. In the end, we will argue that normal adult humans are two-personed as well. In sum, the commissurotomy data have given us good reason to believe that either our understanding of the nature of persons, or our understanding of the
nature of humans, must be reconsidered.

It seems reasonable to assume at the outset that the nature of personhood will remain largely the same; that is, persons will continue to be viewed as moral/legal agents and subjects of rights and responsibilities, in virtue of, among other things, their cognitive abilities. It is plausible, in other words, to assume that entities having the specified set of complex psychological traits are owed a certain kind of treatment, and expected to return that treatment in kind. If, for instance, an entity has specific desires and intentions, and, moreover, recognizes these desires and intentions as its own, then that entity deserves certain kinds of treatment that other, less cognitively sophisticated, entities do not deserve. In contrast, our understanding of the nature of humans, may change. It is now questionable whether human nature is marked by a single consciousness. Rather, humans seem to have a brain that is composed of two functionally independent, fully conscious hemispheres. This invites a significant shift in our view of the nature of a human. Even if one limits the above claims to commissurotomy patients alone, the philosophical implications of the neurophysiological data are numerous. Let us, therefore, proceed by turning to a more thorough consideration of each proffered interpretation.

1. The First Interpretation

The first view holds that commissurotomy patients are single persons in virtue of the characteristics of the dominant hemisphere. The dominant hemisphere, usually the left cerebral cortex, is predominately characterized in terms of its linguistic and analytic skills. (This is in contrast to the minor hemisphere which is
more adept at activities involving spatial judgment and object recognition.) It is in virtue of the linguistic abilities of the dominant hemisphere that commissurotomy patients, as well as other humans, qualify as persons. On this view, human personhood consists solely in the abilities displayed by the dominant hemisphere. For example, Larry DeWitt has argued that some "have erred in failing to recognize that the possession of language makes for a profound disparity between the two cerebral hemispheres.... I would conjecture that only the major hemisphere has a self."\(^{10}\) Similarly, John Eccles has argued that "the really remarkable finding is that the conscious self, with all its linguistic and sophisticated behavioural performance, seems to be represented solely in the dominant hemisphere in these split brain patients."\(^{27}\)

Though proponents of the First Interpretation agree that personhood requires the linguistic skills of the dominant hemisphere, they disagree about the nature of the nondominant hemisphere. According to some, the nondominant hemisphere is best characterized as an automaton, the "psychological" abilities of which are described as "instinctive" and "self-regulating."\(^{28}\) We will call advocates of this view, Conservative proponents of the First Interpretation. Other proponents of the First Interpretation argue that the minor hemisphere is "conscious, mindful, but devoid of self."\(^{29}\) We will call advocates of this view, Liberal proponents of the First Interpretation. There are serious difficulties associated with each version of the First Interpretation. We will begin with the Conservative View.
a. The Conservative View

Conservative proponents of the First Interpretation assume that the nondominant or minor hemisphere completely lacks sophisticated cognitive function. For instance, John Eccles argues that "the psychological capacities [of the minor hemispheres] are best described as automatisms." According to Eccles, the right hemisphere should be regarded as a computer that is capable of discrimination, recognition, and some learning, yet is totally devoid of conscious experience. The view that the right hemisphere is an unconscious automaton, however, is simply not accurate. Though we could cite many examples of the minor hemisphere's cognitive and conative abilities, for the present it is sufficient to focus only on its linguistic skills. During experiments involving cerebral lateralization, in which stimuli are focused exclusively on one hemisphere, the so-called minor hemisphere is able to respond to questions. Though most responses are given by ostension or in writing, and not orally, the minor hemisphere clearly demonstrates that it does comprehend language. (Indeed, studies have shown that the minor hemisphere can manifest a comprehension vocabulary equivalent to that of a normal sixteen year old.) Similar results obtain in hemispherectomy cases. When the dominant hemisphere is removed, the patient is nevertheless able to respond to extensive questioning--so much so, that one researcher has claimed, "Even the removal of the complete [dominant] hemisphere may be said to have little effect on intellectual capacity or social behavior, producing at most a lessened capacity for adaptability and a more rapid mental exhaustion." Similarly, in 185 hemispherectomy cases reviewed by H. H. White, about half of which involved the removal of the dominant hemisphere, it
was claimed that "...no matter which hemisphere was removed, there remained a person." Consider as well the following account of a left hemispherectomy patient, E.C.:

E.C. could do simple arithmetical calculations. Regarding his emotional life, affective reactions and general behavior were appropriate, and consistent with his wife's report of no noticeable change in emotional responses or in a basically well-balanced personality. E.C. can tell time, moves about independently in his wheelchair, keeps appointments without being reminded. [On] one occasion when asked what he wanted to do, he said, 'Uh, duh, uh HOME!' He was then asked, 'Do you mean you want to go home?', and he replied, 'Yes, by God.' When shown a picture of his granddaughter, he smiled; and when asked 'Is this a boy or a girl?', he said, 'girl'. His disability in speaking was in marked contrast to his good comprehension of speech.

The Conservative view of the First Interpretation, thus, seems to be in error. In addition to linguistic skills, the minor hemisphere possesses many other cognitive and conative abilities. Throughout the remaining chapter, we will show that the minor hemisphere is not an automaton. To so characterize it is to underestimate the extent of its normal, everyday function.

b. The Liberal View

The Liberal view of the First Interpretation grants that the minor hemisphere has a "basic phenomenal awareness," and that it possesses "a hierarchical ordering of behavioral priorities." Roger Sperry, Michael Gazzaniga, and Joseph Bogen go so far as to say that each hemisphere possesses "conscious awareness and attitudes at a level that is characteristically human, with fairly high order mental processes,
including abstract thinking and reasoning. The Liberal view, however, falls short of granting that the minor hemisphere has a sense of self, or is a person. Despite the recognition of dual consciousness, it is maintained that there is only one human person—the left hemisphere-based person.

Proponents of the Liberal view maintain that linguistic abilities are a necessary condition for self awareness, and consequently, for personhood, and that the minor hemisphere, though conscious, does not possess the requisite linguistic skills. DeWitt argues:

My interpretation of the split-brain studies goes as follows: Both minor and major hemispheres are conscious in that they both, no doubt, have the basic phenomenal awareness of perceptions, sensations, etc. And they both...exhibit elaborated, organised systems of response hierarchies. But in addition I would conjecture that only the major hemisphere has a self; only the language utilising brain is capable of the abstract cognising necessary in order to be aware of itself.... In a word, only the major hemisphere is aware of itself as a self.

Several responses are available to the critics. We have already shown that the minor hemisphere is not only conscious, but also possesses a significant degree of linguistic ability. It is, thus, unclear what additional linguistic skills are required for self-awareness. Moreover, there does exist behavioral evidence of self-awareness in the minor hemisphere. For example, when the dominant hemisphere responds incorrectly to a command, the minor hemisphere, aware of its own (correct) response, may cause the patient to frown or shake his head. In one experiment, for example, a picture of a pencil was projected to the left visual field and a picture of
a knife was projected to the right visual field. During questioning, the subject typically stated that he had seen a knife. If permitted to reach out only with his left hand to select the object he had seen, the patient usually chose the pencil. After the pencil had been retrieved, and the patient asked why he had chosen it, the left hemisphere tended to construct an incorrect answer which, in turn, caused the patient to wince because the right hemisphere heard the left hemisphere give an incorrect reply. These data are taken to be significant in that they not only reveal that the minor hemisphere is capable of distinguishing its response from that of the dominant hemisphere, but, moreover, registers distress when the dominant hemisphere incorrectly answers a question.

Similarly, studies have indicated that the minor hemisphere sometimes engages in what has come to be known as "cross-cueing". Cross-cueing occurs whenever the actions caused by one hemisphere provide information-bearing cues to the other, thereby enabling it to respond correctly. Perhaps the most dramatic case of such cross-cueing phenomena is recorded by Donald MacKay. He reports:

In one of our experiments, we flashed a series of 3-letter words to the left field of a split-brain patient, LB, and invited him to try to vocalize them. Given half a minute or more after each word, LB could achieve almost perfect performance. We noticed that he spent much of his time in shaking his head around, and my wife asked him privately what this meant. Although he denied being able to see the letters, he explained he could 'write them with his nose' (the movements of his head being controlled by the knowing, but speechless, right hemisphere). If he had time to do that, he (that is, his articulate left-hemisphere system) could then read them off."
Finally, and perhaps most convincingly, when researchers asked one commis­surotomy patient what occupation he would like to have, his left hand wrote "automobile racer," while he orally responded with "draftsman." The researchers summarized their findings, claiming:

His right hemisphere has a sense of self, for it knows the name it collectively shares with the left. It has feelings, for it can describe its mood. It has a sense of who it likes and what it likes, for it can name its favorite people and its favorite hobby. The right hemisphere in P.S. also has a sense of the future, for it knows what day tomorrow is. Furthermore, it has goals and aspirations for the future, for it can name its occupational choice.

The Liberal View of the First Interpretation faces, yet, a third difficulty. Though this difficulty is not unique to the Liberal View, it is nevertheless the case that the following question must be addressed: How do two hemisphere-based consciousnesses integrate divergent beliefs and desires? This question introduces what we will call "the Integration Problem."

Numerous studies have revealed that the minor hemisphere is capable of responding to its environment. According to the Conservative View of the First Interpretation, the responses are largely instinctual; according to the Liberal View, the responses are intentional, but devoid of the psychological complexity associated with persons. Regardless of the right hemisphere's actual level of ability, the fact that it does respond to its environment needs to be reconciled with the fact that its cranial partner also responds--and often, in importantly different ways.
How, then, do proponents of the First Interpretation account for the seemingly integrated behavior of split brain patients? Is it that the hemispheres function independently of each other, but, in the end, cooperate and form a unified response? If so, it would appear to be difficult, if not impossible, to explain the actual "mechanics" of integration. Since the corpus callosum is severed, and thus, cannot relay the relevant impulses from hemisphere to hemisphere, and the lower brain is simply not capable of transmitting cerebral functions, how is the integration achieved?

In an attempt to overcome the Integration Problem, Larry DeWitt has appealed to the distinction between characteristically human consciousnesses, on the one hand, and human personhood, on the other. As we have seen, DeWitt concedes that a characteristically human consciousness is present in each hemisphere. He states: "Both minor and major hemispheres are conscious in that they both, no doubt, have the basic phenomenal awareness of perceptions, sensations, etc. And they both have minds in that they exhibit elaborated, organised systems of response hierarchies, i.e. intentional behavior." Such minds, however, are not persons. Personhood involves not just "minds" as characterized above, but also "the ability to apprehend oneself as a being distinct from other similar beings; to recognise one's actions and thoughts as 'belonging' in some sense to oneself." According to DeWitt, the "self-consciousness" that is required for personhood is dependent upon sophisticated language abilities: language "marks the difference" between the presence of self-consciousness and the complete absence of any awareness of self.

In response to the integration problem, DeWitt postulates that only the left hemisphere has the linguistic skills required for personhood. Though both
hemispheres can be characterized as "minds," only the dominant, language-bearing hemisphere is self-conscious and, thus, a person. There is, therefore, no integration problem. All that split brain research has revealed is that each (normal adult) human has two minds, only one of which is a person.

DeWitt's solution to the integration problem poses two difficulties. By suggesting that each human has two minds or consciousnesses, but is, nevertheless, a single person, DeWitt has moved the integration problem from the domain of persons to the domain of mind or consciousness. Moving the integration problem in this way does not help to solve it. If we agree that humans have two minds, each of which has "a basic phenomenal awareness of perceptions, sensations, etc., ... and is an organized system of response hierarchies...," we are still faced with the integration of differing hopes, beliefs, desires, and so on. Though we may say that a split brain patient is a single person because of the linguistic abilities of his left hemisphere, what are we to say of the simultaneously existing, inconsistent beliefs and desires of his right hemisphere? If we were to claim, as DeWitt urges, that the beliefs and desires of the right hemisphere are those of a nonperson, we would nevertheless be faced with the problem of integrating the "mind" or consciousness of the left hemisphere-based person with the "basic phenomenal awareness" and "elaborated, organized system of response hierarchies" of the right hemisphere-based mind. In the end, the integration problem continues to linger at the level of "mind" or consciousness.

The second difficulty with DeWitt's solution is more serious. In order for DeWitt's solution to work, it is necessary that only one (not both) of the two minds
be self-conscious. DeWitt believes that this requirement is satisfied because only one of the minds possesses the complex linguistic skills that are taken to be necessary for personhood. Unless DeWitt believes that these linguistic skills must be oral in nature, it is difficult in light of our previous arguments to grant that only one hemisphere possesses the linguistic traits that DeWitt requires. While we can grant that only the left hemisphere possesses oral linguistic skills, it seems hardly plausible to base personhood on such skills. Yet, if this is not what DeWitt means, then he must take seriously the empirical evidence which indicates that the right hemisphere has significant linguistic ability. Since the right hemisphere is capable of responding to questions, has language comprehension skills on a par with the normal sixteen year old, and is able to identify itself as the locus of certain beliefs and desires, it seems that DeWitt's solution is subject to serious question. While DeWitt can, perhaps, account for the diverse, experimentally-provoked behavior of a split brain patient in terms of different conscious awarenesses and attitudes, he cannot, it seems, plausibly solve the integration problem.

In the end, both versions of the First Interpretation suffer from the same difficulty: each view seriously underrates the linguistic abilities of the minor hemisphere. Though the Liberal view grants that the minor hemisphere is not just an automaton—it is conscious and mindful, but devoid of self—the Liberal view, like the Conservative view, does not acknowledge that the minor hemisphere has the linguistic (verbal as well as comprehension) skills characteristic of a person.

In addition to underestimating the linguistic skills of the minor hemisphere, both versions of the First Interpretation overestimate the importance of language
to the issue of personhood. Many join DeWitt in assuming that there is a special connection between language and the level of consciousness that is indicative of personhood. In general, proponents of this connection argue that thoughts are necessarily language-bound. The contents of the consciousness associated with personhood, in turn, are necessarily thoughts. Hence, personhood is necessarily dependent upon linguistic ability.

There is, however, reason to believe that DeWitt and others are guilty of over-emphasizing the role that language plays in the determination of personhood. While we may surely grant that complex linguistic behavior provides evidence for, and is a reliable indicator of, personhood, it does not follow that such behavior is, or should be, a criterion of personhood. In the end, it remains an unresolved empirical question whether language is essential to, or the handmaiden of, person-making levels of consciousness. Thus, even if we grant that a wholly nonverbal account of self-awareness (and consequently, personhood) is difficult for us to comprehend, its possibility should be taken seriously--especially, if one concedes that both hemispheres possess "conscious awareness and attitudes at a level that is characteristically human...."

2. The Second Interpretation

The second interpretation of commissurotomy data holds that split brain patients are single persons in virtue of the sum of psychological abilities displayed by both hemispheres. Furthermore, it is claimed that both hemispheres play an active role in determining the action of the individual. Robert Ornstein, for
example, argues that the left hemisphere's "analytic, verbal, linear, and rational" approach to problem-solving is just as important in the determination of an action as the right hemisphere's "intuitive, nonverbal, nonlinear, and arational" orientation.¹¹

The primary difficulty associated with the Second Interpretation also involves the integration problem. If both hemispheres are thought to contribute equally to a commissurotomy patient's behavior, how are cases involving differing hemispheric inputs mediated? The usual means of explanation involving the corpus callosum have been disrupted, and numerous studies have shown that the brainstem and cerebellum are incapable of transmitting cerebral functions.

The above question is particularly challenging in cases where the "doers" of the actions are unaware of one another. For example, how can the single agency ascribed to a split brain patient account for his belief that yellow is the only color he sees, when in writing, he claims to see only blue? Or, when he simultaneously intends both to dress and undress himself? Consider as well a case described by Michael Gazzaniga:

I asked a patient, J. W., to 'draw with your left hand a picture of the word I flashed.' In the beginning of any one test session he usually protests that my command doesn't make any sense because he (the left brain) has not seen anything.... I nurse him along and say something like, 'Oh Joe, go ahead and let that left hand try.' The left hand will pick up a pencil and accurately draw the picture. When a word or a picture has been presented to...the right brain and the left hand draws a representation of it, J. W. will typically say, 'I don't know why I drew that. What is it? It looks like a bird. I guess I saw a bird.'¹²
There are reasons to believe that these examples are not indicative of a single person. When the corpus callosum has been severed, the Second Interpretation fails to offer a convincing solution to the integration problem.

One popular response to the above problem is offered by Karl Popper and John Eccles in *The Self and its Brain*. They maintain that the hemispheres do not, after all, contribute equally to the final output. Rather, the right hemisphere contributes only the most basic insights—insights, for example, which are thought to be largely reflexive and instinctual, and as a result, can be transmitted by the lower brain. Like the Conservative view of the First Interpretation, then, this view holds that the dominant hemisphere is ultimately decisive in determining personhood, and, consequently, fails to recognize fully the cognitive abilities of the minor hemisphere.

3. The Third Interpretation

Thus far, we have discussed two one-person interpretations of the commissurotomy data. According to the First Interpretation, split brain patients are single persons because of the linguistic prowess of the dominant hemisphere. According to the Second Interpretation, split brain patients are single persons in virtue of the sum of the abilities of the two hemispheres. Each one-person interpretation is subject to numerous criticisms. In light of this, Charles Marks has suggested that, in experimental circumstances, split brain patients are two-personed. Marks holds that duality of personhood is limited to cases in which input has been restricted to one or the other hemisphere; in all other circumstances, the patient is said to be a single person. What has prompted Marks and other advocates of this position to
acknowledge this occasional duality is, again, the extent of abstract thinking and awareness displayed by each hemisphere. In these experimental settings, consciousnesses that are so "characteristically human," and not aware of one another, must be, it is argued, independent persons. Thus, when the left hemisphere expresses surprise or dismay as a result of an action the right hemisphere was instructed to perform, it is concluded that the two subjects of experience are not the same, and because of the severed corpus callosum and the experimental controls, not in communication with each other. However, it is further maintained, that when the experimental controls are removed, the duality disappears. This is claimed to be the case because without the rigid lateralization of input to one or the other hemisphere, both hemispheres are subject to similar inputs, and consequently, the hemispheres tend to function in ways that complement, not contradict, each other. Thus, it is argued that the hemispheres "reconvene" when the experiment is over, and form a single person.

Although the above view is attractive in that it enables us to account for the unusual behavior of commissurotomy patients in experimental situations, without thereby forcing us to change our understanding of what is going on with such patients in nonexperimental settings, it gains its attractiveness at a cost. In particular, the claim that lateralization of sensory input results in two persons appears to be \textit{ad hoc}. If in order to explain the appearance of the incongruent behavior exhibited in these situations an appeal to the presence of a second person is required, this fails to explain the genesis of this second person. As Thomas Nagel has so succinctly put the point: "so unusual an event as a [person's] popping in and out of existence
would have to be explained by something more than its explanatory convenience. But what could constitute such an explanation? If it is claimed that prior to the commissurotomy there was just one person, but thereafter, in these experimental situations, there are two, where did the new person originate?

There are a number of possible explanations for the appearance of the additional person. For instance, it is possible that the lateralization of sensory input divides the pre-experimental person into two persons. Given that the input is lateralized to one or the other hemisphere, the natural divide would occur between the hemispheres. Consequently, the pre-experimental brain-based person becomes two hemisphere-based persons. When, in turn, the lateralization is discontinued, the two hemisphere-based persons "fuse" to form the single brain-based person.

This explanation correctly assumes that in experimental circumstances each hemisphere processes lateralized input, and, in turn, issues a response. Since the responses are inconsistent, but correct (given the lateralized input), it is concluded that there must be two persons present in these circumstances. There is, however, no reason to assume that interhemispheric processing is mysteriously regained when the patient leaves the experimental setting. Given that the basis of interhemispheric processing consists in a well-functioning corpus callosum, and just this has been removed in split brain surgery, the means for the integration of hemisphere-based persons have been removed. While it may nonetheless be granted that in the normal nonexperimental environment, both hemispheres receive similar input, this can, at best, account for the integration of behavior, it does not establish that split brain patients (in these circumstances) are single persons.
A second possible explanation for the appearance of the additional person in experimental cases may be that the commissural section, in combination with lateralization, actually produces new hemispheric functions. These new functions, in turn, "produce" an additional person.\(^\text{60}\)

It remains, however, an unresolved empirical question whether commissural surgery and lateralization produce new functions—person-making functions. Anatomically, both hemispheres are present before surgery and consequent lateralization. More importantly, severing the hemispheres does not result in any noticeable changes in their macro- or micro-structures, electrical activities or response patterns.\(^\text{61}\) These data, in conjunction with data supporting the claim that the sole function of the corpus callosum is to facilitate interhemispheric communication, provide good grounds for doubting that new person-making functions arise from commissural sectioning. It may, in turn, be more plausible to maintain that the supposedly "new" person was there all along.\(^\text{62}\) It is indeed precisely this claim that is defended by advocates of Interpretation Four. Before turning to a discussion of the Interpretation Four, let us consider Charles Marks' explanation of the unusual behavior elicited by commissural surgery and consequent lateralization.

Marks' suggests that from the standpoint of folk psychology, we can "best describe" split brain patients in experimental circumstances as two persons.

The explanations of behavior our folk psychology licenses are crude. As such, they will tolerate the occasional failures the split brain patients provide without recourse to such drastic measures as the supposition that...our common sense psychology must change. This is the best picture we have to offer.\(^\text{63}\)
Marks' explanation of the consequences of the deconnection syndrome is far from satisfying. While it is true that we can "best describe" split brain patients in experimental circumstances as two persons, we will argue that our common sense conception of human nature may well be threatened. Whether, in the end, it will be replaced, remains to be seen. For now, it is sufficient to note that we should not be satisfied with the "crude and, in its own way, misleading, picture" Marks has to offer. If there really are two persons present during lateralization, it is not merely a matter of "best describing" them as such.

In sum, if advocates of the third interpretation are to escape the ad hoc nature of their appeal to a second person in cases of experimentally-provoked lateralization, then, we will argue, they must acknowledge the presence--before, during, and after the experiment--of two different, functionally independent, hemisphere-based persons. To claim that split brain patients, on occasion, are two-personed, gives us no good reason to believe that they are single persons at other times.

4. The Fourth Interpretation

The fourth view holds that commissurotomy patients are at all times two-personed. This interpretation has led some to claim that in the case of split brain subjects, "we have not one mind but two. In such cases, we have not one person but two."

In order to make claims of the above sort plausible, it must be argued that: (1) each hemisphere of the commissurotomy patient is independently conscious, and (2) this consciousness, in turn, is sufficient for personhood. From these, it will
follow that: each hemisphere of the commissurotomy patient constitutes a person. Let us consider this argument in detail.

(1) That each hemisphere of the commissurotomized patient is independently conscious, at least in experimental circumstances, has been acknowledged by both the Liberal view of the First Interpretation and by the Third Interpretation. Numerous and varied studies have repeatedly shown that when input is lateralized, each hemisphere is capable of following verbal commands, reading instructions, and issuing separate responses. One may go beyond the experimental setting, however, and argue that this duality of consciousness is present throughout the commissurotomized patient's lifetime. Numerous cases have been cited where, in normal home environments, commissurotomized patients have exhibited dramatically inconsistent behavior. In other words, in nonexperimental settings, patients have simultaneously engaged in directly opposed activities. In one case, for example, a man persistently, though affectionately, beckoned his wife to come to him with his left hand; while, simultaneously, with his right, threatened her. In another case, a commissurotomized patient dressed himself with one hand, while at the same time, he undressed himself with the other. Finally, during an interview with his neurosurgeon, a patient pulled out a cigarette and started smoking it. Knowing that the patient had made a resolution to quit smoking, the neurosurgeon commented, "Ahh, I see that you have broken your resolution to stop smoking." In response, the patient proclaimed, "No, I haven't," and proceeded with the next inhalation. Such behavior does lend some credence to the claim that duality of consciousness extends beyond the experimental environment. Consequently, it has been claimed:
Everything we have seen so far indicates that the surgery has left these [patients] with two separate minds, that is, two separate spheres of consciousness. What is experienced in the right hemisphere seems to lie entirely outside the realm of awareness of the left hemisphere. This mental division has been demonstrated in regard to perception, cognition, volition, learning and memory.6*

There is a second, more compelling argument for the persistence of duality. In the past, lateralization of input was used primarily to show that the minor hemisphere was a viable contender for consciousness. Most frequently, lateralization was produced via the Wada test. The Wada test involves the anesthetization of a single hemisphere.6* Consequently, when the dominant hemisphere is anesthetized, the minor hemisphere can respond freely (that is, without interference by the dominant hemisphere) to questions. More recently, however, lateralization has been used to study the dominance exercised by the "dominant" hemisphere. These studies often utilize what is called the Z (Zaidel) lens. The Z lens, which resembles a contact lens, allows an image to fall on only one side of the retina. When one eye is patched, and the other covered by the Z lens, a patient can move his eyes freely while examining an image. At the same time, however, the Z lens ensures that only one hemisphere of the patient's brain receives the visual information. As a result of these more recent lateralizations it has been shown that although the minor hemisphere is conscious throughout most tasks, its response, when different from that of the dominant hemisphere, is often "confabulated" by the dominant hemisphere. Confabulation occurs when the dominant hemisphere tries to incorporate the minor hemisphere's divergent response into its own response. More specifically,
when the dominant hemisphere becomes aware of a discrepancy between its response and that of the minor hemisphere, it incorporates the minor hemisphere's response into its own and constructs a rationale for its presence. Gazzaniga recounts several cases of confabulation. In one such case, the right hemisphere of a patient, P.S., was presented with a wintry scene. The left hemisphere, on the other hand, was presented with a chicken's claw. When asked to identify what he had seen, P.S.

quickly and dutifully responded correctly by choosing a picture of a chicken from a series of four cards with his right hand and a picture of a shovel from a series of four cards with his left hand. The subject was then asked, 'What did you see?' 'I saw a claw and I picked the chicken, and you have to clean out the chicken shed with a shovel.'

Gazzaniga notes that in numerous trials, with differing subjects, the dominant hemisphere always responded in a "factual" manner, though it had never seen the image presented to the right hemisphere. Confabulation by the dominant hemisphere thus tends to mask the underlying duality of consciousness present in a commissurotomy patient. Consequently, the "integrated" behavior exhibited by most commissurotomy patients does not necessarily indicate a unified, or single, consciousness; rather, it may very well be the result of the dominance exercised by one hemisphere over the other.

It should, however, be noted that the disagreements between the two hemispheres which, in experimental cases, lead to confabulation, are, in normal circumstances, minimal. Given that both hemispheres share the same body and
consequently, are subject to roughly the same internal and external inputs, agreements typically far outnumber disagreements. Though again, as in the above example of "integration" via dominance, the "integration" achieved via similar input does not necessarily entail a single consciousness.7

We thus conclude that despite the apparently integrated behavior of commissurotomy patients, two conscious hemispheres coexist. In experimental circumstances, the lateralization of stimuli clearly indicates the presence of two fully conscious hemispheres functioning simultaneously. On the other hand, in normal, nonexperimental situations, evidence suggests that when the two hemispheres of a commissurotomy patient are not functioning in harmony, one is frequently dominant over the other. In either case, however, each hemisphere of the commissurotomy patient appears to be conscious and functionally independent.

(2) It must next be established that each hemisphere-based consciousness has psychological functions and abilities sufficient for personhood. Earlier, we suggested that intentionality (the formation of beliefs, desires, hopes, and fears) and self-consciousness (the ability of an intentional system to recognize that it (the intentional system) is the originator of an action or event) were sufficient for personhood. Both of these conditions are satisfied by the hemispheres of a commissurotomy patient.

Studies in the cognitive neurosciences lend support to the claim that each hemisphere is capable of satisfying the above criteria. We have already seen that each hemisphere forms beliefs about its environment, and goals for the future. Moreover, each hemisphere can respond to questions about the content of its
environment and/or its future plans. The intentionality displayed by the hemispheres will become further apparent as we turn to the question of hemispheric self-consciousness.

During lateralization, commissurotomy patients are able to answer questions about their various beliefs and desires. That is, each hemisphere is capable of discussing its intentional states. The question arises, however, whether each hemisphere is able to recognize its intentional states as its own. In other words, is each hemisphere self-aware? This question becomes especially intriguing in cases where interhemispheric disagreement exists. In the following, we will argue that each hemisphere is capable of distinguishing its intentional states, and any resultant actions, from those of the other hemisphere.

We have previously noted that when the left hemisphere incorrectly answers a question, the right hemisphere will frequently cause the patient to grimace or shake his head, and when given the chance, will answer the question correctly. Moreover, since both hemispheres have independent memory banks, it is possible for each to answer specific questions regarding its past. Thus in some experimentally-provoked cases of lateralization (in those involving the Wada test, for example) one can direct questions to a single hemisphere, and inquire about its specific past experiences. If such cases of lateralization are complete, each hemisphere will not only respond to questions free from interference from the other hemisphere, but will also record the experience independently. Consequently, when, at a later time, the hemispheres are asked to recall their experiences, the accounts may be importantly different. These data may be regarded as evidence for each
hemisphere's ability to distinguish its beliefs and consequent actions from those of the other. Moreover, those who have suggested that it is language that "more than anything...allows man to achieve levels of cognising capable of generating self awareness," ought to concede that since both hemispheres have (at least) the verbal comprehension of a normal sixteen year old, both hemispheres are capable of formulating self concepts. Finally, and perhaps most convincingly, when either hemisphere is permanently removed, the remaining hemisphere is capable of displaying almost normal levels of self-awareness. Given the above evidence, it seems reasonable to conclude that each hemisphere is a subject of experience that has intentionality and self-consciousness.

It may be further argued that each hemisphere acts purposefully upon, and/or modifies, its behavior-directing states in such a way as to achieve a goal, or fulfill a desire. This involves not only the awareness of beliefs and desires, but also the ability to alter them in appropriate ways. In short, each hemisphere has the demonstrated ability to solve problems, and engage in "rationally" motivated behavior.

Consider, for example, the following case involving the right hemisphere of a split brain patient. In a situation where the test item in the left hand was a pencil, the left hand, after several wrong guesses by the speaking hemisphere, slowly rotated the test item until its point was against the thumb of that hand and then pressed the thumb down hard. Immediately the speaking hemisphere responded correctly. What this type of scenario is thought to show is that the right hemisphere (in this example), by rotating the pencil and realizing from past experience that pain is felt bilaterally, helped the left hemisphere to name the object correctly. Examples of
this type not only support other, less complicated, instances of problem-solving behavior on the part of the hemispheres, but also show that the hemispheres are aware of the environment and their beliefs about it, and are as well capable of acting upon, and modifying, those beliefs.

Finally, it is important to emphasize that the set of person-making characteristics possessed by each independently functioning hemisphere is integrated. Each hemisphere is able to respond consistently to similar situations, integrate desires (for example, the desire to be correct) with tasks of varying complexity, form plans of action or dispositional responses, record memories of behavior and intentions in separate memory banks, and form a personality of sorts. Further, the set of person-making characteristics is not typically separable into "smaller" psychologically integrated units. That is, each hemisphere normally constitutes the minimal substrate for human personhood.

The claim that each hemisphere satisfies the set of person-making characteristics we have posited, and, moreover, is typically the minimal substrate to do so, raises two potentially devastating criticisms. We will call the first of these criticisms the "Paring" problem. This problem focuses on the claim that no smaller portion of the brain is capable of satisfying the posited person-making characteristics. The second criticism raises the possibility that there may be a plethora of "gerrymandered" persons within the human brain--not just two neatly divided hemisphere-based persons. We will call this problem the "Proliferation of Persons" argument. Let us, in turn, examine each problem more closely.
The Paring problem challenges the claim that each hemisphere constitutes the minimal substrate for human personhood. According to the challenge, it is quite conceivable that the hemisphere is not the minimal substrate for personhood. If we were to remove, sliver-by-sliver, portions of the hemisphere, it is quite possible, and even likely, that the set of person-making characteristics would continue to be satisfied. Surely a hemisphere minus a few neurons will continue to function as a person. Thus, it is concluded that there is a substrate smaller than the hemisphere that satisfies our set of person-making characteristics.

In order to respond to this challenge, we need to draw a distinction between two kinds of paring. Let us begin, however, by granting that each intact hemisphere satisfies the set of person-making characteristics. In other words, each hemisphere is a person. Given this, how much less than a hemisphere also satisfies the set? The answer to this question invites two replies. On the one hand, we can concede that a hemisphere, minus a few neurons, most likely continues to be a person. The hemisphere, in short, does not suffer from any (noticeable) diminished capacities. In this regard, the personhood of the hemispheres is overdetermined. Nonthreatening forms of paring occur. Indeed, nonthreatening forms of paring occur quite naturally given the atrophic nature of the hemispheres. On the other hand, however, paring does have its limits. There is a point at which the personhood of the pared-down hemisphere is clearly threatened. By analogy, we could remove a fingernail, and still have a hand. We could also remove a finger, and still have a hand. So, too, we could remove four fingers, leaving only the thumb, and still, perhaps, have a hand. If, however, we remove the thumb, it is questionable whether a hand would
remain—especially if ‘hand’ is defined functionally. So it is with the hemispheres. If we remove a few cells, we still have a person. If we remove a few cells from each lobe, we also have a person. If, however, we remove an entire lobe, it is unclear whether a person remains. Though some form of consciousness may be present, it is doubtful that a person survives. Finally, if two lobes are removed, neither consciousness nor personhood remain.

Given the distinction between threatening and nonthreatening forms of paring, we can now offer a solution to the problem our thesis faces. We need to focus on the nonthreatening forms of paring, since these forms are the ones that lead to the suggestion that the hemispheres are not minimal substrates for personhood.

We grant that when nonthreatening paring occurs, person-making characteristics continue to be satisfied—a person remains. Conceding this, however, is not as devastating as it may initially seem. What nonthreatening cases of paring reveal is that the personhood of the hemispheres is overdetermined. This, however, does not force us to reject our thesis. Rather, it points to the fact that what constitutes a well-functioning hemisphere is not a pre-determined set of neurons. The physical components of normally-functioning hemispheres are in a constant state of flux. Some normally functioning hemispheres have many more neurons than other normally-functioning hemispheres. So, too, the number of neurons lost because of naturally occurring atrophy varies greatly from human to human. Other things being equal, the loss of neurons via nonthreatening forms of paring does not result in the loss of personhood.
More importantly, however, nonthreatening paring does not force us to abandon the claim that normally functioning hemispheres are the minimal substrates for personhood. In order to see this, we need to focus on the functionally integrated nature of the hemispheres. Despite the everchanging number of neurons, and their overall plasticity, the hemispheres remain functionally integrated. That is, each hemisphere functions as a psychological whole. In order to explain this further, let us briefly return to the hand analogy.

Earlier we argued that a hand, minus a finger, remains a hand. A hand minus all fingers, however, fails to be a hand. This analogy is persuasive if 'hand' is defined functionally. Given that hands have the ability to grasp, hold, and squeeze, any combination of fingers and joints that is able to perform these functions satisfies the definition of 'hand'. In contrast, a fingerless palm does not have the ability to grasp, hold, or squeeze, and thus, may be more appropriately viewed as a flexible extention of the forearm.

Given that we have offered a functional analysis of personhood, we can now use the hand analogy to show that a normally functioning hemisphere constitutes the minimal substrate for human personhood.

Like the well-functioning hand, a well-functioning hemisphere requires a sufficiently complex organization of physical parts. This organization, in turn, is not strictly defined. It may, for example, consist in the synaptic firings of eight billion neurons or it may consist in the synaptic firings of far fewer neurons. What is, however, strictly defined is the functional integrity of the hemispheres. More specifically, the hemispheres occupy what has come to be known as "functional cerebral
space. This refers to those parts of the brain that possess "unusually strong cohesion" and "strong functional connections" with each other. According to neurosurgeon Stuart Dimond, the hemispheres of split brain patients "can transfer information perfectly well from one modality (lobe) to another within the same hemisphere." Moreover, "the presence of the corpus callosum preserved intact and functioning fully need not detract from the capacity of each side to act as a system." Dimond's studies, in conjunction with other studies, indicate a stable functional, though not necessarily physical, hemispheric organization. There is, thus, strong reason to believe that the functional integrity of the hemispheres overrides the concerns raised by nonthreatening instances of paring. More to the point, the minor diminution of neurons so central to the Paring Problem does not force us to reject the claim that the hemisphere is the minimal substrate for human personhood. Our claim remains intact because the Paring Problem does not affect the functional cerebral space occupied by the individual hemispheres. Lest we get ahead of ourselves in considering the implications of split brain research for normal humans, let us turn to the second criticism our proposal faces.

According to the Proliferation of Persons argument, there may be a plethora of "gerrymandered" persons within the commissurotomy patient's brain. One way of formulating this challenge is as follows: Severing the corpus callosum has shown that there are two hemisphere-based persons. What keeps us from concluding that severing the frontal lobes of both hemispheres from the temporal and parietal lobes also produces a person? Or, better yet, what keeps us from concluding that an isolated right frontal lobe and an isolated left occipital lobe conjoined by the corpus
callosum form one person, and the remaining lobes form another? In short, the Proliferation argument brings to the forefront the possibility that any number of lobe combinations may result in a suitable substrate for personhood. Perhaps, we have been lured by our cerebral anatomy into thinking that because the hemispheres "communicate" via the corpus callosum, a severed corpus callosum divides the brain neatly into two persons.

There are plausible reasons for doubting that the random cutting and snipping of the cerebral lobes will expose a plethora of additional persons. These reasons are founded in studies involving humans who have suffered from various interlobal and interhemispheric lesions. Patients who have such lesions seldom satisfy person-making characteristics. For example, if the right frontal lobe and the left temporal lobe are removed, the remaining lobes do not satisfy any reasonable set of person-making criteria. Repeated studies involving such patients corroborate the unlikelihood that such patients will expose nonhemisphere-based persons.

In the end, however, it remains an empirical question whether the cutting and snipping of the lobes of the human brain will reveal heretofore undiscovered persons. Given that patients with massive lesions often suffer from additional brain damage, it is possible—perhaps even likely—that the Proliferation Argument remains untouched by the evidence cited above. It may very well be the case that the Proliferation Argument raises difficult philosophical questions that cannot, given current neurology, be addressed. However, one thing we currently know is that the severing of the corpus callosum reveals the presence of two conscious subjects, each of which satisfies the set of person-making characteristics we have posited.
Moreover each hemisphere can be said to function as an integrated unit. That is, each hemisphere of the split brain patient processes information in such a way that it can be described as a single, well-integrated system. Thus, while the Proliferation Argument raises the possibility of many persons within the human cranium, it remains an open question whether this is actually so.

For the present, let us conclude that neurological studies provide evidence for the claim that each hemisphere is not only an intentional system, but is also self-conscious. So, if intentionality and self-consciousness are sufficient for personhood, each hemisphere should be recognized as a person. Consequently, the fourth and final interpretation of the commissurotomy data seems to be most plausible. In addition to recognizing the full abilities of both hemispheres, it accounts for the "deconnection syndrome" in a non *ad hoc* manner. Given this, we must, in turn, ask ourselves what implications, if any, the fourth interpretation has for our understanding of normal humans.

### B. Implications for Normal Humans

In view of the foregoing considerations, it is hardly surprising that some have asked, "If both hemispheres are conscious subjects, do we noncommissurotomized people host (at least) two subjects, the left-brain one and the right-brain one?" Such a question, it would seem, is motivated by the fact that the primary, if not sole, function of the corpus callosum is to facilitate interhemispheric communication. In other words, the corpus callosum enables the left hemisphere to receive input from the right hemisphere and vice versa. When the corpus callosum is severed, the
communication between hemispheres is significantly reduced, if not altogether absent. This enables the hemisphere-based consciousnesses to function independently of one another, and, according to our thesis, reveals the two-personed nature of commissurotomy patients. Interestingly, however, the only significant difference between many commissurotomized humans and others is that in the former, the communication between the two hemispheres has been interrupted. In the latter, communication continues, and the presence of the functionally independent, hemisphere-based persons remains hidden because of the rapid access each "subject" has to the other's experiences.

In order to render the above plausible, the following argument needs to be defended: The hemispheres of a normal adult human are not relevantly different from those of a commissurotomized human. From this, it will follow that each of the hemispheres of a normal human are individually conscious, and satisfy the criteria for personhood we have posited. Finally, we will conclude that each hemisphere of a normal human being is a person.

Let us begin with the claim that the hemispheres of "normal" humans are not relevantly different from those of commissurotomized humans. With respect to structure as well as function, the hemispheres of both normal and commissurotomized individuals reveal no significant differences. Anatomically, the hemispheres of both individuals reveal similar forebrain structures, similar subdivisions within the forebrain, similar distributions and densities of myelin and gray matter, and similar patterns of ridges (gyri) and valleys (sulci) characteristic of the cortex. With respect to the functional areas of the hemispheres, differences are minimal as well. Under
stimulation, each lobe (frontal, parietal, occipital, and temporal) responds normally, and the characteristic abilities of the hemispheres remain intact as well. Thus, it is quite probable that the only significant difference between the brains of normal individuals and commissurotomized patients is the presence or absence, respectively, of the two hundred million fibers of the corpus callosum, and other lesser neocommissures. Given that the principal function of these fibers is to facilitate interhemispheric communication, when the callosum is intact, each hemisphere is continuously made aware of the experiences of the other. When the callosum has been severed, however, the communication is either stopped or greatly hindered. Therefore it is plausible that the only difference between normal humans and commissurotomized ones is the capability, or lack thereof, of direct interhemispheric communication. It is for these reasons that Dimond has tentatively suggested the following analogy:

The corpus callosum need no more rob any one hemisphere of its... function than the facility of travel by international airline robs the states which it interconnects of national sovereignty. In other words, the split brain cases illustrate in a dramatic way something that may well be true about the processes of [the hemispheres] whether the two systems are connected up or not, and that is that the higher functions...assume a bilateral form.

Consequently, if commissurotomized patients have two conscious hemispheres, and the only difference between these patients and normal individuals is a matter of interhemispheric communication, it seems plausible to say that normal individuals have two conscious hemispheres as well.
It may thus be the case that commissurotomies have enabled us to discover the presence of two conscious hemispheres within the normal human brain. Even when we grant that this discovery is masked by the interhemispheric communication achieved by the corpus callosum, and hence is only indirectly accessible to us, it does not permit us to dismiss the underlying duality at hand. Hence let us tentatively conclude that each hemisphere of the normal brain is conscious and, to a large extent, functions independently of the other hemisphere. What further evidence can be offered for the proposed conclusion?

In a well documented series of experiments, researchers subjected normal humans to dichotic listening tests.* In these tests, different auditory stimuli are presented simultaneously to each ear. (The simultaneous presentation of input greatly hinders interhemispheric transferral of information.) Thereafter, subjects are ingeniously distracted, thereby enabling one or the other hemisphere to respond to questions regarding the stimuli it has heard. If, in turn, a subject responds more accurately to what was presented to the right ear, the response is interpreted as indicating left hemispheric dominance in listening. The interesting thing to note, however, is that regardless of dominance, each hemisphere independently processes significant portions of the input.

In a second, more revealing experiment conducted at Cornell Medical School, a normal individual was given an injection of Amytal in the left carotid artery.† Thereafter, a cigarette was placed in his left hand for a period of two or three minutes—just for that time during which the left hemisphere had been anesthetized by the Amytal. The cigarette was then taken away; and the subject was asked what
he had held in his hand. The subject persistently denied having an object in his hand. This denial continued, until a series of objects (including the cigarette) was displayed by the experimenters. With the objects in view, the subject repeated that he did not have an object in his hand, while simultaneously, he lifted his left hand and pointed to the cigarette. This experiment was repeated several times, with a number of normal individuals, and each time the results were the same. What can be concluded from this is that, while the left hemisphere was anesthetized, the right hemisphere was (continued to be(?)) conscious. When the left hemisphere, in turn, regained consciousness, it appropriately denied being the subject of a cigarette-holding-experience, yet, simultaneously, the right hemisphere affirmed such an experience. This is compelling evidence for co-consciousness within the normal human brain (at least in experimental situations).

In nonexperimental cases, where input to the hemispheres is bilateral, and interhemispheric communication uninterrupted, a subject's response is integrated and apparently "unitary." However when input is lateralized, the responses of the hemispheres may diverge, and, in turn, exhibit their inherent duality. So, while the left hemisphere is anesthetized, the right hemisphere may try to exchange information about the object held, but such an exchange is rendered impossible. After the left hemisphere regains consciousness and information passing between the hemispheres resumes, the left hemisphere will usually maintain that nothing was held, while the right hemisphere will usually maintain that a cigarette was held. Integration of the hemispheres under these circumstances is considerably more difficult for three reasons. First, the left hemisphere was, in fact, not the subject
of a cigarette-holding-experience, and appropriately denies being such a subject. Secondly, since the left hemisphere has no control over the left hand motions caused by the right hemisphere, the right hemisphere is free to display its beliefs independently of the left hemisphere. Thirdly, and most importantly, the dominant hemisphere actively resists integration by emitting transcallosal inhibitors which block input from the right hemisphere. When "blocking" occurs, the dominant hemisphere rejects the input issued by the right hemisphere in much the same way that the human immune system rejects certain threatening antibodies. Blocking is thus a particularly interesting phenomena because it involves an active defense on the part of the left hemisphere against contrary input from the right. While the evolutionary import of this defense is obvious, unsettling questions concerning the role of the right hemisphere emerge. It appears that in times of interhemispheric conflict, the right hemisphere is a cerebral helot--but a person nonetheless.

While we may grant that, despite the evidence, all of this seems highly unlikely, we should equally grant that subjective unity is not necessarily incompatible with an underlying duality. Even though in normal circumstances the human being appears to be a unified person, this unity may very well result from a type of cooperation between the two conscious hemispheres. More specifically, it may be that the subjective unity each of us feels is actually the result of the communication facilitated by the intact corpus callosum. This, however, in no way diminishes the independent functioning of the two hemispheres, and the possibility that we may all be two-personed.
The claim that our subjective unity can be reconciled with the view that we may all be two persons deserves additional attention. Let us begin by noting that there is a crucial difference between a well integrated system, and information passing between systems.

A well integrated system is not unlike a web or net—a tug at one point causes stretch and strain at another. Considered functionally, a well integrated psychological system is interconnected in such a way that the acquisition of beliefs may require the modification of beliefs elsewhere in the system. We have previously argued that the functional cerebral space exemplified by the individual hemispheres of a split brain patient constitutes a well integrated system.

Information passing between systems, in contrast, involves the transferral of data from one locale to another. So, for instance, the dominant hemisphere of one human may transfer information to both hemispheres of another human. Less obviously, the right hemisphere of a normal human may transfer data to its cranial partner. It may, however, be more constructive to leave cerebral examples aside for the moment, and focus on a more removed illustration of information passing.

The United States Air Force proudly advertises the performances of its elite Thunderbirds Flight Squadron. Up to twelve pilots maneuver their individual jets in such a way that each jet is only a few feet from the next—yet, perfectly synchronized with it. As the squadron makes its way across the sky, it first takes on the form of an arrow, then a pentagram composed of twelve points.

Let us suppose that an advanced society of aliens also has such an elite flight squadron. Unlike their human counterparts, however, the members of the alien
squadron do not have two (independently functioning) hemispheres. The alien pilot's neurological system consists of a single master neuron that processes input from billions of dendritic stations scattered throughout the alien's body. Each well-functioning system, in turn, serves as a suitable substrate for (this alien form of) personhood.

The pilots comprising the alien squadron are amazingly effective information passing systems. Each pilot receives input from the instrument panel, processes it, and transmits it to his cohorts. The pilots are so effective at transmitting data that their squadron successfully takes on the appearance of a single entity. From the external perspective, they seem as though they are one.

The above example, in turn, holds important insights for our own seemingly integrated nature. Humans, like the alien flight squadron, consist of effective information passing systems. Each cerebral hemisphere receives input, processes it, and then, via the corpus callosum, transmits it to its cranial partner. The hemispheres, like the alien pilots, are so skilled at the transmittal of information that they create an illusion of unity--humans appear to be single persons.

At the micro level, however, unity dissolves. The alien squadron is, after all, composed of individual pilots. Each pilot is a well-integrated system possessing a single consciousness. If, for example, one were to ask a member of the alien squadron whether he were self-conscious or possessed only a "group" consciousness, he would most assuredly maintain that he had a distinct consciousness. In other words, from his internal perspective, there is something that it is like to be him. If our proposals are plausible, a similar account holds for humans; at the micro level, the
apparent unity of human experience dissolves into two distinct arenas. Suppose, again, that we ask a hemisphere whether it is conscious and has distinct hopes, beliefs, and desires. As we have seen, each hemisphere offers a unique reply to these questions.

In conclusion, our subjective unity may be reconcilable with the proposal that we are all two-personed. Given the dominance exerted by the left hemisphere, the fact that each hemisphere is subject to much the same internal and external input, and the effective transmittal of information between distinct functional cerebral spaces, it is not surprising that we feel and appear to be single persons. A closer look at our neurophysiology, however, suggests that we are two.

To the degree that the proposed argument is cogent, a significant paradigm shift is at hand. More specifically, human beings should no longer be characterized as single persons with unified conscious experiences; rather, humans should be seen as two persons composed of two independent, though simultaneously functioning, consciousnesses.

Although the above thesis is relatively new to philosophy, speculations regarding the implications of dual consciousness (and personhood) have been present in psychological circles since the mid-nineteenth century. As early as 1844, A. L. Wigan published a book entitled *The Duality of the Mind* in which he argued that both hemispheres were capable of independent consciousness. In 1892, Frederick Myers wrote that a single organism may be operated by more than one consciousness; in 1902, William James commented that Myers' findings constituted the greatest discovery ever made in psychology; and in 1904, Morton Prince argued
for a "coexisting, extra series of 'thoughts', feelings, sensations, etc...which may be sufficiently organized to have a personality, in which case they may be regarded as constituting a second self." Such speculation continued through the Thirties and Forties, when, for example, it was believed that "if the brains of two men could be effectively joined by a bridge of nervous matter, as the two halves of the human brain are joined by the corpus callosum, the two men would have [what appeared to be a] a single, common consciousness." It was not until the 1950's, and thereafter, however, that evidence grounding such speculations became widely available. The first commissurotomies revealing the possibility of such dual consciousness in humans were performed in the early 1950's by Joseph Bogen and Philip Vogel. Since then, numerous neurophysiologists have claimed that such surgery leaves patients with two separate streams of consciousness, each fully capable of perception, cognition, volition, learning, and memory. Thus, despite the unease caused by the above thesis, there is ample reason to take dual consciousness and personhood seriously.

Conclusion

If the data furnished by recent neurophysiological studies are correct, we may be forced to rethink our conception of human nature. Commonly, we consider ourselves to be unified persons: single subjects of experience, as well as single agents of response. This conception of ourselves, in turn, has made possible the attributions of praise, blame, and responsibility so fundamental to both our moral and legal codes. It is this assumption of a unified self, however, that is now being
called into question. Since the 1950's, hemisphere-based research has indicated that each half of the (human) brain may have "its own conscious sphere for sensation, perception, ideation, and a whole range of other mental activities." If the foregoing arguments have been correct, we may conclude that both hemispheres possess not only a consciousness, but also satisfy the person-making characteristics we have posited. Furthermore, we may conclude that these individually conscious hemispheres function simultaneously in the normal human. Though phenomenologically we are unaware of such a duality of consciousness due to the information passing ability of the corpus callosum, as well as the overall similarity of input, it may nevertheless be argued that there is sufficient evidence, from commissurotomies, hemispherectomies, intracarotid injections, and other sources to conclude that such a duality of consciousness exists. If so, we seem forced to reject a belief that we have not even thought to cherish, so much was it taken for granted. We may have to conclude that (almost) every one of us is two—or, less paradoxically, (almost) every single human being is two persons.

It should be noted in advance, however, that this thesis, though controversial, does not require a restructuring of psychological theories of personhood. Nor does it require, as some have been quick to suggest, that we give up the concept of person altogether, or render it otherwise useless. What it does seem to require is that personhood be applied dually rather than singly to normal human beings. This raises many new and interesting questions for theories of personal identity, and will surely have ramifications for the moral/legal notions of punishment and responsibility as well. These concerns are the subject matter of the remaining chapters.
CHAPTER III
IMPLICATIONS FOR PERSONAL IDENTITY AND SURVIVAL

Introduction

Accounts of personal identity are notoriously labyrinthine. In large part, the complexity of the issue arises because the characteristics of any particular person do not remain constant through time. Whether or not one’s sympathies lie with a psychological account of personhood, the troubling question remains the same: "What unites a person, \( P_1 \), at a time \( T_1 \) with a person, \( P_2 \), at a time \( T_2 \) such that we may conclude that \( P_1 \) and \( P_2 \) are the same person?"\(^1\)

The complexity of the personal identity issue is further compounded by recent proposals which suggest that split brain research forces us to rethink, if not reject, most standard accounts of personal identity.\(^2\) Derek Parfit,\(^3\) for instance, maintains that split brain research reveals that what really matters in survival is not identity, but certain weaker psychological similarity relations. In short, a person's concern with whether he will be one and the same person over time is misguided; rather, a person should be wondering about whether there will be a future person who is sufficiently psychologically similar to the person who is presently doing the wondering.
We will begin Section One with the challenge posed by Parfit. In Section Two, we will argue that the challenge fails. We will show that split brain research does not force us to replace identity with a weaker relation—at most, we need to clarify our descriptions of personal identity issues in such a way so as to accommodate the neurological data introduced by split brain studies.

Section One: The "New Perspective"

Parfit claims that the split brain cases drew him into philosophy. These actual cases, along with more far-fetched cases involving fissioning, encouraged Parfit to develop a "new perspective" on the issues and questions involved in the personal identity debate.

Let us begin our discussion with an example. Suppose that the hemispheres comprising Wilhelm Busch's brain are severed. Each newly separated hemisphere, in turn, is placed in the (cortex-free) cranium of a body that has been preserved for just this purpose. One hemisphere goes to the body of Max; the other, to the body of Morris. Moreover, most of the beliefs, desires, and other psychological states characteristic of the pre-operative Busch are now found in both Max and Morris. At this point, questions concerning the survival of Busch become relevant. Does Busch survive the surgery? There are three possible answers: Busch does not survive; Busch survives as either Max or Morris; or, Busch survives as both. Provided that both Max and Morris have the beliefs, desires, hopes, and fears characteristic of Busch, we are faced with an interesting problem.
According to Parfit, two of the above answers can be immediately rejected. To claim that Busch simply does not survive is false. Since people have survived with just a single hemisphere, Parfit asks: "How could I not survive if the other half were also successfully transplanted? How could a double success be a failure?" The rejection of the first response seems justified. People do, in fact, survive hemispherectomies, and, if we grant that Max and Morris have the psychological content characteristic of Busch, and are successfully relocated, then we can hardly deny that Busch, in some sense, survives. Parfit also dismisses the second answer to the above question. He argues that to choose Max over Morris (or vice versa) as the survivor is arbitrary. Given that Max and Morris are equally eligible candidates for the continued existence of Busch, how could Busch survive as only one of them?

We are, thus, left with the third response to the question of whether Busch survives; namely, Busch survives as both. If this is the correct response, identity cannot be what matters in survival. If Busch stands in the identity relation with both Max and Morris, then it must be the case that Max and Morris are identical. They, however, are not identical—though it is possible that they are functionally equivalent, they certainly are not numerically identical. Thus, Parfit argues that the "transitivity paradox" posed by split brain research forces the rejection of identity as the relation that matters in survival. What matters in survival is a weaker relation. Parfit calls this new, weaker relation the R-relation, and concludes that it allows us "to suggest that I survive as two...persons, without implying that I am these persons."

We can survive, in short, without identity.
Giving up (diachronic) identity enables Parfit to handle the problems he takes split brain research to raise for theories of personal identity. Moreover, Parfit believes that replacing identity with the R-relation results in a more accurate account of what "really matters" in our survival. Let us, thus, examine the R-relation more closely.

A. The R-Relation

Parfit defines the R-relation as follows: Relation R just consists in psychological connectedness and/or psychological continuity, with the right kind of cause—where "the right kind of cause" can be any cause. He defines 'psychological connectedness' as "the holding of particular direct psychological connections," and he defines 'psychological continuity' as "the holding of overlapping chains of direct connectedness." We will begin with the notion of psychological connectedness.

1. Psychological Connectedness

Parfit maintains that psychological connectedness is more important "both in theory and in practice" than psychological continuity. Psychological connectedness is more important for purposes of survival because it requires direct psychological connections between successive person stages. For example, P2 at T2 is "directly connected" with P1 at T1, if P2 has memories of P1's experiences, P2 carries out P1's intentions, and P2 "continues to have" P1's beliefs, desires, and other psychological features. These direct connections between successive person stages are, however, a matter of degree. Two person stages may be psychologically connected to a greater or lesser extent. Accordingly, Parfit argues:
For \([P_1]\) and \([P_2]\) to be the same person, there must be over every day enough direct psychological connectedness. Since connectedness is a matter of degree, we cannot plausibly define precisely what counts as enough. But we can claim that there is enough connectedness if the number of connections, over any day, is at least half the number of direct connections that hold over every day, in the lives of nearly every actual person. When there are enough direct connections, there is what I call strong connectedness.\(^{13}\)

In a footnote, Parfit adds that the number of connections may not be all that matters: some psychological connections may be more important than others. Parfit claims: "There are many ways to count the number of direct connections. And some kinds of connection should be given more importance than others."\(^{14}\) In the end, as long as a presently existing person is sufficiently connected with a future person, the first portion of the R-relation is satisfied.

2. Psychological Continuity

Psychological continuity, in contrast, involves overlapping chains of strong connectedness. It is this relation that links present persons not with their immediate successors, but with more temporally distant selves. Parfit stipulates that the selves connected by direct relations involve "future" or "past" selves (\(P_1\) is a past self of \(P_2\)), whereas the selves that are connected in virtue of overlapping chains of direct connectedness are called "descendent" or "ancestral" selves (for example, \(P_1\) would be an ancestral self of \(P_{100}\)). These latter connections are also a matter of degree.\(^{13}\)
3. The Causal Requirement

There is one final feature of Parfit’s R-relation that needs to be discussed. Recall that Parfit defines the R-relation as psychological connectedness and/or psychological continuity, with any cause. Though a causal requirement is typical of most "unity relations," Parfit’s claim that any cause will do, is markedly different from other accounts. Most accounts require that "the right kind of cause" be either the normal cause or a reliable cause. For example, if psychological similarity between successive person stages is the result of a well-functioning brain, then as long as the similarity continues to be caused by the brain, the "normal cause" variety of unity relation is satisfied.\footnote{16} On the other hand, those who argue that "the right kind of cause" must be a reliable cause will argue that so long as "lawful causal dependencies" obtain between successive person stages, then the causal requirement is satisfied.\footnote{17} Thus, imagine that P1 enters a teleporter. Moments later, P1' emerges on Alpha Centuri. P1' is exactly similar to P1. According to the reliable cause theorists, as long as the teleporter ensures that lawful causal dependencies explain the psychological similarity between P1 and P1', the causal requirement of the unity relation is satisfied. (Normal cause theorists, citing the teleporter as an unnatural cause of psychological similarity, would deny that the unity relation obtains between P1 and P1'.) Though Parfit is not committed to denying that a normal cause or a reliable cause may be "the right kind of cause" for the R-relation, he allows for the possibility of nonnormal, unreliable causes. He defends his position with a "partial analogy":

-\textit{partial analogy:}
We need not decide between these three versions of the Psychological Criterion. [That is, we need not decide between the "Narrow" version, which requires the normal cause; the "Wide" version, which requires any reliable cause; or the "Widest" version which requires any kind of cause.] Scientists are now developing artificial eyes. These involve a glass or plastic lens, and a micro-computer which sends through the optic nerve electrical patterns like those that are sent through this nerve by a natural eye. When such artificial eyes are more advanced, they might give to someone who has gone blind visual experiences just like those that he used to have. Would this person be seeing these objects? If we insist that seeing must involve the normal cause, we would answer no. But even if this person cannot see, what he has is just as good as seeing.... If we accept the Psychological Criterion, we could make a similar claim. If psychological continuity does not have its normal cause it may not provide personal identity. We can claim that even if this is so, what it provides is as good as personal identity.1

On the basis of this, Parfit concludes, "what fundamentally matters is Relation R, with any cause."19

4. Summary

Before we examine Parfit's proposals in greater detail, let us briefly summarize his position, and highlight what Parfit takes to be its overall strengths.

On Parfit's theory, we are encouraged not to think in terms of strict identity, but in terms of the R-relation. Rather than wonder whether I will have a happy retirement, I should focus on whether or not there will be a descendent self who will be appropriately R-related to the person I presently am.

Giving up identity in the prescribed manner is said to have a number of benefits. For example, we will cease to take identity for more than what it is. Thoughts about personal identity will no longer tempt us into postulating separately
existing entities as our "true" selves. More importantly for our present purposes, replacing the identity relation with the R-relation enables us to resolve the transitivity paradox posed earlier. Provided that Busch is R-related to Max and Morris, Busch has "all that matters" in survival. Survival, on Parfit's view, need not be one-one, it can be one-many. Thus, a presently existing person may have two or more (simultaneously existing) future selves, and yet, have that which is "just as good as" personal identity.\textsuperscript{20}

Furthermore, Parfit maintains that whether we describe the "outcome" of a commissurotomy as one person or two "does not raise a real question. These are...two ways of describing the same outcome.\textsuperscript{21} Thus, if we were to sever the hemispheres of Busch's brain without transplanting them, then, according to Parfit, we may claim that the post-operative Busch is one person with two minds, or we may claim that the post-operative Busch is two-personed.\textsuperscript{22} It does not really matter how we count the outcome of split brain surgery because the pre-operative patient has "all that matters" for survival as long as there is at least one future self with which he is sufficiently R-related. If, in turn, the hemispheres were transplanted, as in the case involving Max and Morris, the same reasoning holds: as long as there is at least one future person with whom Busch is sufficiently R-related, Busch has what matters in survival. If there is more than one R-related future self, we merely have more than what is required for survival.\textsuperscript{23}
Section Two: Problems with Parfit's Account

We will focus on two problems associated with Parfit's "new perspective." The first problem involves the nature of Parfit's causal requirement. We will argue that by allowing any cause to be the right kind of cause, Parfit admits certain kinds of causes which do not adequately account for the succession of psychological states. The second problem is less theoretical in nature. As we have seen, Parfit believes that split brain research has important implications for standard theories of personal identity. Most significantly, it requires that we replace identity with a weaker similarity relation. We will argue that Parfit's evaluation of split brain cases is mistaken. Consequently, it is not necessary to replace the identity relation with the R-relation. Moreover, in imaginary cases involving fissioning, the replacement is also not indicated.

A. Problem One: Parfit's Causal Requirement

If Parfit is correct, it makes little difference how psychological connectedness and/or psychological continuity are brought about. That is, similarity between past and future selves, or among ancestral and descendental selves, can be the result of a normal cause (in humans, the well-functioning brain), a reliable cause (such as, for example, a teletransporter) or any other cause (including, for instance, the actions brought about by a genie with a magic ring). As long as one similarity relation exists as a result of any causal relation, we are provided with that which is "just as good as" personal identity.
In what follows, we will focus on psychological connectedness. If we can show that Parfit's account of connectedness is flawed, then we will be able to show that the relation involving continuity is flawed as well. In short, since P1 is continuous with a descendent self in virtue of a series of directly connected person stages, if there is a problem with direct connectedness, the overlapping chains involving direct connectedness will be threatened as well.*

In order to reveal the underlying weakness in Parfit's account of psychological connectedness, we need to reconsider the role of the causal requirement. That psychological connectedness is supplemented with a causal requirement should not be surprising. A causal requirement is important because it explains the similarity between successive person stages. The stage immediately preceding my present stage is responsible for the psychological traits I now possess. Thus, in normal cases, the brain associated with my immediately preceding stage was responsible for most, if not all, of my present stage's psychological features. Likewise, the brain I now possess will be crucial in bringing about psychological connectedness between my present stage and any immediately ensuing future stage.**

The importance of the causal requirement forces us to look again at Parfit's discussion of "the right kind of cause." Imagine the following scenario: Alpha-Centurians have at last perfected the production of androids. An android's character is randomly selected from an almost infinite bank of psychological traits. Each android, and there are millions of them, has a unique set of hopes, beliefs, desires, and goals. Suppose, further, that as a result of some strange cosmic coincidence, the death of my present person stage causes the production of an android that is, from
a psychological standpoint, exactly similar to me. That is, the android has all my hopes, beliefs, and desires. If it were not for certain physical differences, the android would be exactly similar to me in all respects. It follows, if Parfit is correct, that I have all that matters for survival. If psychological connectedness with *any cause* is what matters, then the death of my present person stage is of little or no consequence. The android is strongly connected to me (perhaps more so than any other future stage could have been), and moreover, my present stage brought about the android stage—that is, my future stage. On Parfit's view, my consequent survival is as good as personal identity.17

The above scenario points to a problem in Parfit's analysis of the right kind of cause. If the cause of my future stage need not be normal, or even reliable, then what does the causal requirement add to psychological connectedness? If any cause can be the right cause for securing all that matters in survival, then, in cases such as the above, the right cause can be one which fails to conform to any lawful regularities concerning the succession of psychological states. More importantly, the right kind of cause may be one which does not depend upon the states of a preceding person stage. Generally, the underlying plausibility of assigning a causal requirement to a unity relation is to ensure a "meaningful" succession of person stages. It follows on Parfit's view that this is no longer necessary. As long as there is a causal explanation (*any* causal explanation) for the connectedness between stages, the causal requirement has been satisfied.

Before we turn to the second problem Parfit's account faces, it is worth noting that even in situations where the properties of a later stage are reliably (but
nonnormally) caused by the properties of an earlier stage, all that matters in survival may not be preserved. For example, suppose that an earthling scientist is familiar with the Centurians' success with androids. Though the scientist does not yet know how to mass produce android bodies that can be programmed, he does know how to clone humans in such a way that the DNA structure as well as the psychological content of any given human are replicated. (Thus, these are not just biological clones—they share more than an identical DNA structure. They are psychological clones too.) His curiosity gets the best of him. He solicits volunteers for the cloning procedure. One volunteer is sufficient for millions of clones, but our scientist arbitrarily limits the number to ten. \( P1 \) volunteers for the cloning procedure. The scientist sets to work and, within a relatively short time, has produced ten exactly similar clones. Unfortunately, an untold consequence of the technique is that the original volunteer, \( P1 \), dies. The scientist is not, however, particularly concerned. He, like Parfit, believes that psychological connectedness with any cause is as good as personal identity. Thus, though \( P1 \) dies, \( P2-P11 \) are exactly similar to \( P1 \), and thus, connected to \( P1 \). Moreover, the causal requirement is satisfied. \( P1 \) has all that matters for survival; \( P1 \)'s death is about as good as ordinary survival.

The unease caused by the consequences of Parfit's proposals may, in part, be explained by Parfit's failure to acknowledge the role that the substrate plays in issues involving survival. It is clear that the brain is the normal substrate of human personhood. Consequently, psychological connectedness between person stages typically coincides with the spatio-temporal continuity of the brain. In unusual circumstances, however, psychological connectedness may be possible without
continuity of the brain. Suppose, for example, that future neuroscientists are able to transfer the person-making characteristics manifested by the hemispheres of the brain to a functionally equivalent, but nonorganic positronic brain. If such a transfer is successful, psychological connectedness may exist between earlier and later person stages despite radical differences between earlier and later substrates. Given that Parfit seeks to address the question of the survival of persons, the contingency of the substrate becomes clear. In other words, the survival of a person does not require the continuity of any given substrate.

Given the psycho-functional account of personhood offered in Chapter Two, we are sympathetic to Parfit’s claim that the continuity of the brain (or any other given substrate) is not necessary for the survival of a person. The contingency of the substrate, however, is, at best, only a partial explanation of the controversial nature of Parfit’s theory. As we noted earlier, Parfit’s causal requirement does not seem to be sufficient in guaranteeing all that matters in survival. By permitting any kind of cause to be the right kind of cause, Parfit allows for situations where the similarity between stages is not caused by the properties that those stages may possess. Furthermore, Parfit’s claim that we should replace identity with survival, and accept the view that we can survive as many other persons, is less than comforting. Giving up identity is a costly enterprise. Must we, as Parfit suggests, really do so?
B. Problem Two: Identity and the R-relation

If Parfit's evaluation of studies involving split brain patients is correct, and if Parfit's corresponding claims regarding the nature of survival are plausible, then it follows that he has indeed offered a "new perspective" on the nature of personal identity. Many believe that he has successfully done just this. Georges Rey, for example, states:

The supposition that what matters is some form of identity is susceptible to certain intractable logical difficulties arising from some recent results in neurophysiology. The Sperry experiments on epileptics whose Corpora Collosa have been cut present fairly persuasive evidence that...only technological (and perhaps some moral) difficulties prevent a brain [from] being divided into two, one hemisphere being transplanted into one new skull, the other to another.... Rather, then, than have what matters to us in survival be contravened by logical law, it seems more reasonable to suppose, as Derek Parfit has recently done us the service of supposing, that what matters to us is not identity over time.

Though Parfit has gained a sympathetic audience, and has proceeded to develop the ramifications of his metaphysical proposals on such diverse ethical topics as rational self-interest and moral/legal responsibility, we need to look more closely at his evaluation of split brain research. We will argue that his interpretation of the data is questionable, and consequently, the rejection of strict identity, unnecessary. Moreover, even if one considers the imaginary kind of case Parfit needs in order to render his "new perspective" plausible, it is still the case that identity need not be rejected. Rather, in such imaginary cases, identity and the R-relation both matter. One relation does not supplant the other. Thus, our second
criticism of Parfit involves two steps: we will begin by arguing that his interpretation of commissurotomy research is mistaken. Split brain studies do not have the implications he proposes. Secondly, we will show that even in cases where it appears that we must replace the identity relation with the R-relation, the replacement is not required. In the end, identity and the R-relation are compatible.

1. Parfit's Interpretation of the Split Brain Data

According to Parfit, split brain cases and hypothetical situations involving the transplantation of hemispheres reveal that identity cannot be what matters in survival. Since the "products" of these procedures may be described as two persons, the pre-operative patient cannot be identical with both resulting persons. At the same time, however, the pre-operative patient cannot nonarbitrarily be said to be identical with one or the other person, nor can it be claimed that he does not survive. Thus, according to Parfit, "the main conclusion to be drawn is that personal identity is not what matters."

Parfit's conclusion relies on the belief that one person cannot be identical with two later persons—that is, that a pre-operative commissurotomy patient cannot be identical with each of the "products" of the surgery. While it is correct to maintain that one person cannot be identical with two later persons who are not identical with each other, it is implausible to assume that the pre-operative commissurotomy patient cannot be identical with both of the "products" of the surgery, provided that our arguments in Chapter Two have been successful. In other words, if humans are two-personed, there is no need to abandon identity because of split brain cases. The
"products" of the surgery were not "produced" by the surgery; they were there all along. The surgery helped to make apparent their distinct existence. Thus, when Parfit concludes that we must give up identity for the R-relation, he fails to recognize that humans may be two-personed. If our earlier arguments are correct, Wilhelm Busch never was single-personed—Max and Morris were always present. One-one identity is, thus, consistent with the data of split brain research.

2. The More Threatening Case of Division

Though we may not be required to give up identity as a result of split brain research, there is another, somewhat similar situation in which we may be required to do so. Imagine that an ameoba-like division is about to occur. In such a division, a single person stage, 5, divides into two later stages, 51 and 52. Each later stage has the psychological content that was characteristic of 5. For the kinds of reasons Parfit provided earlier, it is implausible to claim that 5 does not survive. So too, it would be arbitrary to claim that 5 survives as 51, but not 52 (or 52, but not 51). We seem driven to the conclusion that 5 survives as both 51 and 52 and, thus, it appears that identity cannot be what matters in survival.

If Parfit is correct, we must choose between identity and the R-relation. Since one person cannot be identical to two persons, 5 cannot be identical to both 51 and 52. 5 can, however, be R-related to both 51 and 52. Thus, Parfit concludes that we must choose the R-relation as the relation that matters in survival.

We may agree with Parfit that the R-relation is important in survival. If 51 (and/or 52) has the psychological content that was characteristic of 5, then, in some
sense, $S$ has what matters in survival. This is especially true, if the causal requirement of the R-relation is one that conforms to law-governed regularities. As we have seen, however, the sense in which $S$ may be said to survive does not seem to be "just as good as personal identity." If $S$ can be said to survive as, but not be, $S_1$ and/or $S_2$, something is missing. In short, when I wonder about my continued existence, I wonder whether there will be a future person who will be the same person as I am now. I do not want to survive as someone else, I want to survive. This common sense urge for survival, my survival, is not captured by Parfit's R-relation.

The situation, however, is not as dismal as it may initially seem. Though Parfit is correct in claiming that the R-relation matters, and that one person cannot be identical with two persons, it does not follow that identity does not matter. In order to see this, let us turn again to the case of division.

It is plausible to grant that $S$ cannot be identical with both $S_1$ and $S_2$, if $S_1$ and $S_2$ are not (qualitatively and/or numerically) identical. But, even in ordinary cases of survival, a person stage at $T_1$ is not identical with a future stage at $T_2$. Earlier and later stages are never identical with each other. David Lewis succinctly puts this point as follows:

Identity among stages has nothing to do with [survival], since stages are momentary. If you survive, your present stage is not identical to any future stage. You know that your present stage will not survive...
It does not follow, however, that the lack of diachronic identity among stages forces us to reject the relevance of identity in matters of survival. From the standpoint of common sense, John’s present person stage knows that he will not survive; person stages do not survive much beyond a month or a year." Nevertheless, when we ordinarily think about persons and personal identity, we do believe that persons—husbands, wives, and friends—somehow continue to exist. We thus find ourselves faced with two senses of ‘person.’ On the one hand, persons are person stages. They are entities that satisfy certain person-making criteria; yet, they exist for only short intervals of time. On the other hand, persons are more permanent, temporally-extended sorts of entities. These latter so-called "continuant" persons also satisfy person-making criteria. Recognizing these two senses of ‘person’, in turn, will enable us to see that both the R-relation and the identity relation matter in questions of survival.

We can agree with Parfit that persons, or more correctly, person stages, are the relata of the R-relation. Moreover, we can agree that a presently existing person stage, such as S, has what matters in survival, if S is appropriately R-related to a future stage, FS. FS, in turn, also has what matters in survival, if FS is R-related to yet another, later stage. In this manner, any given person-at-a-time has all that matters in survival as long as it is appropriately R-related to a later, nonidentical stage. We do not, however, agree with Parfit that this shows that there are no continuant or temporally-extended persons. Rather, if continuant personhood can be said to consist in a set of nonidentical, but closely related, person stages, then we can show that the R-relation and identity are compatible.
We have granted that the lack of identity among stages is not disconcerting. The R-relation is sufficient to capture what matters in survival. If $S_1$ and/or $S_2$ are R-related to $S$, then $S$ has what matters in survival. Suppose that $S$ is R-related to both $S_1$ and $S_2$. We can then claim that $S$ and $S_1$ constitute a set of person stages, and that $S$ and $S_2$ constitute a set of person stages. Let us call the first set, $C_1$, and the second set, $C_2$. Each set, in turn, can be said to be identical to itself and to no other thing. In this sense, identity matters. When $S$ wonders about his survival, he wonders whether there will be a future person (stage) with whom he will be sufficiently R-related. If identity matters also, then $S$ not only wonders whether there will be such a stage, but whether the stage will be part of him. If we view continuant personhood in terms of a maximally R-interrelated set of stages, then what $S$ wonders when he wonders about his identity is whether there will be a future stage that will be part of the set of stages of which he is a part. In this manner, the R-relation and identity are compatible.

Parfit disagrees. According to Parfit, it does not follow that if a continuant person is viewed as a maximally R-interrelated aggregate of stages, identity is compatible with the R-relation. Parfit reasons as follows: $C_1$, during the shared stage $S$, stands in the R-relation to $S_1$ and $S_2$. $C_2$, during the shared stage $S$, also stands in the R-relation to $S_1$ and $S_2$. If the R-relation is compatible with the identity relation, then the set of stages $\{S, S_1, S_2\}$ are stages of some same person. In other words, if identity and the R-relation both matter, then it must be the case that $S_2$ is a part of $C_1$ (and $C_2$), and that $S_1$ is a part of $C_2$ (and $C_1$). In short, $C_1$ and $C_2$ must be identical.
There are, however, two errors in Parfit's analysis. First, the crucial statement in Parfit's criticism of those who claim that identity and the R-relation are compatible is ambiguous.4 More specifically, Parfit states, "S2 is R-related to Cl's present stage; so, S2 stands to Cl now in the relation that matters in Cl's survival." The phrase "S2 stands to Cl now in the relation that matters in Cl's survival" can be given two readings: Either it means "S2 stands now to Cl in the relation that matters in Cl's survival," or it means "S2 stands to Cl-now in the relation that matters in Cl's survival." Either reading, however, is problematic.

If Parfit intends to claim "S2 stands now to Cl in the relation that matters to Cl's survival," he is confusing the relata of the R-relation (person stages) with continuant persons. In short, he is claiming that person stage S2 is R-related to person Cl. We have already seen, however, that the R-relation holds between person stages, and not between continuant persons, or between continuant persons and person stages.

The alternative reading of the troubling phrase is more plausible. Given the immediately preceding phrase in Parfit's troubling sentence ("S2 is R-related to Cl's present stage"), it is reasonable to read the ambiguity as "S2 stands to Cl-now (that is, S) in the relation that matters in Cl's survival." This reading, however, is not unproblematic. S2 and S are stages of the continuant person C2, not the continuant person Cl. Just because C2 shares a stage with Cl does not mean that C2 and Cl are the same person. Parfit may well be correct in stating that Cl-now (that is, S) bears R to C2-in-the-future (that is, S2), but it does not follow from this that Cl is the same person as C2. Lest we get ahead of ourselves, let us turn to the second
problem in Parfit's analysis.

Parfit considers plausible the conclusion that C1 and C2 must be the same person because "continuant persons" for Parfit are nothing more than chains of R-related stages. Since S2 is R-related to the present stage of C1 (that is, S), and the present stage of C1 (S) is R-related to S1, Parfit concludes that the set \{S2, S, S1\} constitutes a person. It does not matter to Parfit how one "slices-up" persons as long as the R-relation obtains between the stages of any such person.

We have agreed that the R-relation between stages matters, but so does the "slicing process." When S wonders whether he will survive, he wonders whether a future stage will be part of him; that is, whether a future stage will be part of the same set of stages as his current stage. Since both S1 and S2 are R-related to S, S's desire for survival is satisfied. S2, in turn, may wonder whether he is the same person as S; that is, whether he is part of the same set of stages of which S was a part. Since S2 and S are R-related, S2's curiosity should also be satisfied. However, if S2 wonders whether he is the same person as S1, he will find, contrary to Parfit's claim, that he is not. S2 is not R-related to S1. (He may be psychologically connected, but he is not causally connected. S2 and S1 are the effects of a common cause, S.) Thus, S2 cannot be part of the same person as S1. Unless Parfit believes that the right kind of cause can be no cause at all, his challenge against the compatibility of identity and the R-relation fails.
3. **Summary**

As a result of studies involving split brain patients, Parfit has added a "new perspective" to the personal identity debate. However, aside from the fact that he may have misinterpreted the findings of these studies, we have argued that his new perspective is plagued with several problems. There are good reasons for believing that the causal requirement of Parfit's R-relation is too weak to ensure all that matters in survival. Moreover, in those imaginary cases of division where identity really does seem to be at risk, Parfit fails to offer a convincing argument against the compatibility of identity and the R-relation. In the end, neither the findings of split brain research, nor Parfit's resultant arguments, entail that we are required to give up personal identity. At most, we are required to revise the manner in which we describe personal survival and identity.

**Conclusion**

We have argued that both survival and identity are important. Earlier person stages survive as later person stages without being identical to those later stages. Despite this, identity also matters. Identity is not a relation among stages; rather, it is the relation that everything bears to itself and to no other thing. Identity, we have urged, applies to continuant persons--where continuant persons are viewed as sets of appropriately related stages. (Thus, on our view, continuant persons are not unlike four-dimensional space-time worms.)

We have also proposed that strict identity is consistent with the data of split brain research. Contrary to Parfit's suggestions, the split brain phenomenon does
not force us to give up identity--Parfit's "transivity paradox" can be solved. We will close with a brief discussion of the impact split brain research has for theories of personal identity. As we noted at the outset, this will require that we reconceptualize personal identity issues in such a way so as to accommodate the two-personed nature of humans.

The challenge posed by Parfit's paradox is misguided because Parfit assumes that commissural sectioning produces two persons, where previously there was only one. Consequently, Parfit concludes that identity must be replaced with a weaker survival relation because the pre-operative commissurotomy patient cannot be identical with the two resultant (post-operative) persons. In contrast, we have argued that a commissurotomy does not produce two new persons; rather, it reveals the two-personed nature of humans. Hence, split brain research poses no threat to identity. The pre-operative patient, like other humans, was two-personed all along.

We should thus view "our" survival (that is, the survival of a human's hemisphere-based persons) in terms of pairs of persons. If our speculations about the two-personed nature of humans are correct, then the answer to the question of what our survival consists in is not markedly different from the answer we would give to questions regarding the survival of any other pair of persons. For instance, twins survive only so long as both of the persons who constitute the twins survive. So, too, a (traditionally married) couple survives only if both persons who constitute the couple--husband and wife--survive. By analogy, our survival requires the survival of both hemisphere-based persons. In short, if the accounts of human personhood and identity that we have offered are plausible, then we have "all that matters" for
our survival if hemisphere-based persons, \( LH \) and \( RH \), at time \( T1 \) are R-related, respectively, to hemisphere-based persons, \( LH' \) and \( RH' \) at time \( T2 \), and each set of (hemisphere-based) person stages is part of a maximally R-interrelated set of stages.
CHAPTER IV
NORMATIVE IMPLICATIONS

Introduction

Suppose that an unfortunate orator is suffering from two neocortical brain tumors. One is in the temporal lobe of the left hemisphere; the other is in the occipital lobe of the right hemisphere. As a result of excessive neocortical pressure, and the consequent threat of hemorrhaging, the orator's neurosurgeon proposes that one of the tumors be removed. He explains that if the temporal lobe tumor is removed, the orator will most assuredly lose his ability to speak; on the other hand, if the right occipital lobe is removed, his left visual (half-) field will be lost. The neurosurgeon argues that, on moral grounds, the occipital lobe tumor should be removed. He reasons as follows: the removal of the occipital tumor, and consequently, the loss of the orator's sight, is not as devastating as the removal of the temporal lobe tumor, and the consequent loss of the orator's prized speaking ability. Even if we grant that the loss of speech is in the long run inevitable (due to the continued growth of the tumor), it is, nonetheless, better to be a partially blind, speaking orator than a fully-sighted, speechless orator. The orator agrees with the neurosurgeon's assessment, and the surgery is performed.
Let us now slightly alter the above example. Suppose that the neurosurgeon is confronted with an unfortunate artist with the same diagnosis. This time, the neurosurgeon, on moral grounds, argues that the artist should have the temporal lobe tumor removed. Granted the artist will lose his speaking ability, but it is argued that it is better to be a fully sighted, but speechless, artist than a partially blind, speaking artist. The artist adamantly disagrees. He maintains that something equally, if not more, important will be lost if the temporal lobe tumor is removed. The neurosurgeon, however, remains firm. It is clear to the neurosurgeon that the stubborn refusal is issued by the left hemisphere-based person. Consequently, he proposes to resolve the issue by lateralizing hemispheric input. He can thereby directly access the right hemisphere-based person and determine its wishes. Sure enough, as soon as the sodium amytal injection reaches its destination, the left hemisphere-based person is anesthetized. The neurosurgeon now asks the right hemisphere-based person to indicate whether he agrees with the proposed surgery. In response, the left hand slowly scribbles 'agreed', and the artist nods.

The above examples illustrate some of the normative challenges our thesis poses. Though the neurosurgeon is imaginary, the situations he faces raise very real questions about the proper treatment of human (hemisphere-based) persons. If our arguments have been plausible, we need to take seriously the possibility that our treatment of others may involve an unjust bias in favor of the speaking hemisphere, and consequently, may result in unjustifiable actions against the right hemisphere-based person. Indeed, it may be advisable to lateralize the hemispheres so that responses to crucial moral questions can be solicited free from interference. If it is
determined that there exists an implacable interhemispheric conflict, difficult moral decisions may have to be made.

In the following, we will examine the normative ramifications of the thesis that normal humans are two-personed. We will begin our discussion with a brief survey of the normative consequences others have argued follow from split brain data. The conclusions others have drawn, in turn, will force us to look closely at what really matters in questions involving the "proper treatment" of persons. In the end, we will argue that the "proper treatment" of (hemisphere-based) persons requires that we become sensitive to the possibilities raised by the artist/orator examples.

Section One: Troubling Implications

The suggestion that hemispheric lateralization become a routine part of moral/legal inquiry is only one of many that may need to be introduced in order to guarantee the rights and privileges usually associated with personhood. Such a suggestion, however, also highlights the seemingly inescapable awkwardness of our proposal. The unsettling practical side of our two-personed thesis has led James Moor to claim:

I think most will find the practical consequences of the two persons interpretation when applied to real [persons] implausible, and this implausibility invites a re-examination of the criterion for individuating persons that generated the consequences.\(^1\)

Similarly, Roger Rigterink maintains:
I do not know of anyone who would readily embrace [these practical complications]—except, of course, for lawyers who stand to benefit from an opportunity to charge double fees.¹

The moral, legal, and social consequences that seem to follow from our proposal can easily be multiplied. The two-personed hypothesis might seem to entail that entitlements that are distributed to persons, such as Social Security payments and food stamp allotments, should be doubled. Moreover, institutions like marriage may require some rethinking. To whom is one married? Must all marriages be viewed as group marriages? Even more troubling implications seem to arise when we turn to the question of punishment. We might ask ourselves whether punishment typically violates the rights of one or the other hemisphere-based person. In coolly-calculated corporate crimes, should the "analytic" hemisphere alone take full responsibility? Or, imagine a case in which a judge has sentenced a murderer to the "darkest corner of the Gulag Archipelgo."³ In an appeal, the defense attorney provides the following argument:

Ah yes, it is true that the major hemisphere is guilty of this hideous crime. But we have to consider the rights of the other prisoner standing in the docket: the poor, innocent, victimized minor hemisphere.... Let me remind the court that the guiding principle of justice in a trial system has always been 'Better to let a guilty party go than punish an innocent person'. Admittedly [the] major hemisphere deserves a punishment ten times, nay a hundred times, worse. But still, the fact of the matter is that [the] minor hemisphere is innocent and deserves to suffer no more.
Is it possible to be sensitive to the rights associated with one hemisphere without violating the rights of the other? Moreover, if this is possible, can it be done without upsetting well-established social, legal, and moral institutions?

We find ourselves in an unpleasant situation. If our two-personed hypothesis is correct, the moral, legal, and social consequences should be taken seriously. The rights and responsibilities of each hemisphere-based person need to be taken into consideration. The right hemisphere-based person should not be blamed for crimes committed by the left, nor should the left hemisphere-based person be held accountable for the emotional outbursts of the right. Each hemisphere-based person should be treated independently of the other. The fact that this may be inconvenient for us, and require significant modifications in our way of looking at things, is no reason for rejecting, or taking lightly, the implications of our view.

Section Two: What Really Matters in Questions of Personhood

The challenge raised by Moor, Rigterink, and others requires our careful consideration. Our response will be twofold. We will begin with a discussion of what is involved in caring about persons. What is it that makes personhood so unique? This, in turn, will enable us to address the practical concerns aired by Moor and others. We will argue that many of the practical problems can be solved by recalling the distinction between humans and persons. Others, in turn, can be resolved by minor adjustments in legal practice and/or moral decision making. In the end, the practical concerns raised by Moor and others do not force us to reject the two-personed hypothesis, nor do they render the hypothesis implausible.
A. Theoretical Considerations

We begin, then, with the question "Why do we care about persons?" If we examine this question closely, we discover that it has two distinct meanings. On the one hand, we must address the nonnormative question, why are we interested in, or concerned with, persons? In this sense, our interest in persons is on a par with an interest in automobiles or fashion design. Such an interest involves the propensity to inquire further into the nature of an object or event.

There are several possible explanations for the widespread interest in persons; foremost among these, lies the need for a better understanding of who and what we are. We are interested in persons because we are interested in ourselves. We wish to know what distinguishes us from other entities in the universe. This curiosity about our nature invites accounts of personhood such as those that have been offered by Wiggins, Perry, Parfit, and others. Though none of these accounts is conclusive (our interest in what really matters to personhood continues), it is plausible to assume that the kinds of psychological characteristics introduced by Wiggins and others are relevant to, if not sufficient for, personhood.

On the other hand, we are also faced with a normative query: "Why do we care for persons?" In answering this question, we are not seeking clarification about the nature of an entity, nor are we driven by a sense of curiosity about ourselves. Rather, a concern for persons lies in the fact that persons, unlike other entities, participate in a certain form of life. They are not merely objects in a metaphysical analysis, they are agents and patients with interests in themselves and others. What makes persons particularly valuable is tied to the fact that persons have the capacity
to lead lives that are "richer" than the lives led by most (if not all) other entities. Susan Wolf has captured this idea well in "Self-Interest and Interest in Selves":

Persons are capable of aspiring to and achieving a diversity of ideals, of developing physical and intellectual skills, of creating artistic masterpieces and scientific theories. Perhaps more important, persons are capable of developing deep and rewarding interpersonal relationships, of exhibiting and appreciating moral virtue, and of understanding and committing themselves to moral laws.

In other words, persons have a capacity to act upon their beliefs, and corresponding desires, in such a way that they can take an interest in the welfare of others, form meaningful relationships with others, and suffer when things turn out badly for themselves or for others. In short, persons are capable of developing a moral sense—a concern for the interests of others and a corresponding awareness of how one ought to act in light of these interests.

Before we turn to the challenging practical concerns posed for our thesis, two further points deserve comment. The first involves a crucial distinction between persons per se and moral persons. The second, related point develops the claim that while we may have an interest in persons, we especially value moral persons.

1. Moral Versus Metaphysical Personhood

We have joined others in suggesting that we value persons because they have the capacity to develop a moral sense—a sense of other-directedness. If such a capacity is left undeveloped, however, we tend to value personhood less. (Just as a power plant may have the capacity to serve a community with all its electrical needs,
if the plant remains inoperative, the plant is thought to have little value.) Consequently, we need to modify the suggestion (that persons have a privileged status because they have the capacity for developing a moral sense) so that it reflects the possibility that there may be persons who satisfy metaphysical accounts of personhood, yet fail to have a sense of right and wrong. Are, and should, such persons be valued to the same degree as persons who have developed a moral sense?

In order to illustrate what is at stake, let us consider an example offered by Jeffrie Murphy:

Unlike the psychotic, the psychopath seems to suffer from no obvious cognitive or volitional impairments. He knows what he is doing (he has no delusions); and, since he typically does just what he wants to do, it would be odd to call him compulsive or to claim that he acts on irresistible impulses.

If Murphy's assessment of psychopathy is correct, then many plausible metaphysical accounts of personhood must acknowledge that the psychopath is a person. Yet, at the same time, the psychopath fails to have any interest in, or concern for, the welfare of others. The psychopath has not developed a moral sense. Psychiatrist Henry Maudsley offered the following telling description in the Nineteenth century:

Psychopathy is a disorder of mind in which without illusion, delusion or hallucination, the symptoms are mainly exhibited in a perversion of those mental faculties which are usually called the active and moral powers.... The psychopath has no capacity of true moral feelings,... his conduct appears to be governed by immoral motives which are cherished and obeyed without any evident desire to resist them. The intelligence is acute enough, being not affected otherwise than being
tainted by the morbid feelings under the impulse of which the persons think and act.⁠* 

More recently, neuropsychiatrist Frank Elliot has confirmed Maudsley's description:

Psychopaths are egocentric and often exhibit total disregard for the welfare of others and a notable loss of affection for the family. They lie and steal, seemingly with total disregard for the consequences.⁠* 

The clinical profile of a psychopath clearly detracts from his value as a person. In most cases, psychopaths do not develop rewarding interpersonal relationships, nor do they appreciate moral virtue. (At the same time, however, they may develop considerable intellectual prowess and contribute positively to the progress of science or the arts.) Given this profile, psychopaths typically fall outside the domain of care and treatment given to, and expected from, persons. This leads Murphy to suggest that psychopaths are "morally dead." More specifically, Murphy argues:

If there are psychopaths as have been described above, they have no rights as persons..., we have no moral obligations to them, and thus our moral response to them is to be on a par with our moral response to animals.... We can act wrongly with respect to them, but they cannot be wronged. They can be injured, but they can be done no moral injury. This indicates to me that, from the moral point of view, it is very implausible to regard them as persons at all.⁠* 

Cases like psychopathy thus force us to draw a distinction between persons per se and moral persons. Persons per se are entities that "perceive, feel, remember,
imagine, desire, make projects, move themselves at will, speak, carry out projects, acquire a character as they age, are happy or miserable\textsuperscript{11}; moral persons, in turn, also have a sense of the other.

2. Moral Personhood and Special Treatment

The second point to note will help to elucidate what is involved in, and entailed by, the distinction between personhood and moral personhood. We often hear the claim that persons are owed, or deserve, special forms of treatment. Persons have rights and privileges that protect their interests. So, too, persons have responsibilities and duties, which, if ignored, justify certain forms of punishment. Though a thorough analysis of what constitutes the special treatment owed to persons would take us well beyond the scope of this work, it is incumbent upon us, given the distinction between persons and moral persons, to show that only moral persons deserve special treatment.\textsuperscript{14}

We have suggested that moral personhood is distinct from what might be called metaphysical personhood in that it requires an additional sense of other--an interest in, and concern for, the well-being of others. Psychopaths notoriously lack this additional characteristic, and thus fail to be moral persons. Much more, however, is entailed by this.

Moral persons are the sorts of beings who have rights and privileges because they have interests that deserve protection. That is, moral persons are owed special treatment because their cognitive, conative, and affective development is such that if their hopes, desires, and other interests are dashed, then they (and perhaps others
as well) suffer. Moreover, and perhaps, more importantly, moral persons have benevolent and/or sympathetic inclinations that entail a concern for the welfare of others. If, in turn, these inclinations are suppressed, uneasy feelings of guilt and, perhaps, shame arise. These characteristic marks of the moral entail the rights, privileges, fairness, respect and also the duties and responsibilities typically associated with the forms of treatment owed to, and expected of, moral persons.

Thus, though the psychopath may satisfy the criteria for metaphysical personhood (the psychopath is not a nonperson), he fails to have the concern for others that is typical of moral persons. Consequently, the psychopath is not valued to the same degree as persons with a moral sense, and forfeits the kind of treatment given to such persons. The psychopath is, as Jeffrie Murphy has noted, "morally dead."

B. Practical Considerations

We turn, at last, to the unsettling practical concerns our two-personed human hypothesis faces. If Moor and others are correct, treating each hemisphere-based person as a moral (and not just as a metaphysical) person leads to consequences so impracticable that it renders our hypothesis implausible. In response, we will argue that the concerns Moor and others cite are not as threatening as they may initially seem. Though it is plausible to regard each hemisphere-based person as a moral person, it does not follow that the practical complications are so severe that we must abandon our thesis. While we may, in unusual circumstances, be required to determine the interests and needs of each hemisphere-based person, in general, our
moral and legal practices will remain untouched.

In Chapter Two, we argued that the psychological functions and processes characteristic of each hemisphere satisfy a sufficient set of person-making criteria. The question now remains whether each hemisphere is also a moral person. In the preceding section, we suggested that the answer to this question depends on whether or not each hemisphere-based person has a moral sense. In other words, does each hemisphere-based person respect, and show an interest in, the well-being of others? Or, are hemisphere-based persons on a par with psychopaths? Are they metaphysical persons, but morally dead? Given that we have provided arguments against the existence of a metaperson, and favored a two-personed interpretation of the split brain data, if each hemisphere-based person fails to be a moral person, then, on our view, there are no moral persons. The counterintuitive nature of this conclusion forces us to look again at the nature of hemisphere-based persons. Are they moral beings?

1. Moral Personhood and Hemisphere-based Persons

We will address the above question by adopting the structure of the argument we provided for two metaphysical persons. That is, we will begin with findings regarding the nature of hemispherectomy patients. Are hemispherectomy patients moral persons? Next, we will turn to the hemisphere-based persons of a commissurotomy patient. Are such persons also moral persons? Finally, we will discuss whether normal humans are two moral persons.
Studies indicate that both left- and right-brain hemispherectomy patients engage in meaningful social interactions. Moreover, these patients continue to express concern for the welfare of others. These findings are, perhaps, not particularly surprising in cases involving the removal of the minor (usually right) hemisphere. We have already noted cases in which the removal of this hemisphere has no devastating effects on personality or intellectual abilities.14 These findings may, however, come as a surprise in surgeries involving the removal of the dominant (usually left) hemisphere. When this hemisphere is removed, the patient loses much of his speaking ability, and this has been taken to be significant by those who argue that speech is necessary for personhood.17 However, even if speech is lost, the right hemisphere does retain the linguistic abilities (comprehension and vocabulary) of a normal sixteen year old. In studies geared toward further understanding the right hemisphere-based person, it quickly becomes evident that a sense of other-directedness is also present. For instance, patient E. C. often expresses concern for the well-being of his granddaughter, and according to E. C.'s wife, continues to ensure her happiness.18 So too, another patient continues to take special interest in the activities of his family and friends. He has, for example, indicated that he wishes "to make money" so that he can make his "favorite people" happy. Moreover, it is claimed that this patient becomes quite frustrated when his goals are not fulfilled.19 Thus, it is plausible to maintain that surgeries involving hemispherectomies do not significantly threaten the persistence of a concern for the welfare of others. Moreover, it is plausible to maintain that the remaining hemisphere-based person is a person in a morally relevant sense. Given the cognitive and conative abilities
of the remaining hemisphere, as well as its interest in the welfare of others, it seems clear that the remaining hemisphere is an entity that should be treated in certain ways and not in others, and should be expected to act in certain ways and not in others.

Can it also be concluded that the hemisphere-based persons of a commissurotomy patient are moral persons? Again, the most plausible answer seems to be an affirmative one. In studies involving lateralization, each hemisphere-based person demonstrates a considerable amount of other-directedness in addition to intentionality and self-consciousness. It may be objected, however, that lateralizations involving the anesthetization of one or the other hemisphere are not significantly different from hemispherectomy cases. In both cases, one has a singly functioning hemisphere. The real question concerns whether simultaneously functioning hemispheres are also moral persons. Is it possible that there are two distinct, simultaneously functioning moral persons within a single human body, or is one of the hemisphere-based persons only metaphysically a person?

The answer to the above question depends on whether both hemisphere-based persons of a split brain patient can simultaneously take an interest in the welfare of others. Lateralization techniques free of anesthetization (involving, for example, dichotic listening or the Z-lens\(^a\)) indicate that each hemisphere independently processes input in a manner that is indicative of moral personhood. The responses offered by the individual hemispheres during lateralization to questions of moral significance reveal an interest in, and concern for, others. Moreover, since the hemispheres share the same internal and external environment (they share the
same cranial cavity and receive similar environmental stimuli), more often than not, the responses offered by the individually functioning hemispheres are the same.\textsuperscript{21} In cases where such agreement is lacking, the dominant hemisphere may confabulate the input from the other hemisphere, but, as we indicated earlier, the presence of this phenomenon is not particularly threatening to the other hemisphere's personhood.\textsuperscript{22} It does not follow from the confabulation phenomena that the nondominant hemisphere has not made a judgment or ceased to function as a person.\textsuperscript{23}

At last, we turn to the implications for normal humans. Are noncommissurotomized human adults two moral persons? In Chapter Two, we argued that the major difference between commissurotomized and noncommissurotomized humans involved the former's lack of a corpus callosum. With respect to relevant cognitive (neuro-psychological) functions, the commissurotomized humans were not markedly different from noncommissurotomized humans. Consequently, we concluded that both consist of two metaphysical persons. If this conclusion is correct, then the same would seem to hold for the question regarding moral personhood. The moral sense involving an interest in, and concern for, others is present in both hemispherectomy and commissurotomy patients. Neither of these patients is similar to, for example, the psychopath who lacks all sense of other-directedness. Thus, if commissurotomized humans are not relevantly different from normal humans, and if a sense of other-directedness is what distinguishes moral persons from purely metaphysical persons, then normal humans must be two-personed in the morally relevant sense.

Our studies have led us to conclude that normal adult humans are two-personed from both the metaphysical and moral points of view. Each hemisphere
of a normal human not only satisfies a reasonable set of person-making criteria, but most also have a sense of other-directedness. Consequently, the troubling normative problems raised continue to pose a threat to our thesis.

It is possible, however, that we have moved too quickly. We have maintained that the mark of moral personhood is a sense of other-directedness. Perhaps the distinguishing feature of moral personhood involves something else—perhaps, some function performed by the lower brain. The hypothalamus, for example, is thought to be responsible for many of the "gut level reactions" we have to certain situations. Perhaps the emotions associated with these sorts of reactions are what is crucial to moral personhood. If so, the seemingly problematic implications of our proposal that turn on moral personhood would not arise. In other words, if the mark of the moral, whatever it may be, is not possessed by each hemisphere, but is present in moral persons, then the challenges Moor and others pose would lose much of their force. Let us consider these possibilities more closely.

The emotions that are typically taken to be morally relevant include regret, remorse, guilt, sorrow, repentance, and so on. Each of these emotions, however, involves a distinctly cognitive component—for example, the feeling that one has engaged in some wrongdoing; that one is not innocent, but blameworthy. There are good reasons to believe that the hypothalamus cannot produce these sorts of emotions. Though the hypothalamus can produce what has come to be known as "sham rage," the cerebral cortex (and thalamus) seem to be responsible for all morally relevant emotional responses. Thus, if the mark of the moral is believed to involve some emotional element, it is reasonable to grant that the hemispheres,
once more, satisfy it.

While it is possible that other candidates for the mark of moral personhood remain, it is unlikely, given current neurological data, that they will be such that they are not satisfied by normal hemispheric function. The conative and cognitive complexity of moral personhood provides us with good reason to believe that whatever the mark of moral personhood may be, each hemisphere can satisfy it, and thus, be a morally relevant being.⁸

Let us close our discussion of hemisphere-based (moral) personhood with the following, thought-provoking situation. A woman has just given birth to twins—Siamese twins. The twins have two heads, but share the same body. Years later, an electroencephalogram reveals that the twins actually share their lower brain, but have independent cerebral cortices. (Imagine that the top part of the neck houses the lower brain, and that the respective cranial cavities house the upper brain.) Despite their common body and lower brain, the twins do not always agree about future plans and activities. Though agreements do outnumber disagreements, there are times when one prefers to relax by reading a novel, and the other prefers to relax by taking a swim. It seems reasonable to argue that, insofar as it is possible, each twin should be treated an individual person. If one twin favors literature, and the other, sports, compromises should be encouraged. By analogy, what should we say of the split brain patient (and, if our arguments have been correct, the normal human)? If split brain patients (and normal humans) consist of two hemisphere-based persons sharing the same body, then it would seem that they, too, should be treated as independent individuals. An appeal to the location of the hemispheres
would be irrelevant, if not, *ad hoc.*" In sum, if our arguments have been plausible, then the treatment of commissurotomized and noncommissurotomized humans should be on a par with the treatment owed to our hypothetical twins.

2. **The Resolution of the Normative Challenge**

The problems have been posed, and the stage has been set. We must now turn to the resolution of the practical problems associated with our proposal. Let us begin by noting that although moral personhood is important in both moral and legal contexts (from the standpoint of both law and morality, persons are taken to be entities with certain rights and responsibilities), we will limit our discussion to moral contexts. We do this for two reasons.

Throughout this project we have argued for a distinction between humans and persons—personhood is determined by certain functional states and processes, not by membership in the species *homo sapiens.* In turn, we may forestall prolonged discussion of the legal aspects of personhood by noting that many legal claims actually apply to humans and not to persons.

In legal contexts, it is frequently the case that ‘person’ is used synonymously with ‘human’. This practice has arisen because of the common underlying assumption that each normal human is exactly one person. Thus, some of the counterintuitive examples we considered at the outset can be resolved simply by taking notice of this synonymity. "Persons tax exempt," for example, actually refers to humans who are tax exempt. Similarly, when Social Security law specifies so much child support per person, it is to be interpreted as referring to humans.
There is a second reason for curtailing our discussion in the manner prescribed. In those legal contexts where personhood is at issue, for example, in cases requiring the determination of an offender's competency, the real issue has a moral underpinning. In such cases, legal concerns directly reflect moral concerns—for example, determining an offender's rights and responsibilities. In cases such as these, a focus on moral personhood will help to clarify the legal issues at stake.

Thus the troubling cases which remain raise fundamental moral questions regarding, for example, the proper treatment owed to hemisphere-based persons. Consider, again, the case in which a defense attorney argues: "the major hemisphere deserves a punishment ten times, nay a hundred times, worse than the minor hemisphere...." Or, consider the morally responsible neurosurgeon who overrides the requests of the left hemisphere-based person in order to save the life of the right hemisphere-based person. What constitutes fair treatment of hemisphere-based persons? How do we respect the rights, and determine the responsibilities, of each hemisphere-based person? Queries such as these pose the most serious threat to our two-personed hypothesis. How might we handle the complications these questions entail?

One might be tempted to adopt the position of Social Constructionism, despite the problems raised earlier with such an account. Perhaps the problems Social Constructionists face are more palatable than those faced by an advocate of the two-personed view.

If we were to adopt Social Constructionism, we might well be led to the conclusion that personhood is just a "useful fiction." As such, humans who are
capable of sufficient social interaction are, most practically, considered single persons—despite possible neurological evidence to the contrary in cases of commissurotomized and normal adult humans. If this is the social practice we adopt, then the social, legal, and moral difficulties appear to dissolve. We can continue to treat humans as single-personed, and thus avoid the worries we initially faced.

On the other hand, we may recognize that the behavior of commissurotomy patients is unusual, and hard to reconcile with the thesis that humans are single-personed. Thus, we may choose to follow Derek Parfit’s suggestion that in commissurotomy cases:

> It may be claimed that...the result is not a single person with a divided mind or two minds. The result is two different people, sharing control of most of one body.... [An argument in favor of one or the other description] does not raise a real question. These are two ways of describing the same outcome.*1

In the end, the Social Constructionist maintains that ‘personhood’ is not unlike ‘mayor’ or ‘esquire’. Personhood is a title that is conferred upon an individual given the role that the individual plays in his or her society. Given that personhood does not depend upon the nature of the entity under consideration, but upon the society in which the entity finds itself, there is no fundamental difference in describing the split brain patient as a single person or as two different people. Thus, for legal and moral purposes, the split brain patient, considered as a single person, may be most useful. For other purposes, a two-personed description may be best. In the end, it
does not really matter, for "these are two ways of describing the same outcome."

Now, let us apply the Social Constructionist's stance on personhood to a slightly different case. Recall the case of the Siamese twins. According to the tenets of Social Constructionism, we can describe this case in two (if not more) equally plausible ways. Since personhood is intended to be a useful construct, we may choose to describe the twins as a single person—perhaps, as a single person with a divided mind. However, it may also be feasible to describe them as two different persons. Ultimately, there is no truth to the matter. Decisions about personhood are made on the basis of considerations involving simplicity, ease of application, and the role that an individual plays in society.

Contrary to the above approach, it does matter how one describes the Siamese twins. To maintain that there is no difference between viewing them as a single person or as two different persons, or that we may do whichever is more convenient, is contrary to reflective consideration. If each twin has a unique set of beliefs, desires, hopes, and fears, then what morally relevant reason can be given for denying each of them independent moral status? If one twin were to plan and commit a heinous crime, would it continue to make no difference whether we considered the twins as one person or two? If, by analogy, the twins are relevantly similar to split brain patients (and, if our arguments are correct, normal humans), then it should make a difference as well whether split brain patients (and normal humans) are described as one or two persons.

In sum, though the Social Constructionist's position seemed to offer an initially tenable solution to our normative quandary, it quickly becomes evident (especially
in light of the normative implications) that personhood cannot be viewed as merely a convenient construct.

If we look more closely at the Social Constructionist position, we see that the Social Constructionist's interest in personhood must itself be motivated by more than mere convenience. If, aside from concerns about simplicity and ease of application, personhood did not matter, what would explain the Social Constructionist's concern for persons? It is plausible to submit that what underlies a Social Constructionist's interests and concerns is a recognition of the psychological complexity typically associated with personhood. Without some account of the reasons that ground the Social Constructionist's concern for persons, Social Constructionism loses much of its appeal. In short, if personhood is nothing more than a useful "honorific" that is devoid of any real metaphysical and normative force, then wherein does the Social Constructionist's concern with, for example, the fair treatment of persons lie? A thorough investigation of this question would take us far beyond the scope of this project. For the present, let us note that the solution the Social Constructionist offers to our normative quandary is less than satisfying.

In the end, the resolution to the moral concerns our thesis faces lies in a reconsideration of the nature of a human. While our studies may have revealed that we each are two-personed, in most cases, we behave as though we were only one.

The challenges raised by Moor and others gain their force by emphasizing the disparate nature of the hemisphere-based persons. Each hemisphere-based person is viewed not as an ally of the other, but as a foe. Rather than adopt the
perspective that the two hemisphere-based persons are uncooperative, we should emphasize that they share the same cranial cavity, body, external environment and past, and so, are far more likely to be cooperative than dissonant. (The same reasoning applies to our Siamese twins. Though they lack a common cranial cavity, their shared body, environment, and past ensure that much of their behavior will be compatible and cooperative.) Thus, in the vast majority of cases, the hemispheres issue the same (but independently processed) or complementary output.

There are as well sound evolutionary reasons for the distinct, but cooperative, nature of hemisphere-based persons. The specialized nature of each hemisphere enables the human to function in ways that far surpass the behaviors of other mammals. Given that the right hemisphere is largely responsible for tasks involving various kinds of spatial relations, and the left is largely responsible for linguistic development, each hemisphere has been able to develop its respective abilities to a much greater degree than animals with a more ipsilateral nature. According to Richard Restak, we should:

think of [the localization of different functions on one or the other side of the brain] as an inborn tendency to localize highly specific brain functions in one hemisphere. This is based on the well-known principle that a job is likely to be done better by one tightly knit group of skilled workers than by several fragmented groups working independently of each other. Thus, the specialization of hemispheres, in conjunction with their cooperative nature, enable the human species to occupy a prestigious position on the evolutionary scale.
Rather than view the minor hemisphere as a "poor, innocent victim" or as a "cerebral helot," we propose that each hemisphere be considered as an independently functioning person involved in a cooperative partnership with the other. In this respect, the hemispheres are not unlike a well-coordinated team of pilots. Just as two members of the Air Force's Thunderbirds flight team are capable of executing maneuvers so well coordinated that, from an external perspective, they appear as one, the hemispheres are able to cooperate and coordinate their respective abilities in such a manner that, from the external viewpoint, the human behaves as though he were a single person.

Hence, in the imaginary court case envisioned by Rigterink, there is good reason to believe that the hemisphere-based persons were equal accomplices in deeds. Likewise, in most other circumstances, hemisphere-based persons will respond with largely the same or compatible outputs. With respect to our current social, legal, and moral institutions, little change will be required in order to deal with the hypothesis that we are two-personed. In most cases, the behavior of humans will be the result of cooperation between the two hemisphere-based persons.

Before we close, a brief word is necessary regarding cases of interhemispheric conflict. Most of these cases are the result of experimental intervention. In tests involving dichotic listening, tachistoscopic recognition, intracarotid injections, or other methods for producing lateralization, the distinct nature of each hemisphere is magnified due to an interruption in the communication between hemispheres, or, in the case of split brain patients, a strict lateralization of input. In nonexperimental
circumstances, however, interhemispheric conflict is rare. In unusual cases where such conflict may arise, or be suspected, our two-personed hypothesis may require that special considerations be introduced.

The following scenario may help to elicit the "special considerations" our thesis invites: Mary lives in the year 2323. Civil Rights Act XXVI has just been introduced to guarantee the rights of the multitude of diverse persons that now inhabit the earth. After much unrest, androids, cyborgs, and several alien species have finally been recognized as persons, and given the battery of rights and responsibilities associated with personhood. After jubilant celebration, Mary returns home to contemplate the situation of her own species. Mary is human, and like all members of her species with normally functioning brains, she is a person. Despite rumors about the two-personed nature of humans, Mary, like most others, has always found these rumors to be wildly implausible--that is, until about a week ago.

Several years earlier, Mary and her best friend Ann had been flying home from a conference when suddenly a dactyl plunged into the turbine of their floater (technically, a FTLR--faster than light runabout). The floater quickly descended. Fortunately, the then newly installed parachute-like life-support systems offered Mary and Ann hope of survival. Mary lived to recount the devastating accident, Ann did not.

After her recovery, Mary learned that Ann had been sent to Metropolis General--a well-respected research hospital with a highly skilled staff. Ann had suffered from a severed corpus callosum and severe lower brain damage. She was pronounced dead several hours after her arrival.
Mary had often wondered why such a fine research hospital could not have saved Ann. A severed corpus callosum was not that unusual, and given that mass produced LBM's (lower brain monitors) could replace most lower brain functions, the likelihood of Ann's survival did not seem out of the question. The pain of losing her best friend, however, prevented Mary from pursuing the details that led to her friend's death.

Most of Mary's pain and anguish had dissipated when, a week ago, she received a telecomm from a person claiming to be Ann. "Ann" claimed to have an incredible story to tell, and begged (a very skeptical) Mary to meet with her. "Only a best friend would understand!" she pleaded.

The next day, Mary met a very different looking "Ann" at a local cafe. "Ann's" remarkable story began.

"Ann" reminded Mary of the last words spoken before the seemingly fatal crash: "Is this the last floater to Erewhon?" Mary remembered them also. How could an imposter know these words? Only Mary and Ann had been in the floater that dreadful night. The next phase of "Ann's" story was truly shocking. According to "Ann," she had briefly regained consciousness at Metropolis just long enough to hear the chief neurosurgeon claim, "Let's give it a try--if it fails no one will ever know." The surgeon would have been correct had there not been a second accident. At this point, "Ann's" details became sketchy, but with a little coaching, she could piece them together.

The neurosurgeons at Metropolis had received a grant to study the rumors regarding two-personed humans. Ann was their perfect specimen--a golden
opportunity. Given LBM's, they could have saved Ann, Mary had been right all along. But, rather than save her, the surgeons took advantage of the accidentally severed corpus callosum. They carefully detached each hemisphere from the damaged lower brain. They transferred each hemisphere to an android body stocked with LBM's fitted for human use. After a brief two week adjustment, each hemisphere of Ann's brain was functioning normally in its new android body. Given minimal training, each hemisphere-based person became a functioning member of society. The person known as Sara became a waitress at an old-fashioned fast food chain. (Mary had actually interacted with Sara on several different occasions.) Lee, the other hemisphere-based person, was a clerk for the telecomm company.

Sara and Lee were fully functioning persons. For more than five years, they worked their respective jobs, formed friendships, and visited their families (which, by the way, consisted of volunteer staff from Metropolis). Once a month, Lee and Sara would even "run into each other" at the neurosurgeon's office. The situation involving Sara and Lee could have continued for the rest of their natural lives had it not been the case that chance intervened.

About two weeks ago, Sara and several other workers at Smitties—the fast food restaurant—suffered from a form of botulism. Apparently, some of the Moustapha sauce (a mayonnaise-like condiment) had not been sterilized after intergalactic shipment from the manufacturing planet. Sara and her co-workers were given the afternoon off. As she made her way home, Sara, feeling somewhat queasy, attempted to land her floater on a nearby emergency pad. As she was about to land, a gust of wind entered the wingfield and caused the floater to surge
forward a few meters—just enough to injure a passerby. The passerby was Lee.

They were rushed to Metropolis. Lee's injuries were of such a nature that if no suitable "companion" hemisphere was found, she would surely die. Apparently Lee's hemisphere had sustained a rare lesion that would heal only in the presence of an antigen known as XKG1000. Though the LBM's are capable of accelerating the production of XKG1000, they could do so only in the presence of both hemispheres. (This is a fault not of the LBM's, but of the host body they had given to Lee.) Fortunately, the presiding surgeon had been an intern when the surgery had been performed on Ann five years ago. He advised his staff of the most obvious solution—the reconnection of Ann's hemispheres. The surgery would be simple, and given that Sara was still unconscious, if it were performed without further delay, Sara would regain what she would take to be her consciousness. The surgery was promptly performed, and Sara did indeed believe that nothing out of the ordinary had happened...she was still Sara.

Meanwhile, the surgeons had agreed that the experimentation had gone far enough, the objectives of the grant had been satisfied. Prior to her release, "Ann" was informed of all that had happened. At first she disbelieved the account the surgeons offered, but as they explained to her that interhemispheric differences are, if not resolved naturally, then blocked, she slowly began to accept her situation. Though she really did feel that she was one person—just Sara—the likelihood that she was actually two increased. Just before she left the hospital, the surgeons shared with her a tri-D hologram they had made during a recent lateralization session. The surgeons had anesthetized her dominant hemisphere (the hemisphere-
based person known as Sara) and probed the interests and desires of the right hemisphere. Sure enough, the right hemisphere-based person did not sound like Sara at all; rather, it was the person Sara used to meet in the waiting room at the neurosurgeon’s office.

"And so you see, Mary, I am curious about my rights. That is, I am worried about denying the rights of Lee, or is it me? Should I routinely undergo lateralization in order to give Lee--me?--a little autonomy?"

The above example is helpful in illustrating the types of special concerns that may arise if our thesis is plausible. Beings that have heretofore been considered to be without needs and rights may deserve reconsideration. Hemisphere-based persons such as Sara and Lee (as well as certain alien life forms and sophisticated mechanical or bio-mechanical devices) may, in virtue of their psychologically complex nature, deserve forms of treatment that in the past have been limited to the domain of humans. More specifically, hemisphere-based persons may, in rare instances involving interhemispheric conflict, have disparate needs that should be taken into consideration. Given, for example, the complex form of life that both Sara and Lee had prior to their surgical "reunification," and the fact that each will continue to function independently of, though in cooperation with, the other, and maintain separate memory banks, each hemisphere-based person deserves the kind of treatment owed to any other given person. Though this may entail numerous practical difficulties (periodic lateralization, invasive anesthesia, and so forth), these difficulties do not force us to reject the view that each hemisphere-based person is a morally relevant entity. Moreover, given the rarity of cases involving
interhemispheric conflict, our general moral, legal, and social policies and institutions do not face the radical revisions forecast by Moor, Rigterink and others.

Conclusion

In this chapter, we have wrestled with the seemingly devastating normative problems our two-personed hypothesis faces. While the types of concerns we encountered are legitimate, if one takes personhood seriously, it does not follow that their presence necessitates the rejection of our hypothesis. Rather, it needs to be recognized that in most instances a two-personed human behaves as, and can be treated as, a single person. Given that the hemisphere-based persons have a largely congenial relationship, praise and blame can justifiably be meted out to their shared body. It is only in unusual circumstances that the kinds of normative challenges raised by Moor, Rigterink and others apply, and our social, legal, and moral policies and institutions need not be based on these exceptions, though they may need to be sensitized to them.
CONCLUSION

The totality of our mental life, as complex as it may be, always forms a real unity. This is the well-known fact of the unity of consciousness which is generally regarded as one of the most important tenets of psychology.... The fact of the unity of consciousness, as we have explained it, must then be considered to be indubitably certain.

Franz Brentano: *Psychology from an Empirical Standpoint*, 1874.

Our investigation into the nature of personhood has led us to draw the conclusion that most normal human adults are two-personed. We have argued that this initially counterintuitive conclusion does not bring with it the problematic consequences that some have been quick to forecast. Despite the "new perspective" on human nature that one might adopt as a result of this research, many of our well-entrenched social, legal, and moral policies and institutions will remain unchanged.

There are, however, several more subtle kinds of changes that may occur as a result of the proposal that humans are two-personed. For example, our awareness of the possibility that we are two-personed may help us to understand better our own nature as well as the nature of others. This, in turn, may enable us to enrich the quality of our numerous interpersonal relationships.

The proposal that humans are two-personed may also hold important ramifications for our educational system. If split brain research has uncovered two
distinct, hemisphere-based ways of knowing, it would seem fruitful to develop the particular skills of each hemisphere. In the past, Western educators have focused primarily on verbal (written and spoken) forms of education; thereby enhancing the skills of only one hemisphere. If, in turn, the largely linguistic approach were supplemented with nonverbal, visual and more wholistic heuristic techniques, the quality of education may markedly improve.

As lateralization studies continue to be refined, and new techniques for studying the two hemisphere-based persons are developed, further changes in our conception of human nature may be required. These, in turn, may hold additional insights for our nature and the nature of society. For the present, however, let us end by noting a few concerns that require additional attention.

One issue that invites further study is the interrelationship that exists between the two hemisphere-based persons. More specifically, studies geared toward an elucidation of the cooperative, complementary nature of each hemisphere-based person may help to soothe lingering doubts about the duality of human personhood. Such studies may help to explain the seemingly unitary or integrated behavior humans usually exhibit. In this regard, studies may reveal that any given human is not unlike two members of a trained air force exhibition squadron who have had much practice at mutual co-ordination. On one level, each pilot is an independently functioning entity; yet, on another level, each is part of a well-integrated whole.

Further investigations into the function of the lobes within each hemisphere may also be beneficial. Researchers at Cornell University, for example, have recently speculated that there may be numerous lobe-based intentional systems
within each hemisphere, but only hemisphere-based consciousness. Should this speculation prove to be correct, further insights could be gained regarding the nature of the functional cerebral space manifested by each hemisphere.

In sum, the conclusion that each normal human is two-personed forces us to look again at the nature of the entities that we, perhaps, more than any other took for granted—our selves.
ENDNOTES

CHAPTER ONE


8. It is worth noting that the assumption that the identification and reidentification of persons will be "reliable and unproblematic" if persons are defined in terms of species is common to both the Species Theory, as well as certain Impure Psychological Theories. We will develop this point later in our discussion of the Impure Psychological Theories proposed by John Perry, Mark Johnston, and David Wiggins.

9. If the original person is its functional equivalent, then the mad scientist has merely repaired (restored?) the original body. If so, it follows that one and the same person can consist in two physically distinct sets of parts. At the same time, however, it seems plausible to argue that the original body was not merely repaired or restored, but actually replaced. If this is correct, then the original has ceased to exist. This possibility, in turn, raises yet a further difficulty: at what point did the original body cease to exist?
Klinefelter's syndrome is caused by the presence of an extra X chromosome in a male karyotype. Turner's syndrome is caused by monosomy for the X chromosome in the absence of a Y chromosome. Finally, Down's syndrome is caused by the presence of an extra copy of the genetic material contained on chromosome 21.


This query becomes especially potent if we imagine that our mad scientist performs these operations _solo numero_, secretly, and at night while the patient sleeps. In such a scenario, only the mad scientist will know that the operation has been performed.

Devine later modifies his initial position in just this way. In the end, he concludes, "I shall distinguish two classes of creatures...persons, that is, creatures having the capacity or potentiality of doing distinctively human things; and human beings, that is members of the human species." ("The Species Principle," p. 140) By allowing nonhuman creatures who do "distinctively human things" to be persons, Devine avoids certain charges of species chauvinism. However, as we will soon see, charges of speciesism remain despite this sort of modification.


Mead, _Mind, Self and Society_, p. 178.


Alan Hausman has brought it to my attention that Social Constructionist accounts of personhood may be blatantly circular. According to Hausman, Social Constructionists, by definition, claim that 'person' is an honorific ascribed to an entity on the basis of social agreement. Hausman notes that social agreement, in turn, must be the agreement of (a society of) persons. While the plausibility of this criticism might be granted, it is nonetheless necessary to note that Social Constructionism is not logically committed to this consequence. It is conceivable that the members of a society ascribe personhood to entities distinct from, and exclusive of, themselves. For instance, it is possible, though unlikely, that a society of X-ians determines that all nonX-ians are persons. More importantly, however, Social Constructionists may maintain that 'person', like 'genius', is bestowed upon, but not universally possessed by, the members of a society. (See Chapter Four, pp. 143-146.)

It is important to note that an advocate of a purely psychological theory of personhood may also conclude that only humans or sufficiently complex biological entities are persons. This would follow if, _as a matter of fact_, only humans or sufficiently complex biological entities possessed the relevant psychological
characteristics. It is crucial to notice, however, that though both theories may draw the same conclusion (for example, only humans are persons) they do so by very different means. The Impure Psychological Theory maintains that an appropriate subset of psychological characteristics and membership in the species, *homo sapiens*, are necessary for personhood. Pure Psychological Theories, in contrast, argue that any appropriate subset of psychological characteristics is sufficient for personhood. Consequently, if, *as a matter of fact*, only humans possess the appropriate subset of psychological characteristics, then only humans are persons.


"Perry, "The Importance," p. 69.

"Perry, "The Importance," p. 75.

"Perry, "The Importance," p. 75.

"Perry, "The Importance," p. 75.


"Perry, "The Importance," p. 70.


"In abnormal conditions, the human theory, and, as we will soon see, the person theory (as we know it) breaks down. Perry, "The Importance," p. 73.


"Perry, "The Importance," p. 73.

"Perry, "The Importance," p. 73.

"At this point, it may be objected that all that Perry needs in order to satisfy his *P*-relation is something that performs the functions of the human brain. It is unclear, however, whether Perry would be satisfied with this. He concedes that there is a certain amount of vagueness associated with his description of the *P*-relation. Moreover, he acknowledges that there may be "several equally acceptable candidates" for the relation. Yet, he argues that if nonstandard "candidates" (including, for example, a positronic brain that is functionally equivalent to the human brain) were to become common, linguistic decisions (regarding the nature of personhood) would have to be made. In cases such as these, it is unclear to Perry whether we would continue to have the conception of personhood we currently entertain. (See, for example, Perry, "The Importance," p. 73.)
The difference between Perry's proposals and those of Locke are further revealed by Locke's proposal that "rational parrots" may be more akin to persons than some humans. Locke's amusing account of this possibility is found in Locke Of Identity and Diversity, pp. 37-39.


It may be argued that if the P-relation cannot be substituted for the H-relation, then it simply follows that the infant is not a person. Though plausible, this does not seem to be what Perry has in mind. More specifically, Perry maintains that in normal cases, human stages are H-related iff they are P-related. Clearly in cases of normal human infants, the H-relation obtains. The crucial question, thus, involves whether the P-relation obtains as well. According to Perry, it seems that it must; but, how is this possible if the infant is not yet a project-maker? That it is not plausible to argue that if the substitution fails, then the infant is a human (H-related), but not a person (P-related), we need only turn to Perry's claim that "when we have H-related stages that are not P-related, the human theory breaks down." (Perry, "The Importance," p. 71) The conclusion that the human theory "breaks down" in such cases is highly questionable. If the human theory is "a theory about the effects earlier members of an H-related sequence have on later members," then the theory applies to all humans, including the infant. Thus, unless the human theory applies selectively to humans (for instance to human persons, but not to human nonpersons), then questions about the plausibility of Perry's claims regarding substitution will continue to arise.


Johnston, "Human Beings," p. 79.


See Johnston, "Human Beings," p.79.

See pages 11-16.


Wiggins, Sameness and Substance, p. 188.


"Wiggins, *Sameness and Substance*, p. 188.

See endnote 41.

"Wiggins, for example, claims: "[On] my view of person...there is much to be said for counting a fetus as a person and for tracing persons back in the direction of the zygote." (Wiggins, *Sameness and Substance*, p. 220, fn. 2.)

This distinction was brought to my attention by Donald C. Hubin.

It should be noted that not all forms of indirect speciesism hold that the abilities of the typical members are necessary and sufficient for personhood. If one takes membership in a species whose species typical members have the required properties to be sufficient, but not necessary, one is still holding an indirectly speciesistic view.

For example, the following common, but fallacious, argument is based on indirectly speciesistic reasoning: This job requires upper-body strength. The typical man has more upper-body strength than the typical woman. So, a man must do this job.


Parfit, *Reasons*, p. 211.

Parfit, *Reasons*, p. 211.


Parfit, *Reasons*, p. 211.


Parfit, *Reasons*, p. 211.


Buddha quoted by Parfit, "Divided Minds," p. 21. See also Appendix J in Parfit's *Reasons*.

Parfit tends to appeal to the Impersonalist view of 'personhood' in discussions involving certain puzzle cases. For example, in discussions involving imaginary cases of fission and fusion, or in actual cases involving the deconnection syndrome in split brain patients, Parfit claims that there are numerous ways of describing the same outcome, or that it is solely a matter of personal decision as to how many persons are involved. (See, for instance, *Reasons*, page 248, and "Personal Identity," in *Personal Identity*, ed. Perry, (Berkeley: University of California Press, 1975), pp. 218-219.)

See, for example, Parfit's discussion, "What Explains the Unity of Consciousness," in *Reasons*, pps. 248-252.


"Parfit, Reasons, p. 472.

"With respect to the view that persons are souls or spirits, Hume argues:

We often feign some new and unintelligible principle, that connects the objects together, and prevents their interruption or variation. Thus, we feign the continued existence of the perceptions of our senses, to remove the interruption; and run into the notion of a soul, and self, and substance, to disguise the variation. But, we may farther observe, that where we do not give rise to such a fiction, our propension to confound identity with relation is so great, that we are apt to imagine something unknown and mysterious....(Hume, "Our Idea of Identity," in Personal Identity, ed. Perry, p. 164.)


"Although it is conceivable that Parfit could argue that Hume's analogy goes against Hume as well, he does not do this.

"Parfit, Reasons, Chapters 10 and 11.

"See Impersonalist Claims, Chapter One, pp. 37-38.

"Hume, Treatise, p. 260.

"See, for example, his discussion of personal identity and morality in Reasons, Chapter 15.


CHAPTER TWO


'Though person-making characteristics are often defined in terms of these abilities, it should be noted that a person must not only have the ability to form hopes, beliefs, desires..., a person must also have these states.

Thus, we will argue that humans are persons if they can be characterized as intentional systems with self-consciousness. Let the reader be reminded, however, that it is in virtue of the functions performed by the brain, and not in virtue of the physical constitution of the brain itself, that most humans are also persons.

It must be noted here that "that which is fundamental to personhood" is motivated in large part by normative considerations. From a moral point of view, entities that are capable of suffering physically and/or mentally are "owed" special treatment. It is for this reason that most humans, in contrast to plants or buildings, are given certain kinds of rights. The capacity to suffer in relevant ways, however, may not be unique to humans. As long as it is nomologically possible for there to be nonhuman creatures with complex, cognitive and affective states, it seems plausible to argue that persons are not necessarily humans; rather, persons are strictly psycho-functionally defined entities. We will explore the normative motivations that underlie our thesis, as well as the implications of these motivations, in Chapter Four.

It must, of course, be emphasized that the "murky" role of intentionality and consciousness has been especially prevalent in the personhood and personal identity literature. In other areas, such as phenomenology, these concepts have been more clearly defined.


Strictly speaking, the ability to have any one of these would be sufficient to establish that a being has intentional states. However, we wish to argue that entities that are persons have more than just a single intentional state.

Peter Carruthers, for example, has argued that the Cruise missile is an intentional system. He claims:

[The Cruise missile] is programmed to take photographs of the terrain beneath it at various points along its route, to scan those photographs for landmarks in order to check its position, and adjust its direction accordingly. Now suppose that as a result of an error, it is programmed to find a distinctively-shaped lake at a particular point on its route, but that no such lake exists. As a result, the missile circles round and around the area, until finally it runs out of fuel and crashes. Here we might almost say 'The missile was searching for a lake which did not exist.' [See Carruthers, Introducing Persons (Albany: SUNY Press, 1986), p. 147.]

In order to allay future charges of inconsistency, let it be noted that our current discussion of humans, as intentional systems, will later be modified in order to reflect the (forthcoming) argument that normal humans should actually be viewed
as two hemisphere-based intentional systems. On this view, it will be argued that each hemisphere-based intentional system is capable of realizing that it is a locus of agency.

"For a review of various alternative accounts of personhood, see Chapter One.

For instance, Gordon Gallup has reported that intentionality and self-consciousness are present in chimpanzees. He claims:

a number of wild-born, pre-adolescent chimpanzees were separately put into rooms empty but for mirrors. Initially a chimpanzee responded to his mirror image as though it were a stranger, just as infant humans initially do. Within two or three days, however, the chimpanzees began to use the mirror for self-directed behavior, such as grooming hard-to-see spots, picking the teeth, and making faces. Such behavior renders plausible the hypothesis that the chimpanzee recognizes himself in the mirror. [Gordon Gallup, "Self-Recognition in Primates: A comparative approach to the bidirectional properties of consciousness," American Psychologist, (1977), pp. 329-338.]

It is further reported that Gallup tested his hypothesis in an experiment in which:

He put a dab of red paint (odorless and nonirritating) over one eyebrow of the chimpanzees (after having anaesthetized the animals), and after recovery they were permitted, one by one, to view themselves in the mirror. In front of the mirror the chimpanzees fingered the spot gingerly and frequently (these 'mark-directed' actions were counted and compared to the count of touches made elsewhere), viewed themselves studiously, and in a number of cases the chimpanzees examined their fingers after having rubbed the strange spot. Chimpanzees innocent of mirrors were similarly dabbed under anaesthetic and showed none of the self-examining behavior of the experimental animals. [Patricia Churchland, "Consciousness: The Transmutation of a Concept," Pacific Philosophical Quarterly, vol. 64 (1983), p. 86.

"For a more complete discussion of the normative side of our proposals, see Chapter Four.

"Where "metaphysical honesty" refers to nothing more than a nonbiased, nonspeciesistic attitude to the criteria taken to be constitutive of personhood.


The suggestion that a Cartesian ego or a soul may be the continuant person has been defended recently by Richard Swinburne in Sydney Shoemaker and Richard Swinburne, Personal Identity (Oxford: Basil Blackwell, 1984).

See Chapter One, pp. 9-11.

See Chapter One, pp. 10-11.

We thus allow for the possibility that a full-fledged person may exist as a person-at-a-time, without being a continuant person.

See Chapter Three, pp. 104ff. See also Chapter Three, footnote 1.

There are actually three forms of commissural surgery. A complete commissurotomy divides the entire corpus callosum, as well as the hippocampal commissure, one fornix, the anterior commissure, and the massa intermedia of the thalamus. A frontal commissurotomy divides the anterior half of the corpus callosum, one fornix and the anterior commissure. A central commissurotomy, in turn, divides the corpus callosum and the hippocampal commissure.

The left visual half is what appears to the left of the visual center. This, in turn, strikes the right half of the retina in both eyes and is relayed via the optic chiasm to the visual cortex in the right hemisphere.

A further example involving similar phenomena is provided by Robert Ornstein. He describes a case in which the word 'heart' was flashed before a patient. The 'he' appeared to the left of the eye's fixation point, and the 'art', to the right. When asked to point with the left hand to the word he had seen, the patient pointed to 'he'. When asked to point with his right hand, he pointed to 'art'. The simultaneous experience of each hemisphere was unique and independent of the other hemisphere. The verbal hemisphere gave one answer; the nonverbal hemisphere another. [Robert Ornstein, The Psychology of Consciousness (New York: Viking Penguin Inc., 1986), p. 93.]

The claim that an entity with complex psychological characteristics deserves certain forms of treatment will be further discussed in Chapter Four.


Eccles, *The Brain and Unity*, p. 142

A discussion of the right hemisphere's other cognitive and conative skills occurs on pp. 65ff.

This was brought to my attention in personal correspondence with Roland Puccetti. Others have taken the more conservative position that the right hemisphere's verbal comprehension is on a par with a normal ten year old. (See, for example, Bloom and Lazerson, *Brain, Mind, and Behavior* (New York: W. H. Freeman and Company, 1988), p. 289) Regardless, sophisticated linguistic behavior is manifested by the right hemisphere.


DeWitt, "Consciousness, Mind, and Self," pp. 42, 44.

Sperry, *et. al.*, make this claim in "Interhemispheric Relationships," see fn. 29.

DeWitt, "Consciousness, Mind, and Self," pp. 44.

Donald MacKay, "Divided Brains--Divided Minds?" in *Mindwaves*, Colin Blakemore and Susan Greenfield, eds., (Oxford: Basil Blackwell, 1987), p. 9. In contrast to the rather subtle phenomena of cross-cueing, the right hemisphere is also capable of directly intervening during a left hemisphere-based activity. Roger Sperry cites the following case: "When it was apparent from [the patient's] facial expression that he knew the right hand had performed incorrectly, the left hand folded behind him and sometimes restrained by the experimenter would make spontaneous movements as if to reach out and correct the error. When free use of both hands was permitted the patient usually was unable to arrange the blocks
and/or pictures correctly, mainly because the right hand would always try to help and would consistently undo the...accomplishment of the left." (See Dimond, *Introducing Neuropsychology* (Springfield, Illinois: Charles C. Thomas Publishers, 1978), p. 186.)


"The Integration Problem raises concerns for almost all interpretations of the split brain data. How are we to account for the (seemingly) integrated behavior of split brain patients when studies involving the Zaidel lens, Wada test, dichotic listening tests, and numerous other tests seem to reveal dual consciousness? We will currently consider the responses provided by one person interpretations of the split brain data. Later we will consider the replies offered by two-personed interpretations.


"For instance, DeWitt claims, "In a word, only the major hemisphere is aware of itself as a self." (DeWitt, "Consciousness," p.44).

"If oral linguistic skills are required for personhood, then it follows that otherwise intelligent, fully cognizant aphasics are not persons. Certainly this is implausible.


"Support for the claim that it remains an unresolved empirical question whether language is crucial to the levels of consciousness typically associated with personhood can also be found in contemporary psycholinguistics. Susan Curtiss has argued that it is the acquisition of language that triggers the normal pattern of hemispheric specialization; if language is not acquired at the appropriate time, "the cortical tissue normally committed for language and related [person-making] abilities may functionally atrophy." This hypothesis is based on findings which show that
neurons not exposed to normal visual input fail to develop the normal number of connections with other cells and so become functionally inoperative. No evidence exists for the failure of neurons in the language areas to develop connections, however, because appropriate experiments have not been developed for investigating this possible aspect of human language. (See Bloom and Lazerson, *Brain, Mind, and Behavior* (New York: W. H. Freeman and Company, 1988) p. 297ff.

*Sperry, *et. al.,* "Interhemispheric Relationships," see fn. 37.


*Note that on this view, it is unclear whether hemispherectomy patients are persons. Though some of the skills associated with the removed hemisphere may be transferred to the remaining hemisphere, many of the skills will be lost.


*According to Gazzaniga, "we know beyond a shadow of a doubt that it is this brain structure [the corpus callosum] which relates the psychological, conscious experiences of one hemisphere to the other." (See Gazzaniga, "One Brain--Two Minds" *American Scientist*, 60 (1972), p. 316.) Dimond supports Gazzaniga's position: "The corpus callosum is made up exclusively of fibres [that facilitate cerebral communication.] See Dimond, *Introducing Neuropsychology* (Springfield, Illinois: Charles C. Thomas Publishers, 1978), pp 87, 103ff.

*More will need to be said in defense of the claim that the integrated behavior of split brain patients fails to entail that split brain patients are single persons. For this discussion, see pages 79ff.
This explanation has been suggested by Diana Raffman in personal communication.

The claim that commissural surgery involves only the severing of the interhemispheric communication system is developed by Dimond, *Introducing Neuropsychology*, pp. 103ff.

Given that we have defended a purely psychological account of personhood, it should be noted that diachronic (metaphysical) personhood does not require the physical continuity of the substrate. In other words, it is possible, on our view, that the continuity of a person be independent of the continuity of any particular substrate—such as, for example, the brain. Thus, it follows that, in principle, the continuity of the person/persons associated with a split brain patient may be independent of the continuity of the brain/hemispheres. The issue of diachronic personhood and the contingency of the substrate will be explored at greater length in Chapter Three.


However, it should be recalled that according to the Liberal view of the First Interpretation, self-consciousness is lacking; whereas, on the Third Interpretation it is not.

This example is taken from a case described by Joseph Bogen in personal correspondence.


More specifically, when the Wada test is performed, a tube is inserted into the carotid artery on one side of the patient's neck. The physician then asks the patient to raise both arms and to begin counting backward from 100 by 3's. Sodium amytal is then injected into the artery which carries it to a respective hemisphere. Within seconds, the arm opposite to the side of the injection falls limp. Then the patient stops counting. If the hemisphere anesthetized is the one controlling speech, the patient will remain speechless for several minutes. If not, he will start counting again within a few seconds and be able to carry on a conversation, even though half of his brain is anesthetized. (See Bloom and Lazerson, *Brain, Mind, and Behavior* (New York: W. H. Freeman and Company, 1988), p. 282ff.)

Gazzaniga further notes that:

These varied observations on P.S. offer us the opportunity to consider whether we were not observing a basic mental mechanism common to us all. We feel that the conscious verbal self is not always privy to the origin of our actions, and when it observes the person behaving for unknown reasons, it attributes a cause to the action as if it knows but in fact it does not. It is as if the verbal self looks out and sees what the person is doing, and from that knowledge it interprets a reality. (See Gazzaniga, *The Integrated Mind*, pp. 149-150.)

More will be said about hemisphere-based consciousness, the "integration" of hemisphere-based consciousnesses, and information-passing between hemisphere-based consciousnesses when we discuss the implications Interpretation Four has for normal (noncommissuratomized) humans. (See pages 96ff.)

One researcher summarizes his findings as follows:

Split brain studies show that each half of the brain has the capacity to solve problems in its own right when it receives the necessary information, that each has the independent capacity to perceive, to remember, and to learn, that each half of the brain is to a large degree separate in its functions from the other, and each half has little or no knowledge of the functions of the other. (See Stuart J. Dimond, *Introducing Neuropsychology* (Springfield, Illinois: Charles C. Thomas Publishers, 1978), pp. 84-85.)

In support of this claim, Stuart Dimond states: "Research has repeatedly shown that each hemisphere in the cat, monkey, and man can separately and independently learn discriminations of many kinds and that most problems trained in one hemisphere do not transfer to the other." S. J. Dimond, *Introducing Neuropsychology*, p. 92. Roger Sperry concurs with Dimond. See Sperry in Bloom and Lazerson, *Brain, Mind, and Behavior* (New York: W. H. Freeman, 1988) p. 282.

DeWitt in "Consciousness, Mind, and Self" and J. Eccles and K. Popper in *The Self and its Brain*, join Gazzaniga and LeDoux in maintaining that the linguistic abilities of the dominant hemisphere are required for self-consciousness, and ultimately, for personhood.

That is, after an initial period of adjustment, usually ranging from 2 to 8 weeks, the remaining hemisphere is capable of displaying almost normal levels of
self-awareness.


"It is worth noting that recently Michael Gazzaniga has proposed that smaller parts of the brain than the hemispheres may be describable as "intentional systems." Though this may very well be the case, it is highly unlikely that these smaller parts also possess self-consciousness. [See Gazzaniga, *The Social Brain* (New York: Basic Books, Inc., 1985).]


"That is, the hemispheres typically undergo relatively small physical changes in the normal course of development. Despite these changes, the functional organization of the hemisphere remains constant.


"See footnote 58.


"The experiment was brought to my attention by Roland Puccetti. It has also been recounted by Michael Gazzaniga.

"It is possible that the same sort of phenomena happens in cases of hypnosis. That is, it is conceivable that during hypnosis only the left hemisphere is in a hypnotic state. The otherwise passive right hemisphere is thus given the opportunity to express its beliefs free of interference from the left.

"Though the "blocking" phenomena has been noticed for years, it has only recently been discovered that the dominant hemisphere releases transcallosal inhibitors which biochemically "block" interference from the right hemisphere. (Alain Morin, of McGill University, has recently reported these findings in his unpublished dissertation.)
Typically when blocking fails to occur, the left hemisphere will engage in the phenomena known as confabulation. (See footnotes 70 and 71 above.)


CHAPTER THREE

We will later argue that this question is better formulated as: "What unites a person stage, $P_1$, at time $T_1$ with a person stage, $P_2$, at time $T_2$ such that we may conclude that $P_1$ and $P_2$ are parts of the same continuant person?" Distinguishing between these two senses of 'person' (i.e. person stage and continuant person) allows one to give an account of personal identity despite acknowledging diversity among stages.

We should also note that we will limit our discussion proper to psychological theories of personal identity. Though we could examine various bodily or dualistic accounts of identity as well, we choose to focus on the psychological. The ground for so doing consist in the fact that personal identity literature has, in recent years, concentrated almost exclusively on developing an adequate psychological account of personal identity. Before returning to the main text, however, it is of sufficient interest to discuss briefly two alternative, nonpsychological theories of personal identity.

According to Bernard Williams and other proponents of a strictly "bodily" account of personal identity, identity is preserved as long as there exists a sufficient degree of bodily continuity (see for example, Williams, "The Self and the Future," in Perry, *Personal Identity*, pp. 179-198). More specifically, it is maintained that a person, $P_1$, at time $T_1$ is identical with a person, $P_2$, at time $T_2$ iff $P_1$'s body and/or brain at $T_1$ are/is the same body and/or brain (or enough of the same body and/or brain) as $P_2$'s body and/or brain at $T_2$; and this is so iff $P_1$'s body and/or brain are/is spatio-temporally continuous with $P_2$'s body and/or brain. A common charge that this account of identity faces is that the criteria of personal identity are defined too narrowly. For example, on many bodily accounts if one were to enter a teleporter, one would not survive the outcome. Though an exactly similar, functionally identical "replica" would be produced, it would not be the person who
entered the machine. It is not unusual to hear claims such as "the fact that tele­
transportation secures certain causal dependencies between earlier and later mental
states should not seduce us into thinking that these are states of the same [person]."
Yet, if bodily theorists define the criteria of personal identity more broadly (for
example, in terms of the spatio-temporal continuity of the brain, body, and various
psychological states), then the theory becomes increasingly psychological in nature;
perhaps so much so that it gives way to what we earlier called an Impure Psycho­
logical theory.

A second, nonpsychological theory of personal identity is proposed by the
Soul Theorist. According to this position, persons are separately existing entities,
such as souls, spirits, or Cartesian Egos. Personal identity consists in the continued
existence of such separately existing entities. A contemporary defense of the Soul
Theory is proposed by John Eccles and Karl Popper in The Self And Its Brain
person is a nonmaterial self that is capable of interacting with the brain. More
specifically, they argue for what they call "the strong dualist-interactionist hypoth­

esis." The central tenet of this hypothesis is that:

primacy is given to the self-conscious mind which during normal
life is engaged in searching for brain events that are in its pres­
et interest and in integrating these into the unified conscious
experience that we have from moment to moment. (p.356)

Moreover, it is explicitly claimed that "the self-conscious mind is an indepen­
dent entity." (p. 355) With respect to personal identity, then, it is claimed that "the
self or ego...is the basis of the personal identity and continuity that each of us
experiences throughout our lifetime." (p. 360) The problems associated with such
an account of identity are, in large part, similar to the problems associated with the
Soul Theorist's account of personhood. For example, there is the criticism devel­
oped by John Locke in Chapter 27, Section 13, of Essay Concerning Human Under­
standing. There, Locke discusses the difficulty associated with actually knowing that
the separately existing self survives over time. Even if we grant for the sake of
argument that John could be aware of his separately existing self, that alone does
not enable him to know that that self survives. Since the separately existing self that
he is aware of at any one moment may be replaced by a different one with which
it is psychologically similar in every respect, he simply cannot know whether the
object of his current awareness is the same now as in the past. Consequently,
his cannot know whether his separately existing self survives. While we may grant
that

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entity." (p. 355) With respect to personal identity, then, it is claimed that "the self or ego...is the basis of the personal identity and continuity that each of us experiences throughout our lifetime." (p. 360) The problems associated with such an account of identity are, in large part, similar to the problems associated with the Soul Theorist's account of personhood. For example, there is the criticism developed by John Locke in Chapter 27, Section 13, of Essay Concerning Human Understanding. There, Locke discusses the difficulty associated with actually knowing that the separately existing self survives over time. Even if we grant for the sake of argument that John could be aware of his separately existing self, that alone does not enable him to know that that self survives. Since the separately existing self that he is aware of at any one moment may be replaced by a different one with which it is psychologically similar in every respect, he simply cannot know whether the object of his current awareness is the same now as in the past. Consequently, he cannot know whether his separately existing self survives. While we may grant that from this, it does not follow that the self does not survive, it is, nevertheless, important to note that this position makes the epistemic problem of personal identity impossible to solve. (See Chapter One, pp. 9-11)

Among those who have argued that split brain research holds important ramifications for theories of personal identity are Derek Parfit (see "Personal Identity," Reasons and Persons, and most recently, "Divided Minds and the Nature of Persons"), Georges Rey ("Survival"), Ray Martin ("Identity Matters"), and Albert
Shalom \textit{(The Mind/Body Conceptual Framework and the Problem of Personal Identity)}.  

\textsuperscript{*}See especially, Parfit, \textit{Reasons}, Part III.  

"We focus our attention on the proposals offered by Derek Parfit. The widespread acceptance of his view, and the extent to which he has developed what he takes to be the ramifications of split brain research, seem reason enough to limit our discussion to his proposals.  


"There are very rare cases in which the left and right hemispheres are virtually functionally equivalent.  

\textsuperscript{8}Parfit, "Personal Identity," p. 203.  

\textsuperscript{9}Parfit, \textit{Reasons}, p. 215.  

\textsuperscript{10}Parfit, \textit{Reasons}, p. 206.  

"It must be noted, however, that Parfit also claims "I believe that both relations matter. Others may believe that one matters more than the other. I know of no argument for such a belief. I shall assume that neither relation matters more than the other." (\textit{Reasons}, p. 301) Despite this inconsistency, we will assume that psychological connectedness is more important than psychological continuity--the justification for our assumption is simply that Parfit usually claims psychological connectedness is more important; the above claim is the only exception. (See footnote 24)  

\textsuperscript{11}It is important at this point to note that Parfit avoids a possible charge of circularity. Many earlier accounts of the unity relation required that a person, \textit{P1}, at time \textit{T1} survived as a person, \textit{P2}, at time \textit{T2} if and only if \textit{P2}'s psychological content at \textit{T2} was continuous with \textit{P1}'s psychological content at \textit{T1}. In requiring such a continuity, these earlier accounts presupposed personal identity. In other words, it was claimed, "I survive because I have (retain, am continuous with) my former psychological content." Such a claim, however, assumed that we remember only our own experiences. This, in turn, encouraged Samuel Butler to write: "It is self evident, that consciousness of personal identity presupposes, and therefore cannot constitute personal identity, any more than knowledge in any other case, can constitute truth, which it presupposes." (quoted by Parfit, \textit{Reasons}, p. 219.) In order to avoid just this circularity, Parfit introduced the notion of "quasi-psychological content." "Quasi-psychological content," Q-content, for short, avoids the circularity
of analyzing the unity relation in terms of something that assumes personal identity, by defining Q-content in such a way that it is not a logical truth that we can Q-remember, for example, only our own experiences. More specifically, Parfit claims that:

I am q-remembering an experience if (1) I have a belief about a past experience which seems in itself like a memory belief, (2) someone did have such an experience, and (3) my belief is dependent upon this experience in the same way (whatever that is) in which a memory of an experience is dependent upon it. ("Personal Identity", p. 209.)

Such an analysis of remembering, intending, desiring, and so forth, is akin to an ordinary analysis of such intentional states, minus the belief that the subject himself had these states. Thus, Parfit avoids the circularity implicit in earlier accounts by adopting an analysis of psychological content free of the presupposition that we can remember only our own experiences.

17Parfit, Reasons, p. 206.

14Parfit, Reasons, p. 515.

13We should also note that Parfit maintains that psychological continuity, unlike psychological connectedness, is transitive. According to Parfit's analysis, "My" self at age three is psychologically continuous with "my" self at age thirty-three (in virtue of the overlapping chains of psychological connectedness throughout), and "my" self at age thirty-three is psychologically continuous with "my" descendent self at age fifty (again in virtue of... psychological connectedness throughout). Hence, "my" self at age three is psychologically continuous with "my" self at age fifty--but not, it should be noted, psychologically connected. (Compare psychological continuity with psychological connectedness: I may be strongly connected to myself yesterday; and yesterday, I may have been strongly connected to myself the day before; and the day before yesterday, I may have been strongly connected to myself three days ago, and so forth. Even though direct psychological connections exist from stage to stage, it does not follow that I am strongly connected with myself ten years from now.)

16Perry's Impure Psychological Theory is an example of a theory of personal identity which requires a normal cause. (See Chapter One, pp. 20-24)


18Parfit, Reasons, pp. 208-209.

18Parfit, Reasons, p. 217.
It is for this reason that Parfit claims that the best description of this sort of case is that neither of the resulting people will be Busch; yet, Busch survives.

Parfit recognizes this. He argues that the following claim cannot be defended: "If there will later be some person who will be psychologically continuous with me as I am now, it would not matter at all if, between me now and this person, there would be no direct psychological connections." (Reasons, p. 301) In other words, it must be the case that if a person is psychologically continuous with my present stage, he is so in virtue of underlying psychological connectedness. Without psychological connectedness, psychological continuity cannot hold.

Please recall that we are adopting David Lewis's definition of 'person stage':

A person stage is a physical object, just as a person is. It does many of the same things that a person does: it talks and walks and thinks, it has beliefs and desires, it has a size and shape and location. It even has a temporal duration. But only a brief one, for it does not last long. It begins to exist abruptly, and it abruptly ceases to exist soon after. Hence a stage cannot do everything that a person can do, for it cannot do those things that a person does over a longish interval. (Lewis, "Postscripts to 'Survival and Identity'" in Philosophical Papers, Volume I (Oxford: Oxford University Press, 1983), p. 76.)

Moreover, it should be noted that the present discussion will need to be modified in light of the conclusions drawn in Chapter Two. If humans are two-personed, then each "stage" actually consists of two persons. These modifications will be introduced on pages 122-124.

Though Parfit is not always consistent, he does seem to favor the view that physical matters are irrelevant in questions of survival. For example, Parfit claims

Some writers claim that what matters in survival is physical continuity, or the continued existence of the same particular brain. These writers claim that, if I was about to be Teletransported, I should regard this prospect as being nearly as bad as death. Though my Replica would be fully psychologically continuous with me, this is not what matters. What matters is that he would not be physically continuous with me. I disagree. I believe that what matters is Relation R.... Physical continuity does not matter. (Reasons, p. 446)
Though this kind of claim is by far the most common, Parfit sometimes claims that physical continuity and physical similarity "may have some slight importance." (*Reasons*, p. 217)

David Lewis provides an additional example that satisfies Parfit's causal requirement, but also points to its overall implausibility. See Lewis, "The Paradoxes of Time Travel," in *Philosophical Papers*, Volume II (New York: Oxford University Press, 1986), p. 73.

See again footnote 26.

Note that according to our proposals, each hemisphere of the normally functioning brain serves as a substrate for human personhood. (See footnote 25)

See footnote 2.


See *Reasons*, Part Three, Chapter 15.

Recall that Parfit maintains that there are two equally plausible descriptions of split brain patients. They can be viewed as single persons with two minds, or they can be viewed as two persons. Parfit favors the latter description when discussing issues involving survival and identity. (See *Reasons*, pp. 248 and 256. See also Chapter One, pp. 46-47.)


See again Interpretation Four of the split brain data. (Chapter Two, pp. 77ff.)

We will further discuss the compatibility of strict identity and the split brain data on pages 122-124.

See pages 102-104.


The length of the interval is not relevant. As we will soon see, what is relevant is that person stages are *parts* of persons.

Parfit recognizes that this is what S must be wondering if identity matters. Parfit states: "Only if [a] future stage is a stage of me..., can we also claim that it is identity which is what matters." (Parfit, "Lewis, Perry, and What Matters" in *The Identities of Persons*, p. 95.)
"We should note, however, that $S$ may actually be part of several sets of maximally $R$-interrelated stages. If, for instance, two or more continuant persons fuse, and $S$ is the manifestation of their union, then $S$ is a person stage of each (fused) continuant person. This, however, does not threaten identity, for the sets of which $S$ is a member are each identical to themselves and to no other thing. Identity, in matters of survival, is therefore preserved.


"The debate concerning the compatibility between identity and the $R$-relation occurs primarily between Parfit and Lewis. Parfit’s repeated attempts to show that Lewis’s account of survival fails depend upon his criticism that $S2$ must be a part of $C1$. If this criticism is in error, then the Parfit-Lewis debate can be greatly abbreviated. In what follows, we will try to show that the criticism is indeed mistaken.


"See footnote 41.

"Ernest Sosa suggests this as a possibility. He argues that Parfit’s thesis is not about survival, but about "quasi-survival." According to Sosa’s reading of Parfit, what matters in Parfitian cases of survival is that "the sequences of psychological states constitutive of my past and present life be followed by further psychological states with a certain ‘similarity’ whether [or not] accompanied...by causal influence." (Sosa, "Surviving Matters," Nous, XXIV:2 (April 1990), pp. 297-322.)

CHAPTER FOUR


3Rigterink, "Puccetti," p. 444.

4Rigterink, "Puccetti," p. 444.

5For a review of these accounts of personhood, see Chapter One, pp. 18-48.


7We must grant that the plant retains value insofar as it may be converted into a warehouse or shopping center. So, too, it may still be incumbent upon us to treat persons without a developed moral sense in certain ways, but not in others.
For more on this, see footnote 14.


*This claim may actually be too strong. Discussions of moral personhood often involve a distinction between moral agents (subjects) and moral patients (objects). A moral agent is one that it is appropriate to hold accountable for a given action. It is an entity that has attained a certain level of cognitive, conative, and social development such that it can, in most cases, be held responsible for the consequences of a chosen action. In contrast, a moral patient may or may not also be an agent. First and foremost, a moral patient is an entity that is judged to be worthy of a certain sort of treatment. For instance, if an entity is sentient, or if it can be said to have interests, then it is often maintained that it should be treated in ways that minimize pain or promote interests. Given that the psychopath satisfies, on our account, the criteria of metaphysical personhood, it is reasonable to assume that he is a moral patient, even though he is not a moral person. Consequently, the psychopath may deserve certain forms of treatment and not others (for example, torture and death by excessive violence) in virtue of his purely cognitive, though not moral, aptitude.

*See Chapter Two, Interpretation Two, pp. 71-73. See also pages 96ff.

*See for example, Chapter Two, p. 83.

*Larry DeWitt, for example, argues that speaking abilities are essential for self-consciousness. See Larry DeWitt, "Consciousness, Mind, and Self," in *British Journal of Philosophy of Science*, 26 (1975), pp. 41-60.

*See Chapter Two, fn. 35.
See Chapter Two, fn. 35.

For a brief description of these lateralization procedures, see Chapter Two, page 79.

The fact that the independently functioning hemispheres offer similar responses to input will go a long way in resolving most of the normative challenges Moor and Rigerink pose. See pages 96ff.

See Chapter Two, pages 79-81.

It is often argued that a still more important question is whether the hemisphere-based persons can take an interest in each other. That is, can the left hemisphere-based person take an interest in the right? Just as we ordinarily are aware of our friends and neighbors, so, too, should the hemispheres be aware of each other.

It is unclear whether this question is really as important as it may initially seem. We need to look more closely at what, exactly, the question asks. The requirement that hemisphere-based persons be aware of each other is implausible, if it assumes that persons normally are aware of all other persons. Clearly, we in the western world are not aware of all persons elsewhere. But, it is objected, if we were to interact with people elsewhere, we would acknowledge that they were indeed persons. This, also, is subject to question. It is quite conceivable, for example, that were we to telephone Terry Winograd's SHRDLU or Joseph Weizenbaum's ELIZA [Winograd describes SHRDLU in Understanding Natural Language (New York: Academic Press, 1972), p. 12ff. Weizenbaum describes ELIZA in Computer Power and Human Reason (San Francisco: Freeman Press, 1976) and in "Contextual Understanding by Computers," in Communications of the Association for Computing Machinery, X, 8 (1967), pp. 464-480.], we would quite justifiably assume that we were speaking with another person, when, in fact, we were interacting with a Turing machine simulation of typical human psychological phenomena. It may, in turn, be objected that interaction, real interaction, would reveal whether or not we were encountering another person. If, for instance, we were to play tennis, go to the theatre, or dance with another "person," then we would be able to determine whether or not they really were a person. This, however, is also unconvincing.

Daniel Dennett asks us to imagine a situation in which NASA engineers have made a perfect (functionally equivalent) duplicate of his brain. [Dennett, "Where Am I?" in Brainstorms, (Montgomery, Vermont: Bradford Books, 1978), pp. 310-323.] Moreover, his brain has been removed from his skull, and is now being safely stored in a vat. Dennett's body, in turn, responds via radio waves to input from either his brain or its duplicate. Since his brain and the duplicate are functionally equivalent, Dennett (or more correctly, his body) can freely switch to-and-fro from brain to duplicate without much more than a "transitional click." (Dennett notes that he has not the faintest idea whether he is switching from brain to duplicate or vice versa--the switch is not marked.) He has made the switch many-a-time:
Every time I've flipped the switch so far, nothing has happened. *So let's give it a try*....

THANK GOD! I THOUGHT YOU'D NEVER FLIP THAT SWITCH! You can't imagine how horrible it's been these last two weeks—but now you know.... About two weeks ago our two brains drifted just a bit out of synch.... Once the process started, it snowballed, for I was in a slightly different receptive state for the input we both received, a difference that was soon magnified. Like an expectant mother, I'm eating—or at any rate tasting, smelling, seeing—for two now....[Dennett, "Where Am I?", pp. 322-323]

Until the brain and its duplicate went "out of synch," it appeared to Dennett, and to all others, that he was just a single person. All along, however, there were two persons involved. Thus, even if one were to play tennis and dance with Dennett (that is, *really* to interact with him), it is highly unlikely that one would recognize that he was actually two-personed.

Given the similarity between Dennett's case and that involving split brain patients, it is unclear whether one hemisphere-based person is aware of the other hemisphere-based person. Given that the hemispheres share the same cranial cavity and have largely the same internal and external environment, it is quite conceivable that they remain ignorant of each other's presence. Only in situations where the hemispheres are a "bit out of synch" (such as, for example, in the deconnection syndrome) might they become aware of one another. In most normal circumstances, however, they cannot be expected to be aware of one another. Thus, even if the hemisphere-based persons are not aware of each other, it does not follow that they are not persons in a morally relevant sense.

[Before continuing, we should note that despite confabulation, the hemisphere-based persons do, at times, seem to be aware of one another. For example, the hemispheres will cooperate in order to solve a puzzle. One hemisphere will "cross-cue" the other in order to enable the other to solve the question or puzzle correctly. Michael Gazzaniga and Steven Hillyard, for instance, report that one of their patients, when asked to identify a picture of Hitler, traced the letter 'H' with the left hand on the back of the right hand in order to enable (cross-cue) the speaking hemisphere to answer the question correctly. Another patient was right hemisphere aware of 'boxer', and cross-cued the left hemisphere-based person by clenching his fist and assuming the boxing position. When physically restrained in order to prevent such cues, the left hemisphere was unable to respond. (Both of these accounts are given by Michael Gazzaniga and Joseph LeDoux in *The Integrated Mind* (New York: Plenum Press, 1981). The phenomena of cross-cueing seems to establish that, at least sometimes, the hemispheres are aware of one another, and more importantly for our present purposes, take an active interest in each other.

A further reason for maintaining that the hemisphere-based persons are, at times, aware of each other is perhaps more persuasive than the one offered above.
The cases of cross-cueing that we have so far considered involve a researcher's (third-person) interpretation of the phenomena. Thus, it is claimed that a patient's lettering of 'H' is intended to prompt the speaking hemisphere to give the correct answer. Sometimes, however, the patient (or more correctly, one of the patient's hemispheres) will acknowledge the presence of its other self. One of the hemispheres will offer a first person commentary of the unusual circumstances in which it is involved. For example, after having successfully completed a task (after numerous unsuccessful tries by the minor hemisphere), a patient (that is, her left hemisphere) exclaimed: "Wouldn't it be nice if we were both this smart!" Similarly, Joseph Bogen recalls a patient who, in nonexperimental circumstances, upset a chess board and remarked: "Now why did he do that?" (This incident was described by Joseph Bogen in personal correspondence.) Finally, Roland Puccetti frequently discusses a case in which he and a commissurotomy patient were watching television. During commercials, the patient would read the newspaper or a magazine. At one point, while reading the newspaper, the patient suddenly arose and increased the volume on the television. Surprised, Puccetti inquired why the patient had done so. The patient looked puzzled for a moment, and then responded, "He can't hear while I'm reading." (Roland Puccetti introduced this example in a presentation at the Canadian Philosophical Association Meetings in Windsor, Canada in 1988.) One can, of course, offer various interpretations of what happens in cases such as these. Perhaps, the patients enjoy fooling their neurosurgeons, family, and friends. Regardless of this possibility, the sort of first-person report that sometimes accompanies instances involving the deconnection syndrome, supplemented with current neurological data, renders plausible the claim that each hemisphere-based person may to some extent be aware of the other hemisphere-based person.

"The "sham rage" produced by the hypothalamus is defined in terms of truly visceral reactions. These reactions include the dilation of the pupils, acceleration of the heart rate, elevation of blood pressure, increase in the rate and amplitude of respiration, and inhibition of the gut and bladder. (See Malcolm B. Carpenter, Core Text of Neuroanatomy (Baltimore: Williams and Wilkins, 1985), p. 284.)"

"For a discussion of the role that the thalamus plays in the generation of emotional responses, see Carpenter's Core Text, Chapter Ten, especially pages 294-288.

"More work may need to be done to elucidate alternative candidates for the mark of moral personhood. For the present, our argument relies on the complexity of morally relevant mental states. If morally relevant mental states by their very nature involve complex cognitive, conative, and affective abilities, then it is reasonable to assume that each hemisphere has the mark of moral personhood--at least so long as it is normally functioning, and occupies the same cranial cavity as the thalamus and the hypothalamus (See footnote 39).

"An appeal to the location of the cerebral cortex would be irrelevant in the same way that the location of one's heart is irrelevant. Whether the heart is located in the left, middle, or right portion of the chest cavity is functionally unimportant."
On the other hand, an appeal to the location of the cerebral cortex would be *ad hoc* if it were introduced in order to show that the twins are relevantly different from split brain or normal humans because the twin's person-making characteristics are housed in private cranial cavities.

*See footnote 4.*

*See page 126.*

*See Chapter One, pp. 16-18.*

*Parfit, Reasons, p. 248. It should be noted that Parfit's claim is motivated both by Social Constructionism (See Chapter One, pp.16ff), and by his account of personal survival (See Chapter Three).*

*See page 141.*

*Recall that there are two senses in which one might have a concern for, or care about, persons. One sense is purely normative, the other, nonnormative. It is reasonable to assume that the Social Constructionist has an interest in both senses. (See, again, pages 130ff.)*

*Recall that contralaterality indicates a division of labor between the hemispheres. Consequently, one hemisphere is more specialized for certain tasks than the other. (Ipsilaterality, in contrast, refers to the ability of each hemisphere to process input as well as the other.)*


*Even in rare cases where there is disagreement between the hemisphere-based persons, confabulation and/or blocking ensure a suitable output. See again Chapter Two, page 79ff.*


*Roland Puccetti, personal correspondence.*

*It should be noted that the lower and middle brain in humans is best viewed as a "support system" for the substrate (that is, cerebral cortices) crucial for human personhood. In other words, the lower and middle brain, like the lungs, heart, and kidneys (or their functional equivalents) facilitates the production of the person-making characteristics typical of the hemispheres.*
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