

The Odds of Existing (Or, Why Death is not the End)

Most people, if they do not believe in gods or souls, believe that death is the annihilation of their existence or self. Many find this frightening. But when we discover what we are actually referring to when we say “I exist”, we find that this entity cannot actually behave that way: it cannot come into being with a particular human body or disappear with the death of that body. This book provides a purely logical argument—without emotional or mystical appeal—that a sort of materialist reincarnation is the correct view of personal existence. This view is also called Open Individualism.

Introduction

What are the odds that you would have come into existence? Evidence suggests that a great many people have thought about this question, and think it at least makes sense, even though few have actually attempted to calculate a specific number. In fact, this calculation turns out to be much more difficult than it at first appears, approaching the absurd. Nevertheless, most people seem to have a *general* sense that the odds are quite long. At minimum, people usually believe a) that they exist now and b) that they might not have, had things gone differently in the time before they were conceived. Had your father gone up to bed a second earlier or later, had your mother been called away on business that week, had your parents never met, had your parents never even existed, or had Napoleon not lost at Waterloo or had Billie Holiday not sang “God Bless the Child”... And so on. The basic idea is that had *that* sperm not joined with *that* ovum, then you would simply not be. And so we are all winners, and should all be grateful.¹

The belief that you would not exist unless one particular sperm and one particular ovum had joined—that your existence *depended* on the joining of those two gametes—is one of the two things this book is about. I’m going to call it the Standard Belief about Coming into Existence, or Standard Belief for short. I’ve found it to be widely held across all types of people, from respected scientists and philosophers to the general public, from theists who believe in souls to atheists who believe in no such thing, and from those who have thought about it deeply to those who barely give it a moment’s consideration when it comes up. Yet, there is something wrong with it. It cannot possibly be correct.

What the Standard Belief amounts to is that some physical factors in the world, such as your DNA or parentage, have brought you into existence. The problem with this is, where do we find the essential connection between a physical factor such as DNA and your existence? For example, why couldn’t the human being that you are have come into existence and not been you, in the same way that all of the other human beings in the world came into existence and were not you? In the same way, in fact, that a lot of other people *with your same sequence of DNA* could have come into existence and not been you? There’s an unlimited number of possible identical twins to

¹ Unless, of course, you agree with David Benatar (2006) that coming into existence is always bad. Or perhaps Schopenhauer: “Human existence must be a kind of error. It may be said of it; ‘It is bad today and every day it will get worse, until the worst of all happens’.” Personally, I’m pro-existence.

you, or clones of you, and yet only one is or would be you. Why that one? Or why one of them at all, rather than none of them? Why, in fact, was your existence even a possibility in the universe at all? Why was it the case that *any* organism at all would have brought you into existence, rather than not?

These are deep and surprising questions—I'll call them the Enigmas of Existence—that some may grasp in an instant, with a sort of vertiginous existential insight that may seem inexpressible in words. This existential insight can come and go, depending on your state of mind. It may strike you at completely banal and random moments or particularly profound ones. And it's the kind of insight that tends to slip through your fingers once you've had it, and you quickly forget what it was about as the everyday world again overtakes your thoughts. And so, one of my aims in this book is to give you tools to grasp onto this existential insight and hold it for long periods, so you can examine it and better understand it.

Some of you may not have ever had this existential insight, and so you may not grasp these kinds of questions at all. The questions may seem quite mundane and easily answered, or even opaque and confusing. And, in my experience, whether or not you see the point in these questions has little to do with education or intellect. They are almost pre-philosophical, preverbal, the kind of thing a child might think of, or that some among our primal ancestors 100,000 years ago might have thought of, without any ability to express. It may just be a particular personality type that gets vexed by such questions. Another of my aims in this book then is to bring those who have never experienced this around to seeing what these questions are really about, through descriptions and stories and arguments and analysis. I want to stir in you that vertiginous and confounding experience of your own existence too.

Others of you still will immediately judge these questions to be misguided, resting on basic errors of one sort or another: it's a Cartesian fallacy, or the self is a hallucination, or everybody has to be someone. I'll also speak to you. I'm going to show you why they are not misguided, why in fact they and others like them are unavoidable questions. But here's the key: they are unavoidable, *if* you hold the Standard Belief about Coming into Existence that I described in the first paragraph, that you wouldn't exist if that one particular sperm and one particular ovum hadn't joined. This is because the Standard Belief implies another belief: that you exist, and exist fully, not only in the present but also in the past and future of your body and in alternate situations of your body. The connection between these two beliefs, and the reasons why these beliefs make these questions real and unavoidable, are somewhat complicated, but I will try to make them clear.

These Enigmas of Existence and the existential insight they elicit are what I will explore in detail in Chapter 2. The purpose of this exploration is to get you dissatisfied with the Standard Belief. I want you to see the problems I see with it, and to leave you wanting a better belief. This better belief about existence will be described in Chapters 4 and 5. It is the second of the two things this book is about, and I'll tell you what it is in a moment. First let me address what I think is a tempting but wrong answer to the Enigmas of Existence.

Some people might think that the unbridgeable gap between the essence of our existence and our physical human bodies points to the necessary existence of a soul. This was actually my first conclusion, many years ago, and I even wrote most of what makes up the first half of this book with that conclusion in mind. I didn't see how any physical process like evolution or the joining of two gametes actually explained why I existed—they explained why my physical body exists, but not why *I* exist—and I

thought the problems with the Standard Belief pointed to an essential mystery of existence that materialism—the belief that all that exists is part of our material universe, i.e., that there are no gods and no souls—simply couldn't account for. But I have come to find this false on three counts.

First, there is a perfectly good materialist way to answer these questions, these Enigmas of Existence, without bringing in a soul. This is the better belief about existence just mentioned and that I'll tell you about in the next paragraph. Second, there are many very good reasons for not believing in a soul, and many other very good reasons for believing in materialism, so if materialism can provide satisfactory answers to the Enigmas of Existence, then it should be our belief. I'll give some of the good reasons for not believing in a soul in this book, but not all of them. Third, much later I will show that a soul view, even if it were plausible, wouldn't actually provide a satisfactory answer to these questions anyway. So the choice is clear.

What then is this perfectly good materialist way to answer these Enigmas of Existence that arise when you accept the Standard Belief? What is the new belief about existence I argue for in this book? The short version is this: you should not believe that any particular physical factors—such as a particular set of parents, a particular pair of gametes, or a particular combination of DNA—were required for you to come into existence. You should instead believe that you would have come into existence no matter which human beings came to be. In other words, if you weren't the human being you are right now, you would be someone else. And this belief has a necessary and, if I may say so, quite revolutionary consequence: you should also not believe that you will cease to exist when you die. You will rather simply become someone else. Well, "simply" is the wrong word. It's actually just about impossible for us to conceive of the correct way of viewing death under this new belief—it relates closely to the impossibility of conceiving the correct way of viewing time—but it is something like becoming someone else. Something like becoming all people, all conscious beings, in fact. It is at any rate definitely not ceasing to exist, any more than living another ten years of your life right now would be ceasing to exist. If you are happy that you will exist in ten years should your human body survive to that point, then you should also be happy (if not quite equally happy, because of the loss of all the content of your life) that you will exist after your human body dies and you become another human body or other physically embodied conscious being. You can think of it as a sort of materialist reincarnation.

I don't blame you if you are wondering how any kind of reincarnation could be materialist, could be true without the existence of souls. It is difficult to conceive. If I'm just a material object, then what exactly is it that survives, or *moves* to the next body, upon the death and disintegration of this one? This is not a question that has an answer, but once you understand how we arrive at the belief in materialist reincarnation in Chapters 4 and 5, you will see that it needs no answer. More fundamentally, once you understand from Chapter 2 what is wrong with believing that you only exist because of the coming into being of the human body you are now, in other words, because of the joining of a certain sperm and ovum, then this resistance to any alternative materialist view disappears. You see that you've been tacitly assuming your existence to be something it cannot be, something that is incoherent in the details. There is simply no way to make the Standard Belief consistent or non-paradoxical. It *must* be rejected.

There is one issue we need to settle before we get to any of these things though, and that is a question that has likely been nagging some of you since the beginning of this introduction: just what exactly do I mean by my or your “existence” anyway? I keep saying that term and making bold claims about it, as though we all know exactly what I mean. But do we?

Almost certainly not. Some people mean what I mean by it. Some people consciously do, a great many more unconsciously. Some people reject what I mean by it, or at least think they do. Some people have no idea what I mean by it. Some people quite explicitly mean something different by it, and will argue at length for their own meaning, and that I am dead wrong. And so, we must get this straight before we do anything else. This I will do in Chapter 1, aptly titled “Foundations”, where I provide an answer to the question, “What do we all mean when we say ‘I exist’?” What are we referring to or verbally “pointing at” when we say that? Or, to put it in more immediate terms: What is the actual thing you’ve been thinking about this whole time every time I’ve talked about your existence? Stop and reflect on that for a moment. Many people would never even suspect this to be a question that needs answering. But it does. You may think it’s obvious that we are all talking about the same thing when we talk about existence, but it’s not.

To give you a preliminary idea of what I will be aiming to accomplish in the first chapter, let me first point out two things people *think* they mean when they say “I exist” that I consider wrong, or at least not always right.

Some people consider their existence to be a construction, built up over years of socializing and education and the like, and situated within a context of a culture and community of people. Some would go so far as to say this entirely defines what they mean when they say “I exist”. They are simply the bundle of these ideas and attitudes and everything else they’ve collected over the years. This is a fine and important answer, but it is an answer to a different question than the one I’m asking, though the form of the question may sometimes appear the same. It is thus the right answer only some of the time. This construction, social or otherwise, is a major part of what I will call “content”, the content of our lives and thoughts, and is distinct from what I’m going to call “existence”. One of my primary goals in fact is to isolate our concept of existence from content, to avoid the muddles we often get into when discussing existence. The weightiest tool I will bring to bear on this task is a science fiction thought experiment I call the perfect doppelgänger, which takes up a large portion of Chapter 1. It involves imagining an exact replica of you, replacing you in the world, that *isn’t you*, but rather is *someone else*. (Some people will strenuously resist this attempt to separate content from existence, so if you find yourself wondering why I am going on at such length in the first chapter to establish this isolation, that is why.)

Alternately, some people just assume, quite naturally and sensibly, that when they say “I exist” they are simply saying that a particular human being exists, the one produced by those two gametes many years ago with that particular DNA. In other words, they claim that what is happening there is 1) they *are* a human body, and 2) that human body is uttering the words “I exist”, referring to itself, and that’s all there is to it. This too is right, but again only some of the time. Some of the time, especially when we are asking questions about our existence such as those I pose in this book—and in particular the Enigmas of Existence I posed above—we are not actually talking about a

human body. *And this is so even for some who strongly insist they are.* At least I suspect so. I will give you my reasons why near the end of Chapter 1.

The thing I want to show you, the actual referent of “I exist”, the thing we are actually “pointing to” when we say that, is not either of these things. And it’s not so straightforward as they are, not so easy to describe or point out, which may help to explain why those two things are often mistaken for it. It is a more inchoate concept, and it may take some work before you see it. I’ll get to my attempts to show it to you in a moment.

Let me reiterate the second of the two main points of this book, as clearly and straightforwardly as I can this time: death is *not* annihilation. You do not cease to exist when you die. Nobody does. Not even atheists. I know a great many people are like me and have been terrified of this annihilation since it first occurred to them. Well, I’m here to tell you that this problem has been solved. Even without any spiritual realm whatsoever, you will not live just the life of the human body you are now. You will live many more. And I mean this literally, as literally as the idea that you will exist ten years from now should your body survive that long. I don’t mean the often-made weaker claim, that you will survive death in the sense that your influence and ideas and love will survive in the hearts and minds of other people. No, I mean you will literally be those other people, as literally as you are you right now. And to reach this conclusion, no emotional or mystical appeal is necessary. All it takes is a cold logical step-by-step argument, demonstrating first what you really mean when you talk about your existence, and then showing that it doesn’t make sense to think of that existence as coming into being only with the coming into being of a particular human body and persisting only for the lifespan of that human body.

Now, this survival of death will undoubtedly be good news for a great many people, just for purely selfish reasons if nothing else (although it does have its downsides too, which I will also look at). But it has other salutary effects as well; for one thing, it goes some way toward dissolving the ego, that pernicious imaginary entity we (some of us) work so hard to protect, at the expense of so much that is so much more important. Losing this ego can save you a lot of anger, worry, and effort. (If much of this book sounds like Buddhism to you, that is coincidental, but not wrong.)

But even if we can’t get rid of self-interest altogether, materialist reincarnation widens the scope of such self-interest to the point that it includes not just yourself and things that affect you, but everyone and everything that affects anyone. This has two important consequences. Most directly, since everyone is going to experience all of the good and bad that comes to everyone just as much as they will experience the good and bad that comes to themselves, everyone will have a selfish incentive to bring more good to the world than bad. If belief in this view becomes widespread, I feel it could not help but drive people to create a better world than the one of environmental desolation and grave injustices that humanity is currently perpetuating.

But on a deeper level, it also has a profound effect on your potential to find meaning in your life. This is one of the great challenges of our time here, and it can be elusive: life is so short and traces such a narrow path through the universe that the tremendous effort of living can begin to seem pointless at times. And truly horrible things can and often do happen, to us and to those we care about, sometimes seeming to negate all the good of a lifetime or even several lifetimes in the blink of an eye. But if materialist reincarnation is true, then the meaning in your life is no longer quite so

limited to just what you accomplish and the good you can do in your own lifetime, nor to the well-being mostly of you and those you love. However you may currently find meaning, whether it be making intellectual, moral, or material progress in your life, creative expression, or cultivating your own small corner of family, community, and relationships with others, you can now look ahead to experiencing the satisfaction of accomplishments in these areas by humanity as a whole just as if they were your accomplishments, and to reaping the benefits from them as if you would see the benefit from them yourself. The great project of humanity, if you can bring yourself to believe in such a thing, now literally becomes your own, just as much as the project for your own life has been your own.

I'll discuss these possibilities and more in Part II, Meaning in a Material World. What I described previously in this introduction, Chapters 1–5, is tied together as Part I, Analysis. I have separated the two because Part I is an argument for why you should believe a certain way about your existence, while Part II is an essay about how that belief can transform your life, and maybe even the world. (I'm an optimistic realist about that.)

One of the topics of the discussion in Part II is the question of why we feel we need mystery, such as the mysterious ways of God, in order to have meaning. I think we wrongly conflate mystery and meaning a lot of the time. Among other things, this causes us to be afraid of or even resistant to actual explanations of reality in places where we had previously found the mystery comforting. If my view does indeed banish the last remaining shred of mystery about our existence (aside from the probably unanswerable question of why there is something rather than nothing), as I will eventually claim it does, then finding meaning and comfort in a world without an overriding insoluble mystery will become very important to our individual and collective well-being.

Death, meaning, and the good of the world are no doubt most pressing concerns for a great many people, but before we begin the argument I need to give you a note of caution, to set us on the right path: thinking about these things before their time comes up here would be a distraction. This book is indeed about those things, but it is actually *mostly* about the first thing I talked about in this introduction, your origins, and understanding what is inexplicable about them. In other words, understanding what is wrong with our commonly held beliefs about them, most specifically the Standard Belief that you would not exist but for the joining of one particular sperm and one particular ovum. Origins is the topic we'll start with and spend most of our time on. It is the topic that originally vexed me, and that I spent many years on without any glimmer of the conclusions I've come to about death and meaning for life. I was just perplexed by all the purported explanations of how I came to be. The conclusions I've reached about death merely followed from what I concluded about origins, and the conclusions about self-interest and the good of the world followed from what I concluded about death.

If you remember just one thing from this introduction, let it be this: Everything in this book hinges on the question of "what caused you to exist?" My method will be to show that this question is unanswerable without believing in materialist reincarnation.

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Part I

Analysis

Chapter 1: Foundations

What is Your “Existence”?

The aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something because it is always before one's eyes.) The real foundations of his enquiry do not strike a man at all.

-Ludwig Wittgenstein, *Philosophical Investigations*

[Philosophy's] sources are preverbal and precultural, and one of its most difficult tasks is to express unformed but intuitively felt problems in language without losing them.

-Thomas Nagel, *The View From Nowhere*

People who say they don't care about metaphysics really mean that their received ideas on such matters are so fixed that they have disappeared from consciousness, in the same way that you don't usually notice your heartbeat.

-Adam Kirsch, in *The New Yorker*

Introduction

In order to properly attack the central question of this book, “what caused you to exist?”, we first need to figure out what that word “exist” means. What it means to you personally, what I mean by it when I say it in this book, and what it means to us collectively. This is the main task of the foundations of Chapter 1. As I said in the introduction, I will be using a thought experiment I call the perfect doppelgänger to answer that question, quite definitively I think.

In Chapter 2 we will be looking closely at the types of questions I asked in the introduction—the Enigmas of Existence such as, why couldn’t the human being that you are have come into existence and not been you? Many people could likely go straight to Chapter 2 and understand my discussion of those questions right now, could grasp the essential mystery they are pointing at. However, the foundations of Chapter 1 established by the perfect doppelgänger thought experiment will provide us with an essential tool for gaining a deeper understanding than we have before of questions like these. We will for the first time be able to not just be left perplexed by such questions, but will be able to see what they are *really* about, which is our first step toward solving (or dissolving) them.

Before we define what we mean by existence, though, there is something even more basic we need to look at (a preliminary to the preliminary, as it were). This is the question of what you already believe about your own existence. It might not be clear at first why we need to settle this before doing anything else, but it will become so later. And this very first step is actually pulling double duty: what we accomplish here will turn out to be an essential plank of the overall argument of the entire book.

To some this first step may seem banal and obvious, to others obviously wrong. This is why we need to lay it all out in the open.

1.1. What You Already Believe About Your Own Existence

It is a fact that you have beliefs about your own existence. It would be next to impossible for you to not. So the first thing we're going to do is to bring out into the open some of these things you already believe about your own existence. We're going to do this, as I said, before we even talk about what you *mean* when you talk about your existence. I suspect many of you don't even know what you mean when you talk about your existence. Yet, you still have some beliefs about it. You express your beliefs about your existence not in definitions, but in the way you talk about it, unconsciously, every day. So I'm going to examine the way you talk about it, and thereby describe what you believe about it.

Now, not everyone has the same beliefs about their existence of course, so I won't actually be describing everyone's beliefs here. But there are certainly some beliefs that are more common than others. So the ones I'm going to be describing here are what I believe to be the most common ones. We'll get to other beliefs later, in Chapter 3.

So here's one thing you probably believe: if you had put this book down and stepped outside thirty seconds ago, you would be outside right now. In other words, you believe that in that situation, you would exist, and you would be outside right now. You would be the human being that is outside right now. You would not *not* exist. You do not believe that your stepping outside thirty seconds ago would have had the same effect on your existence (you, now) as dying thirty seconds ago would have. When you imagine the former case, you place yourself there outside right now. When you imagine the latter case you place yourself nowhere right now. You would be no human being in our physical universe right now.

As I said, my claim that you believe these things is not a claim that you know precisely what you are talking about when you say it, but just that it is the sort of thing you would or do say regularly, without thinking about it much. If you are not primed to think about it critically or philosophically, for example, as I am doing here now. Sentences such as "I *would be* outside right now if I'd gone outside thirty seconds ago" are things you say (or at least think) all the time without even a glimmer of a notion that they're propositions (or contain propositions) worth questioning, and you live your life as though they were true. This counts as a belief that you have, even if you never articulated it before. And I should point out: I think it is an eminently sound belief. I hold it as well.

No such claims can be completely without controversy though, and there may be some who object to this one. As I said, I will come to these objections later. For now I will move ahead on the basis of the claim that this represents what *most* people do in fact believe. I'll provide some evidence for this assertion in a moment.

Now try this sentence on for size: "My parents almost moved our family to the south of France when I was five. If my parents had done that, I would probably still be there now."² Setting aside the specific details of location and whether you would be likely to stay in the place in which you were raised, is this a sentence you could utter? Does it represent your belief about your existence? Would you or could you say it or something analogous that was germane to the actual circumstances and places you have and could have lived in your life ("almost moved to Texas" or "almost moved to

² With apologies to everyone already standing outside in the south of France right now. You'll just have to think of your own counterfactuals to use as examples.

Mumbai”, etc.), if you were in a conversation and were not consciously thinking critically or philosophically about your own existence? I would venture that almost everyone would. Perhaps a couple of people fewer than would assent to saying the first sentence about stepping outside thirty seconds ago, but this is still the way most people talk and think. And so this is a belief most people have about their existence.

In other words, most people would *not* say, in casual conversation at least, “My parents almost moved us to the south of France when I was 5; if they had done that, I wouldn’t exist right now.” And so this is *not* a belief about their existence that most people hold.

How far back in time do you trace? Could you say the same (or an analogous) sentence about being a newborn, or when your mother was pregnant with you? “My mother almost moved to the south of France when she was pregnant with me. If she had done that, I’d probably still be there now.” The further back in time we get, the more controversial it becomes for some people to claim they would or could still exist there. For others though, the truth of the statement remains exactly the same. *Exactly* the same; this is an important point. And I would venture that the latter is the case for the great majority of people, that still, most people would assent to the statement about their mother being pregnant, again if they were not asked to think critically or philosophically about it, just as much, and mean the same thing by it, as they would to the sentence about moving to France when they were five or stepping outside thirty seconds ago. It’s something they might utter without much thought, and so counts as a belief. They *would exist there now*, and exist there fully, whereas they would not exist anywhere at all if they had died. Again, doubts about this will be addressed later.

Where does this trip backward in time end? If you trace your body back in time, you eventually come to a zygote. A zygote is the single cell that exists immediately after conception, after a sperm fertilizes an ovum. This divides and becomes multicellular, where we call it an embryo, and when the major body organs develop, we begin to call it a fetus. If your mother had moved to the south of France immediately after you were conceived, could you say “I would probably still be there [in France] now”? I think almost everyone still would say yes, they could say that. In fact, I slipped a little sleight-of-hand into my statement (and have been doing so all along). I said “immediately after *you* were conceived”. Can we assume it was “you” immediately after conception? Or even when “you” were five? Maybe not, but most people believe it was, because most people make such statements without thinking to question them. A great many people probably didn’t even notice this slip. And if this were a normal philosophical claim about what is true, this would be begging the question, assuming part of what I set out to prove. But I’m not trying to prove anything about your existence right now. I’m just trying to demonstrate some things about your and most people’s beliefs. And that sentence probably slipped by you, because, again, this is the way you talk about your existence already without thinking about it.

Do people stop at the zygote in tracing their existence back in time? I claim that they do not. What people most often trace back to is the gametes that produced the zygote that produced you. Most people would probably just say this as “the gametes that produced you”.³ And so the fundamental belief is this: we think the gametes were

³ It is an interesting side point to consider how people identify with these primitive antecedents to their current human body. People might say “when I was a zygote” or “when I was an embryo”—I’m certain I’ve unconsciously uttered these phrases at points in my life—yet not “when I was a pair of gametes.” This is probably due to number agreement: it seems strange to identify yourself with two separate objects. Moreover, people often identify with just the sperm, saying things like “I won the race to the ovum”. Why don’t people identify with the ovum instead? It

just as essential to our coming into existence as the zygote was, or to put it in a non-question begging way, that those gametes were just as singular and unique our antecedents as the zygote was. We think those gametes joining were *essential* to our coming into existence, or to our existence in the present moment. This statement may be a bit confusing with the mass pronouns “we” and “our”, so let me shift to a singular pronoun to make sure I’m being understood: You believe that that one particular set of gametes existing and joining was essential to you coming into existence. Probably. It is at least a very common belief, for anyone who has thought about it. I called this belief the Standard Belief about Coming into Existence, or Standard Belief for short, in the introduction. I will still use that term, but it will be useful to have a more rigid and descriptive term, so I’ll also call it the Gamete-Dependence Claim. It is the central topic of this book:

The Gamete-Dependence Claim: If the gametes that produced you had not joined, then you would not exist.

I’ve stated already that this is a common belief. I can provide evidence for this assertion. Here is one particularly eloquent statement of this claim. I will provide others later.

These are the paragraphs that begin Richard Dawkins’ book *Unweaving the Rainbow*:

We are going to die, and that makes us the lucky ones. Most people are never going to die because they are never going to be born. The potential people who could have been here in my place but who in fact will never see the light of day outnumber the sand grains of Arabia. Certainly those unborn ghosts include greater poets than Keats, scientists greater than Newton. We know this because the set of possible people allowed by our DNA so massively exceeds the set of actual people. In the teeth of these stupefying odds it is you and I, in our ordinariness, that are here.

Moralists and theologians place great weight upon the moment of conception, seeing it as the instant at which the soul comes into existence. If, like me, you are unmoved by such talk, you still must regard a particular instant, nine months before your birth, as the most decisive event in your personal fortunes. It is the moment when your consciousness suddenly becomes trillions of times more foreseeable than it was a split second before. To be sure, the embryonic you that came into existence still had many hurdles to leap. Most conceptuses end in early abortion before their mothers even knew they were there, and we are lucky not to have done so. Also, there is more to personal identity than genes, as identical twins (who separate after the moment of fertilization) show us. Nevertheless, the instant at which a particular spermatozoon penetrated a particular egg was, in your private hindsight, a moment of dizzying singularity. It was then that the odds against your becoming a person dropped from astronomical to single figures.

would certainly make more sense to, since the ovum contains almost all of the actual matter your body started from. Perhaps some chauvinism there?

The lottery starts before we are conceived. Your parents had to meet, and the conception of each was as improbable as your own. And so on back, through your four grandparents and eight great grandparents, back to where it doesn't bear thinking about.

Dawkins then quotes from the autobiography of the British biologist Desmond Morris (b. 1928), where Morris points out that he “might not be sitting here writing these words” had one of Napoleon's cannonballs (c. 1810) not shot off the arm of his great-great-grandfather James Morris. Dawkins finishes on this note:

There's no “might” about it. Of course he owes his very existence to Napoleon. So do I and so do you. Napoleon didn't have to shoot off James Morris's arm in order to seal young Desmond's fate, and yours and mine, too. Not just Napoleon but the humblest medieval peasant had only to sneeze in order to affect something which changed something else which, after a long chain reaction, led to the consequence that one of your would-be ancestors failed to be your ancestor and became somebody else's instead. I'm not talking about 'chaos theory', or the equally trendy 'complexity theory', but just about the ordinary statistics of causation. The thread of historical events by which our existence hangs is wincingly tenuous.

There is a lot we can learn from this passage about what Dawkins believes. For example, he points out how improbable it was that the exact combination of DNA you have would have come into being from among the incredible number of combinations possible. We can assume then, given his goals with this passage, that he believes you would not exist without that combination of DNA. And he points out how improbable it was that your parents would have met. In the same way then, we can assume he believes you would not exist if your parents hadn't met. In other words, he believes that a sperm and ovum with that exact combination of DNA had to come from your parents, in order for you to exist. If it had not, you would not exist. This is the gamete-dependence claim, the Standard Belief about Coming into Existence.

It also seems safe to assume that he believes you believe these things too, because he doesn't take any time to justify these assertions that you wouldn't exist if these things hadn't happened. He takes this to be an unspoken shared assumption, and uses this assumption to achieve his main purpose, which is to fill you with awe at the incredibly long odds against you coming to exist.

Now, Dawkins doesn't provide a definition of what he means when he's talking about existence. But as I've been doing all along in this section, I'm using Dawkins' own words about existence, and taking these to be his statements of belief about his and your and my existence, whatever he takes that to be. And he assumes he is talking about the same thing you are talking about when he says it.

Those points are relatively straightforward. There is a more important point for our purposes that is a little harder to see but just as true. Note that Dawkins places the long odds of you existing right now (almost) entirely at the point of conception or before. Nothing that happens *after* conception is considered in the odds of existing, as Dawkins uses the term, except the death of the conceptus or what it develops into (this is the “almost” above). This means that Dawkins accepts all the beliefs I've described so far, about moving to France when you were five, or a newborn, or a fetus or zygote

or whatever. Whatever Dawkins means by your existence, he thinks this is a thing you would have, a thing that would obtain in the universe, wherever that conceptus and the things it develops into goes after it is created. If he didn't believe this, then he would have had no reason to talk about the long odds of that particular conception and the events that preceded it happening. He could just as easily have said, "You are lucky your parents didn't move the family to France when you were five years old, otherwise you wouldn't exist right now," in the same way he implied, for example, that "you are lucky your mother didn't move to France before you were conceived, otherwise you wouldn't exist right now." He could have said that about any event in your life, and stated not the gamete-dependence claim, but the "not-moving-to-France-at-age-five-dependence claim", and every other life-event-dependence claim. But Dawkins didn't make that claim, and nobody else does either. Nobody makes life-event-dependence claims about their existence. If they make any claim at all, they make the gamete-dependence claim, just as Dawkins did.

So, since there'd really be no reason to bother stating the gamete-dependence claim unless you also believed this other thing about moving to France when you were five etc., it should be incorporated into the gamete-dependence claim, to make it clear and complete. So here is the full and precise version:

The Gamete-Dependence Claim (full and precise version): If the gametes that produced you had not come into being and joined, then you would not exist right now, but as long as they did come into being and then join somewhere and at some time and what developed from this conception went on to have a life as a conscious organism somewhere in the world up to the present, then you would exist right now.

So what is this claim actually about? Let me pause here and give some voice to critics. As I said in the introduction, many people will be assuming right now that what Dawkins and everyone else are talking about when they say "exist" is just the existence of a particular human body, and wonder why I am making such a big deal about it. This may even be what Dawkins himself thinks he is talking about. And it is consistent with everything he says explicitly, so it's a possibility that cannot be rejected out of hand. But I don't think it is what he actually means. There is another assumption hidden underneath what he says explicitly (and therefore hidden underneath what most people believe) that gives away what he is really talking about. To point out what this is, we must first get through the thought experiment in the next section. For the purposes of getting through that thought experiment, it is enough to just note that the full and precise version of the gamete-dependence claim is a complete description of the way people typically use the word "exist" in practice when referring to themselves. So whatever people mean by the word "exist", whatever the thing is they are thinking of when they say it, these things are what they believe about it. Or at least, what most people believe about it. If you don't wonder too hard what you believe about your existence and what you mean by your existence, it probably seems obvious to you.

Let's get back to the main argument now. You may have noticed that I snuck more premises into the above revised statement of the gamete-dependence claim. Note the phrase "as long as [those gametes] did come into being and then join *somewhere and at some time*". In other words, I claim that those gametes didn't have to join when and in the location they did join, but could have joined any time after their creation and in any place and you still would have been brought into existence, i.e., you would exist

now if what developed from this conception went on to have a life up to the present as a conscious organism. I take this to be a true statement of the common belief because it is the most consistent thing to believe with all the other parts of the gamete-dependence claim.

Let me explain that a little more. It is rare that we imagine a pair of gametes joining at a different time than they actually did join. Much rarer than how often we imagine a human being doing something different than he or she actually did do (like moving to France, or stepping outside). So we don't talk about it much. But it is certainly a part of our universe of possibilities. It is possible that the gametes that produced you could have joined at a different time. Even naturally, an ovum sits ready to be fertilized for about a week, and is in fact able to be fertilized for much longer, but just isn't in a location where a sperm is likely to reach (or if it did, then a location where it can develop and grow). And a sperm can live for several days in its natural environment after being created. So that sperm could have naturally fertilized that ovum at any time over the course of a couple of days at minimum. But we modern humans have made the length of this time span much greater in recent decades through artificial means. Infinite in duration, in fact. A sperm and ovum can be frozen and saved and remain viable indefinitely, and then thawed and joined, and a human being will result. This is a pretty common procedure these days in places that have fertility clinics. If the gametes that produced you had been frozen and joined five years after they actually were, and in France rather than where they actually were joined, would you exist right now? Would the human being that resulted be you, right now?

As I said, I think you should believe that you would exist right now, that you would be that human being. It's the only belief that is consistent with all of the other beliefs I've described up until now. You'd have to have a reason to accept that you when you were five or a zygote could have gone to France and you would still exist right now, but that if just those gametes before the conception of the zygote had been taken to France and been joined there, then you would not exist; the resulting human being would have been someone else, though it came from the same gametes. I think there are surely no reasons that could be found to believe one without the other, just as there are no reasons to draw the line anywhere else between the present and the zygote. And there is no reason to treat the location of the joining of the gametes as any more variable than the time of joining. (This, incidentally, creates an intriguing possibility not often remarked upon: your younger brother or sister could have been your older brother or sister if your gametes had been frozen, and your older brother or sister could have been your younger brother or sister if their gametes had been frozen.)

And so with this part in place, let me try just one final sentence out on you: "If the gametes that produced me, instead of joining when they did join, had been frozen and taken far out into space on a space ship and put on a space station and then thawed and allowed to join there and grow into a human being, and then if the space ship that brought them had been destroyed and all possibility of return to earth had thereby been shut off, then I'd be on that space station right now, assuming I had survived to this moment." Is this a sentence you could utter? (Ignore the complications of time dilation, or assume the time-difference to be sufficiently small.) Is this something you would believe? If you believe everything else I've said most people believe so far, then you should. It is the only thing consistent with those beliefs.

With that settled, let's get to the thought experiment. If, after reading all of this, you find that this still doesn't represent your beliefs, I promise to address you after the thought experiment is complete.

The Odds of Existing: Why Death is Not the End
May 15, 2021

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1.2. What Do You Mean When You Say “I Exist”?

I am now going to try to point out to you exactly what you are talking about when you say “I exist”. What you mean by it when you say it in everyday contexts, and what you have been thinking about all along as we’ve discussed it so far, including in the last section.

Let me explain a little what I mean by “what you are talking about when you say ‘I exist’”. If we were to ask the question, “what do you mean when you say ‘red ball’?”, we could point to a red ball and say “this”. And if there wasn’t an actual red ball available to point to, you would still be imagining something in your mind that you could “point to”, metaphorically, to yourself at least. “Pointing to” things, metaphorically (without using an actual finger, but just by putting our focus on it), is something we do all the time, when we wonder what we mean by something. We even do it for abstract things, such as love. Maybe to define love we might “point to” a feeling we have inside, or to characteristics of a relationship we have with someone. I’m not claiming we can have an exact or uncontroversial definition of love, or that we would all agree we are all pointing to the same things when we say the word “love”, just that when we think of love we are consciously or unconsciously pointing to something or some things in one way or another that suffice as definitions of what we mean by it for our everyday purposes, or for our purposes at that moment. This thing or these things we are pointing to when we say or think a word are the *referents* of that word, the thing or things we are referring to. This is the same thing I will attempt to do for the concept of existence here, for the utterance “I exist”. What are you pointing to when you say that? What is the referent? Is it a human body? Or is it something else?

What we mean when we say “I exist” is a difficult thing to keep in our minds. Many of us have the experience of occasionally getting a quick, vertiginous flash of insight into what our existence really is, which fills us with a sort of awe, but then quickly drifts away. We are left just with a feeling of having understood something very deep for a moment, but the actual understanding of the thing is gone. We just remember the feeling, not the thing itself. My goal with this chapter is to capture that insight in a way that we can hold onto it for much longer, to cast it into concrete so to speak, so we can examine it extensively at leisure, to find out what it really is and how it behaves.

I’m going to try to make this task as easy and straightforward as I can. But it may not be. So before we begin, recall the two quotes from Ludwig Wittgenstein and Thomas Nagel that I began this chapter with. They are words of wisdom and warning especially pertinent for the task at hand here. Here they are again:

[Philosophy’s] sources are preverbal and precultural, and one of its most difficult tasks is to express unformed but intuitively felt problems in language without losing them. (Nagel)

The thing I want to show you here is preverbal and intuitively felt, and if you are not careful the torrent of words might just as well mask it or misdirect you to something altogether more prosaic as properly clear the way and guide you to it. It is not prosaic. It is quite profound.

The aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something because it is always before one's eyes.) The real foundations of his enquiry do not strike a man at all. (Wittgenstein)

Yet, it has been always right before our eyes, and if you are not careful the torrent of words might give the impression that it is something much more esoteric and difficult to find than it is, a hidden secret somewhere in a deep chasm. It is not hidden. It is out in the open already. You might be looking at it and not even realize you are looking at it. So you just have to be trained know it when you see it.

If insight comes to you, it might well come in an instant, and words might still fail you to describe it, even if words are what led you to it. The words are just prepping you and priming you to see it, trying to point at it. They are not the thing itself.

First I will tell you a simple version of the thought experiment, to get straight to the point. Then I will tell you a long version of it, a science fiction story, to fire your imagination and convince you it could really happen.

1.2.1. A Simple Replacement

Imagine you don't exist. Some people claim this is impossible. In some sense I see their point, but in another sense I'm certain most of us do it quite naturally all the time. So imagine that you don't exist. There are many ways you could do this. You could take a practical route, and imagine the time before you were born, or the time after you die. Before you were born, there was a whole world, a whole universe, containing all sorts of things, and in the recent past most of the things it contains now. But you were nowhere to be found in this world. Among these other things it contained were a lot of other people. But none of them were you. You simply didn't exist at all, anywhere, though many other people did. The same will be true after you die.

Another way you can imagine that you don't exist is to imagine that you were never born. Imagine that it is the actual present, right now in all of the history of the universe, but that you are nowhere to be found in it. In other words, that it is the present, but the situation in regard to your existence is the same as it was 130 years ago, or will (presumably) be 130 years from now. It is the present, but you don't exist anywhere at all. There are other people who are not you, but there is no one and nothing that is you; your perspective, your existence, is completely absent. Just like it was before you were born or will be after you die. Imagine that it is like that now. I think this also should be easy for everyone to imagine.

You could use several practical ways to achieve this imagining that you do not exist right now as well. You could imagine that your parents had never met. Or that they had met but didn't copulate when they did, at the time of the conception event that produced you. Or you could dispense with the practical details, and just imagine your nonexistence in the present in itself, without any further questions about it. Just think about the world as it is in this moment, then erase your existence in it completely. You don't exist, anywhere at all. But everything else in the universe is basically the same, including there being a lot of people in it who are not you.

Now imagine something *into* this alternate present in which you don't exist but a lot of other people who are not you do exist. Imagine that one of those other people who are not you is a lot like you. In fact, essentially exactly like you. Let's say that this

person is like an identical twin, with the same DNA sequence as you, though we'll add the one stipulation that they weren't produced from the splitting of the zygote that produced you. We'll say that the zygote that produced you never existed in this situation we're imagining. But this person just happens to exist who has the same DNA as you in this situation of a present in which you don't exist. You don't need to imagine yet the technical details of how this could come about. Just erase yourself from the world, and put someone else with your same DNA into it.

This should not be controversial, but for some I think it will be. But really, it should not be. It is easy to imagine yourself not existing. And it is easy to imagine people who are not you existing. You don't even have to imagine for the latter; they are already all around you. And these people who are not you could have all manner of DNA. And they could have DNA that is quite close to yours, and still not be you any more than those whose DNA is quite distant. And they could have DNA that is exactly like yours and still not be you any more than those whose DNA is quite distant. So none of this should be controversial.

And if you can imagine all this, then you should be able to take these final steps. Imagine someone that is not you but that is exactly like you in every possible way, not just in DNA, but in every physical structure. And imagine this person in a present in which you don't exist. Finally, imagine this person occupying the exact same location in space and time as you do now, doing exactly what you are doing now, and thinking exactly the thoughts you are now, including having all of the same memories you have now. You don't exist, but this person does, exactly like you in every possible way, doing and thinking just what you are doing and thinking now. Just erase yourself from existence, and put this other person who is not you in your place.

Have you done this? Good. I call this person who just took your place your perfect doppelgänger. This person performs a very important function for you: he or she clarifies what you are actually referring to when you say "I exist". The thing you are referring to, the thing you are pointing to with those words, is the sole difference throughout the universe between actual reality and the alternate possibility in which your perfect doppelgänger exists in your stead. In other words, your existence, what you are referring to when you say "I exist", is the one thing that exists in the actual universe but not the alternate universe. Absolutely everything else that exists in our actual universe exists in the alternate universe as well.

One big reason this is important is that it separates your existence from the content of your life. Many people think their existence is wholly defined by the content of their lives, i.e., their memories, beliefs, desires, etc., socially constructed or otherwise. But in this case, you don't exist, yet all of that content *does*. It's just that someone else has it: someone else has all of the same memories, beliefs, desires etc. that you do right now, that you might think defines your existence right now. And so this thought experiment shows that your existence is something other than that content. The content can obtain with or without your existence. So you are not referring to content when you say "I exist." You are referring to this other thing I have isolated here. That is your existence.

This should be profound and surprising, if you see it. It was for me. I think this existence is a thing that has always been right before our eyes, but most of us have never named it and so have never seen it, never consciously distinguished it as a thing itself. It is akin to air, or space, before we thought to consider them as their own separate entities. And this has left our discussions of our existence in a muddle. This thought experiment is an attempt to clarify this muddle, to isolate and bring this thing to light

so we can all see it, and agree on what we are referring to. Then we can try to discover what is true and false about it.

This is the basic idea of the perfect doppelgänger, but there's a story I like to tell myself that makes it much more vivid and real, and makes the conclusion seem irresistible to me. I'll share it with you. In particular, I'm going to show you that this situation is actually physically possible in the actual universe we live in—it could have happened to *you*. And this shows that this existence, your existence, is a *real* thing in our universe, in some very important senses of the word “real”.

1.2.2. The Perfect Doppelgänger Thought Experiment (PD)

There is a single pair of gametes that produced you, many years ago. Picture those gametes in your mind right now, one sperm and one ovum. They were actual objects in our universe at one time. Someone could have looked at them under a microscope, or held them in a tube or dish, though probably nobody did. Probably no one ever set eyes on them at all. But someone could have. So picture in your minds' eye right now what someone would have seen if they had.

Let's call this pair of gametes that produced you the A gametes, sperm A and ovum A. Label them that now in your minds' eye; they will carry this name with them wherever they go in the universe and for however long they last, just like any other organism or object that receives a name.

Now imagine that, instead of these A gametes joining in the way they actually did join in the real world, which for most people is when their parents copulated, that they were instead extracted from your parents at some point after they produced them and taken on a ship to some location in space far from earth. Out there in those far reaches of space, in a lab on a small space station, these two A gametes are placed in a receptacle on a bench, side by side, as yet unjoined, but preserved by some method to keep them viable. We already more or less possess the technology to do this, so this is something that could literally have happened.

If these A gametes are joined on that space station and grow into a full and normal human being there, we have established already that you should think of that human being on that space station as you, in the same way you would think of the human being living in France right now as you if your parents had moved you to France when you were five. In other words, in imagining those gametes brought out to that space station all those years ago and being joined and the resulting conceptus growing into a human being (in a surrogate mother perhaps, or maybe even re-implanted in your actual mother, or in some as-yet uncreated machine), when you imagine the present moment in this alternate reality, you should be imagining yourself there right now. You should not be imagining yourself nowhere at all, as you would be if those gametes were never joined. This is, at least, what would be in keeping with most people's beliefs, i.e., the Standard Belief about Coming into Existence.

Now, look again at those A gametes on the space station before they are joined. They are just two gametes in a dish on a bench. Here's where the new twist to the thought experiment begins: right next to the two unjoined A gametes on that bench are a set of gametes qualitatively identical⁴ to the A gametes. Call these the B gametes,

⁴ There's two different meanings for the word “identical”. Numerically identical means one and the same object. Everything is numerically identical just to itself. Whether numerical identity is retained across time or alternate possibilities is a philosophical question (i.e., whether this pencil is the same pencil as it was one second or one minute or one year ago, or would have been had it been sold to someone else). Qualitatively identical actually just means

sperm B and ovum B. These B gametes are qualitatively identical in every single possible way to the A gametes, the ones that produced you. Genetically identical, of course, but also identical to whatever extent possible in total physical structure, right down to the last atom, even the last electron or quark.⁵ Don't get too concerned with the details of the subatomic physics here; we'll just say identical to whatever extent possible, in other words, to whatever extent it even makes sense to say identical.

You might be wondering, where did these B gametes come from? How was an independent set of gametes created that were qualitatively identical to the gametes that produced you? I'll discuss ways this might have happened at the end of this chapter, but for our purposes at the moment it doesn't matter yet. It is enough to note the obvious fact that for any physical object in our universe, an exact copy of it could exist.

Now, what if out on this space station the A gametes were allowed to join with each other and the B gametes allowed to join with each other, and both conceptuses allowed to come to term and grow up into human beings on that space station and these human being lived to the present? You probably believe that you would exist in that case as the person who grew from the A gametes (the A person), and another person would exist as the person who grew from the B gametes (the B person), who would be in most practical respects an identical twin, both of you out on that space station right now. You should believe this, if you want to be consistent with your other beliefs. And you should of course believe that you would come into existence if the A gametes were joined and the B gametes *not* joined. There is no reason to believe that the existence

two separate objects that are similar in every possible way, or at least in every way relevant to the context. In other words, identical in qualities. Such objects can exist at the same time in the same universe. If I use just the term "identical", as I do even in this paragraph, I mean "qualitatively identical".

⁵ I talk a lot about atoms in this book, and swapping out atoms for other atoms, and tracing a single atom through space and time as the same atom. Some might point out that this isn't actually how the fundamental physics works. Everything is energy, there are no solid objects at the tiniest levels. An "atom" moving through space and time is really just a disturbance rippling through spacetime, so there is no sense to be made of an atom being the same atom "here and now" and "there and then". Individual atoms are not discernable from each other over time and space. Particles at the fundamental level "vanish and reappear", as Carlo Rovelli says, so there is in some sense, or in some cases, no sense in saying this particle here now is the same particle that was over there a few minutes ago. Or that this particle went from here to there in this span of time.

My first point about this is that this fact makes for just as strong an argument for most of what I want to say in this book as the way I'm doing it (some would say stronger), so nothing is lost in what I want to say due to this fact. However, my entire method of argument would be very different if I were to do it this way, and this would be a much more esoteric and less accessible book. I want to present an argument anyone can understand, using the intuitive sense of matter they already possess, without having to learn fundamental physics. My argument stems from the way we experience our macro-reality and casually conceive of our micro-reality.

Which leads me to my second point: if atoms are too small an entity for you to conceive of them as having identity through space and time, then whenever I speak of atoms simply increase the size of the chunk of matter to the minimal size for which that characteristic does make sense. Whole human beings trace a path through space and time, as do grains of sand, as do things the size of bacteria. There is a size of matter much smaller than a grain of sand or bacteria but larger than an atom that still behaves the same way as grains of sand and bacteria-sized inert matter do as far as retaining identity (to human perceivers) as it traces through space and time. Simply think of that size of a piece of matter instead of an atom, as necessary. For convenience and imaginative vividness however I'll keep using the word "atom". (I have a few more things to say about fundamental physics in a moment.)

I'll also note that, if we really want to be strict about things, space and time probably don't exist in fundamental reality either. Some people think they are created by our minds. In Chapter 3 I will make an argument about how our perception of things in some ways *is* the criterion for some situations of what it is useful to call "real" and "unreal". This applies to space and time as well. But as with the non-identity of particles through space and time, the unreality of space and time can provide a different method of arguing for the same conclusions of this book. I will not pursue this method myself though.

and/or joining of the B gametes or any other set of gametes that are not the A gametes has any effect whatsoever on whether or not you exist. We've already tacitly established this. The only thing that affects you coming into existence is the A gametes.

It follows from this then that if just the B gametes were joined and not the A gametes, then this other person, the B person, would come into existence and you would not. If you are tempted to say that you would be the B person in that case, that it would be proper or acceptable to imagine yourself existing there now as the result of the B gametes rather than not existing at all, then I'd like to draw your attention to what the B person would think about that, if you both existed right now. They could just as easily claim that they would be the one to come into existence, and not you, if the A gametes had been joined but not the B gametes.

Now let's get down to the point of all this apparatus. The action heats up: Imagine that a scientist walks into the room on the space station and stands right between the two sets of gametes, A gametes on the left and B gametes on the right. She picks up both sets, one in each hand. She is going to select one set of gametes to keep and one set to destroy. The ones she keeps will be placed in another receptacle, which has been between the first two all along. The ones she destroys will be placed in a machine that destroys them. She chooses to keep the A gametes, and destroy the B gametes. The A gametes safely in the new receptacle on the bench, she walks away to take care of other scientist business.

A while later, a doctor walks into the room, and takes the receptacle that now contains the A gametes through an air lock and onto a transport ship heading for earth, while the scientist remains on the space station. This doctor doesn't even know that there were originally two sets of gametes, and that the scientist chose one and destroyed the other. He just picked up that receptacle as instructed to bring it back to earth. When he arrives back on earth, he joins the gametes in a lab to create a zygote, and he goes to see your mother with the zygote. She also has no knowledge that there were ever two sets of gametes. She's just happy to be having a child, and remembers gametes being extracted from her and your father before. The doctor implants the zygote and nine months later a child is born, your mother and father raise this child, and it lives a full and normal life. This is person A, and we'll call the whole scenario universe A.

Who is this person A in universe A? Is it you? Of course he/she is. We've established that you are the result of the A gametes wherever and whenever in the universe they go, including out into space and then back to earth. So we can amend what we said just now to "nine months later *you* are born, your mother and father raise *you*, and *you* live a full and normal life." That is the proper way to imagine this scenario.

And here is an essential part of the thought experiment: in order to make it especially vivid, imagine that these are the actual circumstances under which you came into existence, that this is the actual story of your conception that led to exactly the life you've actually lived up to the present, the same in every detail. Since none of us remember our conception or gestation period or indeed even the first few years of our life after birth, this should be easy. So, from your perspective, the A universe is the actual universe we live in now. This will not be true for probably everyone who will ever read this, but it has no effect on the pertinence of the thought experiment, since it could happen to *someone*, and this makes it relevant to all of us.

With this in mind, imagine this situation again from the beginning, with one small change to it. You have probably guessed it already: the scientist chooses the B gametes to keep, and destroys the A gametes. Everything up to the point of the choice of the gametes is the same as in the previous scenario, in the A universe; every

movement and thought of the scientist, everything. And again, after those movements where the choice is made, everything else is the same, to the maximum extent possible. The B gametes are set down in the new receptacle in exactly the same way the A gametes were, and sit there in exactly the same configuration (more accurately, configurations through time) as the A gametes did. The scientist steps away from the bench and goes off to do exactly the same thing she did in the previous scenario. The doctor walks in and takes the gametes onto a space ship, travels the great distance back to earth doing exactly the same thing each moment he did in the A universe, creates the zygote from them upon returning to earth, and brings the embryo to your mother on earth. Remember that neither the doctor nor your mother even know there were two sets of gametes and that a choice was made, so it is very easy to imagine all of *their* movements and thoughts being truly (numerically) identical in the two situations, from start to finish, and therefore all the movements through space and time of the two sets of gametes being identical in their respective universes.

So this zygote B is implanted in your mother, and a child is born, person B. This is universe B. Your parents raise person B in the same way as they raised you, down to the last detail. This includes, of course, giving him or her your name. Further, person B now proceeds to live a life that is identical to person A's in every possible way. In other words, as stipulated, identical to the one you actually have lived and will live until you die, and identical down to every atom and quark, however small you think it is reasonable to go. The point is that all movements of matter through space and time are the same in universe A and B from the point in time right after the scientist made the choice up to the present.⁶ If this is too generous a possibility for you to entertain, you can limit the identity to everything that happened within the atmosphere of earth. The point of the great distance of the space station, and the tininess of the difference at that great distance, is to make this more plausible. What happens on earth is all that really matters for the thought experiment.

And of course, person B is not you. Everything we've said so far makes person B not you. Person B lives a life identical to yours, right down to the last atom, from the very beginning of that life up to the present, and into the future until death, but person B is not you. Person B is your perfect doppelgänger, another person living your exact life in your stead, from beginning to end. And in universe B, you don't exist at all, anywhere, ever. When you think of this situation, you should image yourself nowhere in it, just as you do when imagining all the other situations where the A gametes never join.

I call this the perfect doppelgänger thought experiment. I'll use the abbreviation PD to refer to this thought experiment hereafter.

Some people might object to these claims of physical identity between the two universes, even just on earth. There are questions of determinism, free will, and the quantum world. Rather than take up time with these objections here, I'll discuss them in an appendix. Part of the power of this story is just in imagining it, and this is undoubtedly possible to do. But I'm convinced that it is actually possible to attain something that for practical purposes is physical identity on earth between the two universes, for everything that happens on earth in universe B to match everything that

⁶ In fact, right after the doctor leaves the space station on his ship, the space station falls into a black hole. Poor scientist.

has actually happened on earth in our universe, universe A. If you need to see the full argument for this, please do go to the appendix.⁷

1.2.3. Imagining Your Perfect Doppelgänger

So let's think about what having a perfect doppelgänger would mean. Imagine your *entire life* being lived by someone else, this perfect doppelgänger of you, exactly as yours has been lived in every possible physical domain, and you never existing. First off, it is clear that this would have made not a bit of difference to anyone else. Your mother would have given the exact same love to this other person as she gave to you. No one who ever talked to you would have known what they were missing (or what they gained by knowing person B).⁸ So the reality is that no one actually cares that *you* specifically exist, not even your own mother. They just care that someone of your exact physical makeup exists. That should be ego-deflating in several senses of the word. The only person it would matter to is you, and you don't exist for it to matter to. And yet, to you, at this moment in this universe, from your vantage point of actually existing, this matters quite a lot. You can imagine not ever existing, and it's something you really don't want to have been the case. (For most people; my heart goes out to the depressives who do not feel this way.)

It is especially instructive to imagine this being the case, right now, at this moment. Here we return to the spirit of the first version of the thought experiment: just consider yourself at this moment, whatever you are doing, then in your imagination delete yourself from the situation, and then put an exactly identical human being in your place, occupying all the same space as you. *You don't exist*, but everyone else who exists right now does, and someone else exactly like you in every way is reading this book, or taking a moment to look up and glance out the window at a tree. Just look at that tree, or some other object, for a few moments, and calm your mind and meditate on it, and imagine not existing, not being here to look at that object, and then imagine that there is someone else, exactly like you in every way, here at this moment instead, occupying the space your body is now, looking at that object and having this exact same

⁷ Briefly, the conceptual part of the argument (not relying on the actual details of physics) goes like this: If you are incredulous about the two universes matching atom for atom or quark for quark because of the indeterminacy down at those small sizes, then just pick some larger quantity of matter to match up. At some level, identity makes sense, and if it doesn't make sense at smaller than that level then it doesn't matter whether we say or think the two universes are identical at those levels anyway. I think claiming identity might make sense even at the level of atoms or quarks. But even if not, the level at which identity undoubtedly does make sense is still *extremely* small, small enough for all practical purposes.

Among the many readers of the first draft of this book was a friend who is a nuclear astrophysicist. She read my previous attempt to discuss the quantum physics of this situation (which I've excised from this draft) and, after expressing confusion at my understanding of it, asked me why I bothered to go into it at all, saying something to the effect of "everyone understands what you mean when you say 'identical' in this situation anyway." I think many people who have some understanding of quantum physics get hung up on one issue or another of the quantum reality whose apparent relevance is only superficial. For example, remember that stipulating that two things are identical doesn't require that we *measure* them to *prove* that they are. Also, does entanglement really *preclude* identity between the two universes, or does it just make it that much more "difficult" to achieve? Or, if quantum indeterminacy is what bothers you, is it not enough to say that for each particle the *wave function* matches perfectly? (Is this possible to achieve in PD? I'm not sure.) Still it would be interesting to discuss the actual facts of this situation from a quantum physics perspective. I haven't done that yet—the physics portion of the appendix hasn't been written yet—so this footnote is just a placeholder until I can get some expert help in writing that part. (I am currently not accepting assistance from people who know about as much about it as I do.)

⁸ Of course, no one would even have "noticed" if a completely qualitatively *different* human being had existed instead of you either, but I think you get my point.

experience, instead of you, with all the rest of the world or universe being identical. Do it now, just for a moment.

I like to put myself in the perfect doppelgänger state of mind at random moments day to day. Just walking down the street (I live in Tokyo, so this is more than an outdated cliché for me), or shooting baskets, or shopping, thinking about something else, anything else, and in my imagination I make myself disappear completely, as though I had never existed, and place another identical human being in my place, walking the exact same path or making the exact same rebound in the exact same way and having the exact same thoughts.

Or even more vividly, talking with someone, looking in their eyes, and imagining an alternate universe where this person, this very same person, is having this very same conversation and experience, but not with me, not looking into my eyes, but with someone else, looking into someone else's eyes, with someone else looking back at them, but no detail of the physical universe being different. I simply don't exist, anywhere. But for my interlocutor, it is *exactly* the same.

You can flip the roles as well, and imagine that other person being a perfect doppelgänger instead, that you could be in a qualitatively identical situation, looking into their eyes but not “seeing” the person you are seeing now, but a different person. Try it next time you talk to someone face to face. “Behind” those eyes, in the “caverns of their brain”, is a different person, the consciousness that is regarding you right now just not existing. *This* person who is looking at you now would not be looking at you in this alternate situation, but someone else would be, even though this alternate situation would be qualitatively physically identical in every way. This is a powerful thing to do with someone you are very close to and see often, someone you love deeply, like a partner or close friend, just imagining that you had had an exactly identical relationship up until now with a qualitatively identical person who was not the person you knew, but someone else. All those moments you were looking into this person's eyes, in this counterfactual situation it was a different person looking back at you.⁹

I did this recently with Paul McCartney, watching *A Hard Days' Night* for the first time. I just looked into that young fellow's eyes there on that screen, and imagined the poor Paul McCartney we know never having existed, and another fellow being him instead, cracking all those jokes, writing all those songs, coming to live all of that rich and incredible life. To really hold onto the deep intuitive puzzle about existence I'm trying to get at with PD, it's helpful to have these sorts of flights of imagination in many iterations over time, in many different scenarios, to really live with the idea and let it sink in. I recommend carrying it around with you for a while.

1.2.4. Content and Existence

As I indicated before, the primary lesson to draw from PD is this: it defines exactly what “I exist” actually means when a person says it. In other words, it defines what thing people are referring to when they say “I exist”. We could formulate it like this:

“I exist”, for any person, refers to the sole difference between universe A and universe B.

⁹ This belies a prejudice for sighted people, I know. I'll discuss this a little more in Chapter 4.

According to PD, we could have a region in space (within the atmosphere of earth) and a stretch of time (the length of a human lifetime) which was physically identical between two possibilities, right down to the atoms, and yet in one you exist and in the other you don't. That one thing that is different, that one thing that obtains (exists) in universe A but not universe B, is what you mean when you say "I exist". In other words, that one difference is the *referent* of "I exist", what it is you are pointing to. It is the *object of discussion* when we talk about existence. PD *isolates* precisely what we are talking about when we say "I exist" from any other factors we might think we're talking about.

Most specifically and usefully, what PD isolates your existence *from* is the *content* of your life and mind: memories, desires, intentions, likes, dislikes, loves, hates, hopes, dreams, anxieties, beliefs, aptitudes, skills, self-conception, and all the rest. The entirety of the content of your mind, down to every last detail, could exist even if you didn't exist. It could exist in someone else. And so, when I say "I exist" I must mean something different from the content of my life.

The distinction between personal existence or "I exist" and content is one of the foundational points of this book, and I will return to it many times.

I'm going to call this existence isolated from content "personal existence". Up until now I've called it just existence or "your existence", or I've been using "I exist" as a single noun in quotes to hold it together. I'll continue using those terms, but I'll add this term "personal existence" to them. Though I find it somewhat inelegant, it is useful because it is unambiguous, rigid and descriptive. I'll say a little more about this term at the end of Chapter 1.

There is a sense in which you already knew about this distinction between content and your existence without the apparatus of PD, even if you never articulated it. Imagining having moved to the south of France in the distant past of your life, or any other alternate life for yourself, has this same effect of isolating content from personal existence as separate phenomena as PD does. When we imagine a different life for ourselves, we are imagining the *same* personal existence with *different* content.¹⁰ Or at least, most of us are. But PD makes this isolation of personal existence stark in a way that this more everyday imagining does not, because it keeps content constant, which is the thing we already have a clear definition of, while changing the personal existence, which is the thing that has been hidden to most of us. By changing it, moving it around as it were, we can thereby see it.

This concept of personal existence can seem simple from some perspectives, but as I've indicated already, I think it is quite deep and profound when seen from other perspectives. Once you see it, this existence isolated from content pops out at you from the background, as something mysterious that has always been there but that you could never quite put your finger on. At least that's how I experienced it when I first saw it. PD defines the content of that insight about our own existence that comes to some of us in fleeting moments, that seems inexpressible and ungraspable. Understanding what my existence consists of is making clear and prosaic what has previously been a deep mystery.

¹⁰ An interesting thought is to imagine an alternate life for yourself, and then imagine an identical twin actually leading that alternate life in this universe we are in now, matching it atom for atom. An identical twin would be a perfect doppelgänger of your alternate life, and if he or she was someplace you've never been, could even be existing right now in the universe you inhabit.

1.2.5. The Body-Tracing Criteria

Let me finally suggest a way that you use this concept of your own existence, i.e., your personal existence. This is the culmination of what I began in section 1 of this chapter.

We inhabit a whole universe of time and space. In this universe, there is the present moment, and the location you are in now. There is a lot of time that is past in this universe. There is (presumably) a lot of time that is future. And there are a lot of other places. You sometimes imagine these different times and places, and in some of them you imagine your personal existence obtaining, and in some of them you imagine it not obtaining. In other words, in some of them you imagine yourself existing when you imagine them, and in some of them you imagine yourself not existing.

Further, there are other possibilities for this universe. These are not actual, they are only what could have happened. One example is the possibility that your family could have moved to France when you were five. They didn't, but they could have. Another is the possibility that your parents never met. Or that you hadn't gotten that one job you love. And so you think about more than just the questions above about the past and future. When you imagine these alternate situations also, in some of them you imagine your personal existence obtaining, and in some of them you imagine it not obtaining. In other words, in some of them you imagine yourself existing, and in some of them you imagine yourself not existing.

Most of us have strong beliefs about which times and places and alternate situations we should and should not imagine ourselves existing in. And most of us use an unconscious rule of thumb to answer them. I call this rule of thumb **the body-tracing criteria**. In your imagination, you trace the human body you are now back and forth through space and time and into alternate possibilities that did not actually come to be, and wherever you find that human body, you place your personal existence there. Or, to put it another way, you imagine yourself existing there. Your personal existence goes wherever that human body goes. This is true no matter what content that body ends up having due to variable influences from the environment. If it goes to France and learns French instead of English, then it is you that learns French and not English, there in France, and you that is there now, speaking French. That human body is not someone else there, speaking French, the way that all the other people there now *are* someone else there, not you, speaking French. You do not not exist in that situation.

And in situations where that human body is not, either before its conception, after the death of the body, or in alternate situations where that human body never comes to be, so too your personal existence is not. You do not exist in those situations. In other words, your rule, the body-tracing criteria, tells you that you should not imagine yourself existing in those situations.

I think this is a correct description of what we actually do imagine when we are imagining times and places that are not the actual present. This belief has a central place in the argument for my new view, so I will return to it often. It is one of the two main pillars of that new view.

You may see a problem with this story though. This description also matches exactly how people would talk if they really were just talking about a particular human body when they say "I exist". How do I know they are not? How do I know they are rather talking about this other thing or concept I've isolated and named, this so-called personal existence? The short answer is this: consider just how amazed people are at the long odds against them coming into existence. How could they feel that way if they

were just talking about a particular human body? I will claim that they couldn't. I'll explain this in the next section.

1.2.6. Just a Human Being?

So how do I know that when people say "I exist" they aren't just referring to a particular human being that exists, just as they might any other object? How do I know they really have in mind this metaphysical object I've isolated from content here? This is a tricky question to answer, because I will be claiming to get into other people's minds, to know more about what they actually believe than they themselves do. I put this particular discussion off until now in the hope that I could get you to see and accept the concept of personal existence even if you would otherwise be resistant to it or to my methods of bringing it out into the open. I hoped that once you saw it you would agree that it really is what you are referring to when you say "I exist", at least some of the time, even if before you thought it wasn't, and that after seeing the concept you would then agree with me that the way this "I exist" behaves in your intuitive or subconscious sense of it is the way I've described. Most importantly, that it is the *absence* of this personal existence that you are thinking of when you think of not existing. By seeing these things, I thought you might find that your objections had disappeared with no direct attack on them. This is my hope for everyone, and it would be easiest if this is what happened to you. But I do have another argument to offer to convince you that you are talking about personal existence, that this is what you really have in mind, when you say "I exist", and not your human body.

Recall some of the things Richard Dawkins said about coming into existence in the quote I gave in earlier:

We are going to die, and that makes us the lucky ones... The potential people who could have been here in my place but who in fact will never see the light of day outnumber the sand grains of Arabia... The set of possible people allowed by our DNA so massively exceeds the set of actual people. In the teeth of these stupefying odds it is you and I, in our ordinariness, that are here... The instant at which a particular spermatozoon penetrated a particular egg was, in your private hindsight, a moment of dizzying singularity... Your parents had to meet, and the conception of each was as improbable as your own. And so on back, through your four grandparents and eight great grandparents, back to where it doesn't bear thinking about... Not just Napoleon but the humblest medieval peasant had only to sneeze in order to affect something which changed something else which, after a long chain reaction, led to the consequence that one of your would-be ancestors failed to be your ancestor and became somebody else's instead... The thread of historical events by which our existence hangs is wincingly tenuous.

What these quotes demonstrate is something that most people feel when considering the odds of their own existence, and in fact the reason people tend to bring it up in the first place: sheer stupefied amazement that it happened at all, and great concern that it should have happened. And this is what tips their hand that they are talking about this personal existence I've taken pains to clarify here, and not something so prosaic as just the existence of a particular human body, when they talk about their own existence, or when they say "I exist". It would not be possible to be amazed at this,

or to be concerned that it should happen, if you weren't talking about your own personal existence.

If one were talking just about the fact that a particular human body came to be out of the huge number of possible ones that could have come to be—the number of possible DNA combinations, for example—one would have no reason to be amazed by it. No more reason than being amazed if you were to pick a random 20-digit number out of all possible 20-digit numbers. One had to be picked. In fact, I will do it right now, using a random number generator on the Internet. My number was 55,419,245,515,621,404,581. Isn't that amazing? Do you realize that the odds against that exact number coming up were 1 in over 55 quintillion? That's like counting to 55 trillion...*one million times*. If you were to pick one random twenty-digit number every second, discarding each one as a possibility after it was picked, it would take you over 1.4 trillion years to be certain of getting this one. That's 100 times longer than all of the time that has elapsed since the big bang. And yet that's the one that came up *on my first try*! Astounding!¹¹

No one is astounded by this. And the same is true for any particular human sequence of DNA that comes into existence. If a man and woman have sex and conceive a child, that child will have to have some human sequence of DNA. It only becomes amazing to a particular person when they consider that *it was their own personal existence that came into being*, against the amazing odds that it wouldn't. In other words, that that sequence of DNA brought into being that (your) personal existence. Dawkins' astonishment reveals that this, his (and your) own personal existence, is in fact what he is talking about coming into being, and not a human body, when he is talking about existence in his quote.

This then is our great concern: that this personal existence come to be, not that a particular human being come to be.

Now, Dawkins might *claim* that he is only talking about his human body. That is probably what he thought he was talking about when he wrote that. Perhaps if he read my discussion so far, he would realize that he wasn't. But even if, after all my discussion so far, he still insisted he was talking only about a particular human body, I would simply consider him mistaken. I'll say it again: it is not possible to be amazed at the long odds against you coming into existence unless you are talking about personal existence.

To be perfectly clear about what I mean in this case specifically: my claim is that people often allow personal existence into their ontology even if they disclaim it vehemently with their words. (Ontology: a theory or belief about what exists and what does not exist.) They often surreptitiously substitute it as the object of their discussion when they talk about existence, even if they themselves are unaware that they've done this, and even if they insist to the ends of the earth that they don't believe in such things, and are only talking about a particular human being when they talk about existence. This can be true for even very intelligent and well-meaning and diligent and perceptive people who have worked very hard on the problem. And I am certain that there is no

¹¹ I'm quite pleased by the number I got. I got it by generating one digit at a time. There's an awful lot of 5's in it, and only 15% of the digits are over 5, when on average they will appear 40% of the time. Both of these are features that an intentionally selected series of digits would be less likely to have than a randomly generated one. Also, there are no 7's at all, and this is far and away the most commonly selected digit when you ask someone to pick one randomly. And I'm glad that there was at least one zero, as this proves to you that I was using the generator correctly, calibrating it for digits 0 to 9, instead of a number from 1 to 9 or 1 to 10. All in all, I would say this a very fine example of a random number mocking our intuitions of what a random number should look like. What are the odds of that happening?

other way to be amazed that you exist against such long odds than by talking about personal existence, the exact concept of personal existence I have labored so much to bring to light, whether you admit to it or not. There is nothing else you could be talking about.

You might object, “It’s not just a concern that *a* human body should come to be, it’s a concern that *my* human body should come to be. But it is still just a concern *about* a human body.” My reply is that once you add that “my”, you have admitted personal existence into your ontology. You can’t pick out a particular human body with “my” unless you do.

So what appears, in Dawkins’ quote, to be a straightforward recitation of simple facts about the coming into being of a particular human being, is actually surreptitiously entirely about this oddly metaphysical idea, this personal existence. And this is so not just for Dawkins, but for everyone who thinks similarly. I’ve just used Dawkins as a mouthpiece for the common belief.

Here’s another way of looking at it: imagine a very advanced computer being amazed at the long odds against its own coming into existence. What would we have to attribute to that computer in order for it to make sense that it is amazed at the long odds against it itself, and no other, coming into existence? We would have to attribute to it a personal existence, the type of “I exist” we ourselves have, and that this is what it was talking about being amazed at coming to be, not just the particular configuration of physical parts that make it. And we would have to imagine that the computer would assume that its personal existence would be absent, completely absent from the universe, had something been different about the physical makeup of its construction when it was made. Had its construction been different—different materials or different configuration—it would believe that that object would have been someone else, a different personal existence, not the one it itself was so lucky to have come into being. Otherwise there would be no luck or extremely long odds. These beliefs would be required for it to be amazed. (A further corollary to this, though not essential for us to accept just yet, is that the computer would also have to imagine that it would continue to exist, be the same personal existence, through some changes in its content (software, data) over time.)

If, after all of this, you *still* feel resistant to this claim, may I suggest that you may actually be making *too much* of my concept of personal existence. Maybe you are afraid I am reifying this personal existence, claiming that this thing that is separate from content is an actual real thing itself. (Reify: to make something into a concrete, real thing.) I do not take this reification to be an essential part of my theory. You can think of personal existence as just a concept if you like. For reasons that will become clearer in Chapter 3, I don’t think it is essential that we decide whether it is a concept or an actual thing. Whether we call it an illusion or a hallucination or reality doesn’t matter that much. So I would entreat you to not deny it simply because you fear accepting it would force you to accept too much. Look within yourself and see if this is at least the way you experience your own existence, if you can at least make this distinction conceptually. Feel free to call it an illusion after that if you like. I’ll speak more to you on that point in Chapter 3.

Alternately, perhaps you actually do see it already but don’t realize you see it. Maybe you had been seeing it all along, even before reading any of this, and now you think I’m pointing you to something different. Or perhaps all of my words have made you think it must be something more complicated or esoteric than the thing you now have in mind. But you might have it already. It is a pre-philosophical intuition; complex

words don't mean it is a complex concept. The complex words are just meant to get you to see the simple concept. You may already be seeing the simple concept and not realize you are seeing it, not realizing this basic thing you understand is the thing all of these complex words were meant to point out to you.

And there is another point. One reason this distinction between content and existence is not made in a great many discussions of existence—much to the detriment of the clarity of those discussions—is that many people would say that the distinction *can't* be made. It is a common belief among materialists that there can be no consciousness without content. I agree with this belief. There is no “I exist” without content, and more precisely physically embodied content. I do not believe that this “I exist” is an actual object or thing separate from matter. Further, a featureless Cartesian ego—a pure personal existence (“subject of experience” in the common parlance) without any content to it—is not possible. And I would go further and say it's not even really conceivable; we may think we can conceive of it, but when we try to imagine it or think we are imagining it we are not really imagining it. We are still imagining some content, even if it is a much smaller amount than we have in our lives now. But content and “I exist”, or who exists, still refer to two different things, even if a particular personal existence requires content of some sort to exist at all. This is true no matter what we think the ontology—the reality—of this personal existence is. Saying “I exist” isn't just saying that a certain organism-embodied content obtains at a certain time and place. Saying “I exist” is adding something more to those facts about content. It is saying that something has obtained in a region of space and time that might not have obtained even if all the physical facts of that region of space and time were the same.

This completes the central argument of Chapter 1. The main thread of the argument picks up in Chapter 2, where I take this concept of personal existence and see how it matches up with our core beliefs, particularly belief in the gamete-dependence claim. (It doesn't match up very well.)

Before this, there are two topics tangential to the thread of the argument that nonetheless may be important to some readers going forward. I include them in the next section, and leave the option of whether to read them up to you.

1.3. Two Tangential Topics

1.3.1. How to Produce a Copy of a Pair of Gametes

So where did the B gametes in PD come from? I never specified that, because the truth is it doesn't much matter. A human gamete doesn't depend on its origin or its past to be a functioning gamete, i.e., a gamete that can produce a human being. It just depends on its structure in the present. This is an important point. The *only* factor that makes a gamete functional is its structure at the moment it is required to be functional. There is no mystical life force or anything else that is passed on from the parents that made it and carried forward through its history. And any pair of one sperm and one ovum made to viable human-gamete specifications can in principle join and they will produce a human being. A real human being, as real as you and me. It doesn't matter *how* they were made. So the B gametes could have come from anywhere.

But we might wonder how nonetheless. It is better if you feel in your bones that PD is actually possible, is actually something that could have happened to you in the real world. So here are some ways a pair of gametes identical to the A gametes could have been produced, or could be produced. First, they could have come from your own parents. Each of your parents could have produced another gamete just like the one they produced that brought you into existence, at any time in their life that they were producing gametes. For your mother this was a very short period: only when she was a fetus. For your father, assuming he does not become infertile and lives to a normal (in the developed world) age, this time span stretches 60 years or more. (In both cases it would be better if we specified that the B gametes came into existence after the A gametes did, so their production doesn't in any way affect the "identity" of the A gametes. Remember, once the A gametes are produced, they will produce you if joined no matter what happens in the universe after that. This is an integral, indispensable part of the Standard Belief.) And these gametes identical to the A gametes could have been produced by your parents by tremendous coincidence, or by being induced by some heretofore undiscovered medical process. The tremendous coincidence truly would be a tremendous coincidence¹², but it is still 100% and unambiguously within the realm of possibility.

The B gametes could also have been produced by a different man and woman than your parents, even if this man and woman were not twins or otherwise close kin to your parents. The odds are surely absurdly long (and mitochondrial DNA complicates this even further), but two human beings genetically different from your parents in certain restricted ways could in principle create a set of gametes identical to any set your parents produced. Remember that only half of the base pairs of a parent go into each gamete, and every gamete they produce has a different half. So a different human being would only have to share half of its DNA with your parent to produce a gamete identical to the one that created you.

Another possible method would be all of the matter just spontaneously coalescing into a functioning gamete that was qualitatively identical to one of the gametes that produced you. This is not impossible, but again, it is ridiculously unlikely,

¹² I think. I don't actually know how many genetically different sperm a human male can make. I don't know how to do the calculation. It would be an interesting thing to learn. There is some relevant discussion to this in Chapter 2.

vast¹³ orders of magnitude more unlikely than even the vast unlikelihood of two different human beings creating identical gametes. The important point is that even if an object that was exactly human-gamete structured came into being by pure chance, having come from no human being, it would still be a viable gamete that could produce a human being.

And so a gamete produced by a deliberate artificial process would also be a viable gamete. Perhaps one day they can be 3D printed. I believe people are already 3D printing pieces of organic tissue. Alternately, I believe scientists are also attempting to create gametes out of living people's bone marrow. It has not yet been successful, but according to these scientists in theory it should work. (Either of these processes could produce a large number of copies of a gamete. This point will become important in Chapter 2.) And if either of these artificial processes were to produce a viable gamete, this gamete could take part in producing a new human being, and there is no reason to think such a human being would be any different than one produced in the usual way.

And so, any of these methods could have produced a pair of B gametes, and the B person. And if *you* had been created from any of these artificial processes, we would be calling those artificially created gametes the A gametes.

But these are all just interesting facts to consider, because, again, for PD it doesn't matter how the B gametes came to be. The only thing that matters for PD is that the B gametes don't produce you, but instead produce someone else, and this is true no matter how they came to be, since they are by definition any set of gametes qualitatively identical to the A gametes that aren't the A gametes. And only the A gametes could have produced you. Any other of the vast number of possible gametes in the universe, even gametes physically identical to the A gametes, would necessarily produce not you, but another person. This is a fundamental truth of the Standard Belief.

And if a pair of gametes did come into existence in exactly the same way as the A gametes, then that pair of gametes would be the A gametes. It wouldn't be a different set of gametes. At this point, you may be wondering, well, what does that mean, "exactly the same way"? Exactly how similar would the process have to be to be "exactly the same way"? What factors of similarity or sameness matter? These are the right question to be asking, but the time has not yet arrived for answers. That will have to wait until Chapter 4.

1.3.2. Personal Existence and Personal Identity

Finally, let me say a little more about my choice of the term "personal existence". As I said earlier, there are a number of terms I've been using to name this thing I have just isolated. "I exist", in quotes to hold it together, is one. I've also been calling it just "existence". This is in line with our common usage in casual conversation. But "existence" alone is too vague; lots of things exist (including human bodies), so just the word "existence" doesn't clearly refer to the thing I'm talking about out of context. So I've coined this more precise term too, personal existence. I find it a bit lumbering and inelegant—would that I could have coined something like one of the great philosophical

¹³ Daniel Dennett coins the terms Vast and Vanishing to mean much larger than astronomical, the sort of number you get not from just measuring something very large, but from multiplying such numbers by each other many times. I adopt this from him, though without the capitalization. His explanation is in the chapter "The Library of Mendel" in his book *Darwin's Dangerous Idea*. I talk about this chapter more in Chapter 2.

terms of the past, like *Dasein* or *Existenz*¹⁴, but I have been unable to think of one. And anyway, personal existence has the advantage of being descriptive (it means “the existence of a person”), and being of clear descent from an existing common term in the philosophical discourse on this very same subject, “personal identity”. In this book I shall continue to use “I exist”, “existence”, and “personal existence” interchangeably.

Philosophers might wonder why I didn’t just use the term “personal identity”, since it is the term this discussion is usually cast in. I have reasons for this that are more relevant to those steeped in the field, so I’ll save my detailed explanation for Chapter 3, where I explain why I’ve chosen to focus on the term “existence” instead of the way these kinds of discussions are usually framed. Suffice it to say I think that our use of the term “identity” is part of the problem, part of what causes our muddle and talking past each other. It doesn’t clearly distinguish between content and existence. (The same is true of the term “self”, which I will also discuss in Chapter 3.)

There is one reason to avoid the word “identity” in these discussions that is relevant to everyone though. Think of the term “gender identity”, by now well-known to most of the general public. This is, among other things, your self-conception of your gender, male or female (or something else like “in between” or “fluid” or “none”). Such a socially and biologically constructed self-conception is a type of *content* of a mind or a person, which is the thing I want to isolate personal existence from. So to use “identity” would invite re-conflating the two ideas I’ve worked so hard to separate.

I started out Chapter 1 using the term “existence” without clearly defining it, until we got up to a precise clarification of what I meant by it with the term “personal existence”. But I’ve actually been using the term “person” pretty haphazardly as well. (Note that the “personal” in “personal existence” and “personal identity” actually means “of a person.” It doesn’t really mean “ownership”, as in “personal property”. I spent many years of my study of personal identity confused on this point.) I think mostly the word “person” can be used casually in normal conversation without much trouble. I was trying to ease into the argument as gradually and painlessly as possible, so I didn’t want to draw attention to it. But the word “person” is actually not precise enough. We should make a distinction between “person” and “human being”. Philosophers will already have docked me for not making this distinction yet. (But then, one could also claim that it would be begging the question to make it before completing PD and giving an argument for why “personal existence” is different from “human being”.) Anyway, I am making it now, and will stick with it from here on out.

“Human being” is a scientific term, just like “chimpanzee” or “dolphin” or “beetle”. It will be used to refer to a particular physical object, a particular individual animal of the species *homo sapiens* moving through space and time. Sometimes I will say “human being A” or “human being B” in reference to the entities introduced in PD as person A and person B. “Person” then becomes a more esoteric, metaphysical term, without as clearly agreed upon a definition. In general it has come to be used in philosophy and other disciplines as a term for any consciousness we might consider as countably singular, not just that of humans. We might include further considerations as well, less metaphysical and more practical, such as whether it should be accorded rights, and what rights it should be accorded. Intelligent life originating outside earth (i.e., space aliens) might be persons. A chimpanzee or dolphin might be a person. Probably a beetle is not. Artificial intelligence might attain personhood. These are all debated

¹⁴ Even when I discover some German I can use I don’t get such elegance: the term “perfect doppelgänger” is also rather lumbering. I do not like saying it.

questions, and there is a political slant to the use of the word “person” for these non-human entities that I hope will not distract you; a different and completely neutral term could have functioned just as well. My inclination is to affirm all these “mights”, but that is not germane just yet. “Person” is necessarily more vaguely defined than “human being”, and therefore its usage will also at times be more by feel than by precise definition, but for my purposes it can be thought of as the entity that has a certain personal existence (although this is a somewhat circular definition). It can also be thought of as the internal view, the view “looking out” from an organism or AI, if you will (although this might be charged with begging the question). I will also continue using “person A” and “person B” in reference to PD, but from now the terms will be used more carefully.

Chapter 2: Problems

What Caused You to Exist?

It isn't easy to absorb the fact that I am contained in the world at all. It seems outlandish that the centerless universe, in all its spatiotemporal immensity, should have produced me, of all people—and produced me by producing Thomas Nagel. There was no such thing as me for ages, but with the formation of a particular physical organism at a particular place and time, suddenly there is me, for as long as the organism survives. In the objective flow of the cosmos this subjectively (to me!) stupendous event produces hardly a ripple. How can the existence of one member of one species have this remarkable consequence?

These questions may strike you as ridiculous even if you ask them about yourself, but I am trying to evoke a sharp intuitive puzzle and to convince you that there is something real in it, even if its verbal expression is faulty. There may be cases where a trick of language produces the illusion of a question where really none exists, but this is not one of them. We can feel the question apart from its verbal expression, and the difficulty is to pose it without turning it into something superficial, or inviting answers that may seem adequate to its verbal form but that don't really meet the problem beneath the surface. In philosophy the question is never just what we shall say. We can reach that point only after considerable effort has been made to express and deal with inchoate perplexity. Amazement that the universe should have come to contain a being with the unique property of being me is a very primitive feeling.

-Thomas Nagel, *The View From Nowhere*

Introduction

In Chapter 1 we learned what we are actually talking about when we say “I exist”. We are not saying just that a human body exists or that some particular content of a mind exists, at least some of the time. We are talking about something more esoteric, something harder to pin down, which I have called personal existence. Your personal existence is the thing that would be absent from the world if your perfect doppelgänger were living your life in your stead. The *only* thing that would be absent, in comparison to the actual world we inhabit now.

Understanding that this thing is what we are referring to or pointing to when we say “I exist” has great consequences for our understanding of the standard belief about coming into existence, the gamete-dependence claim. For the first time, we can see what this belief is really about, and why it amazes people so much when they take the time to look at it in detail (by considering the odds of coming into existence, for example): It’s not just making the obviously true claim that a particular pair of gametes brought a particular human body (yours) into existence. It is saying that that particular pair of gametes joining somehow brought your *personal existence* into being. In other words, some *characteristics* of those gametes that sets them apart from all of the other actual and possible gametes in the universe was responsible for bringing *your* personal existence and no other into being, while all the other actual and possible gametes in the universe did not bring or would not have brought your personal existence into being.

The question then becomes, what characteristics of those gametes were responsible for bringing your personal existence into being—what characteristics *picked out* your personal existence and no other—and how did they do it? When considering the long odds of coming into existence, people often focus on three factors that had to be exactly as they were for you to come into existence: your particular DNA pattern had to be realized from among all the possible DNA patterns, that one sperm had to beat out all of the other sperm to fertilize that one ovum from among all the sperm that were there and all the ova that could have been there, and your parents had to meet and copulate (at just the right time no less) from among all the people on the planet. It is assumed that these things had to happen in order for you to come into existence, and therefore that they somehow *caused* it.

So was it one or more of these factors that brought your personal existence into being? And if it was one or any of these things, then what is the connection between it or them and your personal existence? For example, why should one DNA pattern bring *your* personal existence into being, while another does not? Or why should one set of parents and no other do so? What is it about those or any other characteristic that makes it be *the thing* or one of the things that brings your personal existence into being rather than another? You may see the answer intuitively already: there couldn’t possibly be any. How could any physical parameters distinguish between two different personal existences? There is nothing to logically or empirically link a particular personal existence up with any physical characteristics. In Chapter 2 we will look at this now obvious fact in detail.

As in Chapter 1, there are objections to the line of reasoning I’ve just given, coming from more or less the same place as the objections in Chapter 1 came from. Once again, I will put off those objections until Chapter 3. I will not describe what they are just yet, but for the incredulous among you, I can at least give some hints as to the framework of how I will be dealing with them there, which may suffice to get you through this chapter. Remember, as I said in the introduction, that the Enigmas of

Existence such as those in the last paragraph only exist if we accept the view of personal existence I established in Chapter 1, the belief that you existed/will exist/would exist fully in the past and future of your human body and in alternate histories of your human body, and that you would not exist at all in any situations outside of those. In other words, that your personal existence is all-or-nothing. Remember that this all-or-nothing character of personal existence is a necessary part of the gamete-dependence claim, otherwise we would have not-moving-to-France-at-age-5 dependence claims and a practically infinite number of other life-event dependence claims. This is a fact: anyone who bothers to profess the gamete-dependence claim but not any of the other life-event-dependence claims believes existence is all-or-nothing, even if they don't know they do. More specifically, they adhere to the body-tracing criteria of their existence explained at the end of chapter 1, which entails that existence is all-or-nothing.

However, there is a big caveat here: in Chapter 3 I will show that believing in the body-tracing criteria and thereby that your existence is all-or-nothing is probably nothing more than a choice we make about how to conceive of ourselves (though it may be a choice that evolution has encouraged us to make). Examining why this is a belief rather than a fact is a rather large tangent from the thrust of my argument, and a deep and challenging (though nonetheless fascinating) dive into abstraction that you may not find worth your effort if you already believe that you existed/will exist/would exist fully in your past and future and in alternate possibilities, which is how I assume most people conceive of themselves.¹⁵ It is definitely the way I conceive of myself, and I find I cannot do otherwise. (I'll explain why this is so in Chapter 3.) Nonetheless, the more philosophically rigorous way to frame Chapter 2 would be to say that this *choice* to conceive of ourselves this way has consequences that we cannot escape. We can thereby reframe Chapter 2 like this: one of the main consequences of *choosing* to view ourselves this way is that we have to think of certain physical characteristics, such as DNA, as being responsible for bringing into being a particular personal existence, yet no reasons can be found to believe that.

But I have not cast Chapter 2 in these more careful "if you believe this, then this" terms. Chapter 2 assumes you believe as I have described in Chapter 1, because Chapter 1 is really just a description of what many people were already thinking about when they talked about their existence. In fact, I would have liked to just have begun the book with Chapter 2, as the Enigmas of Existence and the consideration of the odds of existing tend to be the most interesting and accessible entrée into the topic for people when I bring them up in conversation. If your intuitive pre-philosophical conception of your own existence already lined up with mine (that of Chapter 1), you would have found that the eerie Enigmas of Existence I raise here in Chapter 2 already make sense anyway (if nonetheless still in a vague and surprising way), even without reading Chapter 1 first. This is good news, because if this describes you, then you won't have to work as hard in Chapter 2; you can just fall back on your intuitions and pre-critical assumptions when I say "existence" without having to keep the specific concepts of Chapter 1 in mind.

However, Chapter 1 was a necessary preliminary for a couple of reasons. It hopefully brought more people on board with these beliefs, and for those it has not, at least it has made clear the assumptions that underlie my argument from here on out, setting clearer terms for disagreement about it. Most importantly, for those who *are* on

¹⁵ Galen Strawson agrees, with caveats (Strawson 2009 14-15), even though *his* natural intuitive sense is in line with the alternative I describe in Chapter 3. I will elaborate on this and discuss his views there.

board with the views about existence I described in Chapter 1, we can use the analyses and conceptual distinctions to help us be more than just amazed and confused by the Enigmas of Existence in Chapter 2. We can use the concepts and tools I developed in Chapter 1 to see what these Enigmas are really about, and actually make progress on them, rather than just living with them in bafflement and wonder. Specifically, we can now see that the gamete-dependence claim is really a claim that some *physical* factors have brought into being this *metaphysical object* of one particular personal existence and no other. Considering the odds of existence has previously left us in bafflement and wonder (with no progress) precisely because we didn't know that this was what we took it to be about. We hadn't yet made this belief explicit. Now that we have, we can move beyond the bafflement into understanding.

2.1. Why Do You Exist?

Let's begin with a return to the Enigmas of Existence I introduced in the introduction to this book. These were questions like, why couldn't the human being that you are have come into existence and not been you? Or, why was it the case that any organism would bring you into existence, rather than not? These questions are an intuitive puzzle, understandable to many people in flashes of insight without any previous philosophizing. Some people though, as I said in the introduction, may not understand them. So I'm going to take the time now to examine them in much more detail, and try to evoke the intuitive puzzle even in those who don't initially feel it.

Let's start by imagining gametes that, like the B gametes, are qualitatively identical to the ones that created you. By qualitatively identical, I mean identical in every physical way it is possible to stipulate. This time, for simplicity, let's just focus on one of the two gametes. I'll choose the ova, for reason I'll explain in a moment. And let's not just imagine one ovum identical to the ovum that created you this time. Let's imagine a huge number. Enough to fill the Superdome, or a mass as big as Mount Everest, or the planet Earth, or the solar system, or our galaxy even. (I explained how these might come to be at the end of Chapter 1. Probably, 3D printing would be the most straightforward mechanism to imagine, if you need to imagine one.) Just a huge, roiling mass of ova.

Now picture each individual ova in that mass: each one is identical in DNA and every other possible way to the one that produced you. And each one is ready and able to produce a human being if it is joined with any viable human sperm. Each ova in fact, according to the gamete-dependence claim, is ready and able to produce a *different* human being from all the other ova. Thus, according to the gamete-dependence claim, each one is ready and able to produce a different *personal existence*.

Now you might wonder, what if each one was fertilized with the same sperm in alternate universes? Would it still create a different personal existence? In other words, in universe A sperm A fertilizes ovum A, and it produces you. If, in universe B, sperm B fertilizes ovum B, we've established that it would not produce you. You would not exist in that case. This is because the human being resulting from the union of the B gametes could have come into existence in the same universe as the human being resulting from the A gametes, which is by definition you. But what if, in universe B_a, say, sperm A fertilized ovum B? Would this produce you? And would it produce you for ovum C and D and on down the line, including every ovum identical to the A ovum that could ever be made?

If you are wondering this, then you are asking the right questions. We never considered such cross-fertilization in the perfect doppelgänger thought experiment, but we might have. This is actually not among the questions I want to consider in this section—this is a digression from the main point—but it's a question that seems to demand some sort of answer, so let me get it out of the way before we move on to the main point. This will also explain why I'm choosing to focus on ova here, rather than sperm.

Some people, apparently,¹⁶ hold a modified version of the gamete-dependence claim. They believe that it doesn't matter which sperm fertilizes the ovum, as long as one does. In other words, they believe that *any* sperm could have fertilized ovum A, and you would have come into existence. This includes sperm with different DNA. This belief makes sense to an extent, when we consider the body-tracing criteria from the end of Chapter 1. The ovum really *is* the start of the body of a resulting human being. The sperm is only .00167% the mass of the ovum, or to put it another way, the ovum is 60,000 times the mass of the sperm. So the zygote that results from their union basically just *is* the single ovum cell with a tiny bit of mass added, and some information from the sperm DNA. Remember that the union of a sperm and ovum creates a *single-cell* zygote at first. It only splits into more cells shortly thereafter. In a sense, the ovum is the zygote is the ovum. You could really just say that one of the functions of the sperm is to induce the ovum to begin splitting into more cells. So if we are using the body-tracing criteria to trace back to the very earliest thing you could consider to be you, or to have the power to bring you into existence, it makes almost as much sense to consider this to be just the ovum as it does to consider it to be the sperm and ovum together. (Note too that being able to entertain the possibility of still existing from a genetically different sperm bolsters my assertion that people are thinking of personal existence as something separate from the content of their lives.)

However, this is most definitely not the way people express the gamete-dependence claim. Almost no one does. In fact, people often focus on the sperm specifically, to the exclusion of the ovum. Think of people expressing their gratitude that that one particular sperm "won the race" to the ovum (the *same* ovum, likely the only ovum present in that copulation event and during that period of fertility when your father might have gone upstairs to bed a few minutes later or come home from a business trip a day early). People believe they wouldn't exist if it had been any other one.

The reason is, perhaps, that most people don't think they could exist with different DNA, or perhaps don't want to think that. So what about a different sperm with the same DNA then? Or a different ovum with the same DNA, as we are considering here? Most people aren't considering this possibility when they express the gamete-dependence claim. My answer, for the time being, is that if we've established beyond a doubt that sperm B and ovum B must produce a different person (a different personal existence), then at least one of those gametes must produce a different person than the corresponding A gamete in every possible universe. This then, is why I choose to focus on ova here, as it is the best candidate for a gamete to do this, if the answer is not both of them.

However, I want to emphasize again that the actual gamete-dependence claim belief as commonly expressed is that the answer most definitely *is* both of them: both the A sperm and A ovum were required to bring you into existence. No other ovum with the A sperm and no other sperm with the A ovum would have. This is the belief Dawkins expressed, and in the next section I'll give you more examples of people who express the same belief. And so it is the belief we are examining here. Everything I say about the ovum in the following is therefore applicable to the sperm in the actual gamete-dependence claim.

¹⁶ Derek Parfit, *Reasons and Persons*, Part 4, pp. 351-352. Parfit doesn't cite anyone expressing this belief. I'm guessing he picked it up in conversation.

This is all a digression though, and not the purpose of this section. Many of the ideas I've brought up in this digression are getting quite a bit ahead of ourselves, and won't be explored fully until later, so now that the point is established, I hope you can mostly put it out of your mind. The questions I want you to consider *now* are more abstract than the question of cross-fertilization, and easily confusable with such simpler questions as that one, so please proceed carefully.

So, back to the unimaginably huge number of ova—ten billion times ten billion of them would take up 20 cubic kilometers, which is much larger than the Superdome but hardly planet-sized—each one qualitatively identical to the one that would produce you. And they each, on the most common belief, would produce a different person than the others. Are capable of producing different *people* than all the others, in fact, since each would produce a different person, a different personal existence, from every different sperm that fertilized it, according to the gamete-dependence claim.

So here is the first question in what I'm going to present as a sort of hierarchy of Enigmas of Existence: among this huge mass of ova, either one of them would be *the one* that would produce you, would bring you into existence, or none of them would. What would make the difference between those two situations? Why is it that in one situation, one of them would bring you into existence, and in another, none of them would? With one giant ball of ova, there's one in there that would bring you into existence, while in another giant ball of ova, there isn't one at all.

Note that this isn't the question you might think it is. It's not asking, of a whole bunch of ova identical to the one that produced you, why does *that one* produce you while none of the others do? This is an equally good question, one that demands an answer just as much as the first question; both are unavoidable when you believe in the gamete-dependence claim. And this second question is similar to the question people usually think they have an answer to: when considering all the actual and possible ova on the planet, why did *that one* produce me? To this question people commonly answer, for example, because it had my DNA (or more precisely, half of it, or perhaps even more precisely, the *correct* half of it). But of course, in this case they all have the same DNA, so this answer is insufficient. And by realizing it is insufficient in this one case, we can come some way in seeing it is insufficient in the regular case as well. This is the idea I will explore more fully in section 3 of this chapter on gamete identity.

And note too that for both of these questions, the more accurate way to render them would be to say that one of the ova would be the one to produce you *if joined with the right sperm*. The question is easier to remember when stated simply, without taking the sperm into account though, so I'll just state it that way. If you consider a giant mass of identical ova, either one of those ova would produce you, or none of them would. The two possibilities are exhaustive of all possibilities, and one or the other must be true. What makes the difference between one being true or the other?

This question becomes especially vivid if we consider an infinite number of ova. You may be surprised to learn that even with an infinite number of ova identical to the one that produced you, it is not necessarily true that one of them would produce you. But it is obviously true. Consider the analogy with numbers: Of an infinite number of numbers, it is not true that one of them must be "2". This can be demonstrated most simply by considering just the set of odd numbers, 1, 3, 5, 7, 9... So even with an infinite number of ova identical to the one that produced you, it's not necessary that one of them produce you.

Now, how might the production of an endless, infinite number of ova, be possible? If the universe is infinitely large and contains an infinite amount of matter,

then an infinite number of gametes could be produced. If it lasts for an infinitely long time, then here too an infinite number could be produced, assuming each gamete lasts only a finite amount of time and the matter is then broken down to create another gamete. If you think this recycling raises questions about whether the new gametes made of the same matter would really produce a different person (a different personal existence) than the old gametes would have, then you are once again asking the right questions. A detailed examination of this dovetails with Chapter 4, so I'll save it until then, but for now just consider that since the matter in any cell or organism doesn't stay constant—through the life of the organism, some of the matter leaves, and new matter comes in—you could come from the original set of gametes, and then meet a person—ever so slightly younger than you—who came from a qualitatively identical set made of the same matter as the original set, and vice-versa. All that need happen is that whatever matter was in the original set migrate out of the resulting zygote or embryo or fetus or even full human being, and then go on to create a new gamete of identical specification through any of the possible processes.

With this, we can take the analogy above with numbers further: once you skip from 1 to 3 on the number line, as we do with the odd numbers, it is impossible for 2 to ever be a part of that set of numbers. 2 only had one chance to be a part of that set of numbers, then the numbers go off toward infinity and 2 can never come to be again. This is analogous with the forward march of time; if the time at which ovum A was produce had passed without ovum A being produced, then no matter what happened in the future after that point, no matter how many ova identical to ovum A were produced, none of them would have produced you. And if the universe extends for an infinite amount of time, then that is an infinite number of ova, none of which could produce you.

So then, consider a set of an infinite number of ova qualitatively identical to the ones that produced you. In this set, either one would produce you, or none would. What would make the difference? In one infinite set of gametes, one comes about which produces you. In another, one does not. Why? What distinguishes the two sets?

It may be easier to see the point of this question if we make it broader. The next question from here is, why should it be the case that in this universe *any* ova should be one that produced you? Why, in other words, is it not the case that no matter what happened in this universe, you would not exist?

Imagine that our actual universe went exactly as it actually has gone, and the event of the creation of the A gametes and their joining and turning into a human being passed by without you coming into existence. It is easy to conceive of this being the case, though you may not have realized it was easy to conceive of before. But you can conceive of the earth or even the universe populated with people or other conscious organisms, and you can conceive of none of them being you. This is what you actually believe was the case before you were born, and believe will happen after you die. And it's what you believe would be the case right now if things had gone even slightly differently in the time before you were conceived. So the question is, since no other event past or alternate brought you or would have brought you into existence, why didn't the tiny and exceedingly improbable event of the creation and joining of the A gametes also occur without you coming into existence?

In this scenario, we are imagining a sperm and ovum in our universe produced exactly as they were in the case in which you were brought into existence, in other words at the same time and place and from your parents, and joined exactly as they did,

and yet the resulting person was not you.¹⁷ (This would be another type of perfect doppelgänger.) This may seem absurd at first, but if you consider again all the other sperm and ova identical to yours that would not produce you, and in particular all the huge number of scenarios of how the universe could have gone without you existing anywhere in it, then it becomes very easy to imagine those gametes, the A gametes, not producing you either. Yet they did. Again: why?

Let's step back and look at this question from a different vantage point. Look back at the start of our universe, the big bang. All the matter/energy the universe will ever contain, compressed to a dimensionless point, exploding outward, sending all that matter and energy hurling outward, creating spacetime itself. Relatively shortly thereafter, some of the matter/energy begins to coalesce into objects, eventual nebula and stars and galaxies and all the rest.

Now consider this astounding fact: during *that* big bang, from the very beginning of our universe, your eventual existence was a possibility. All that chaos of matter and energy, the most impersonal event imaginable, nonetheless included among the things created at that time the *possibility* (but not the *certainty*) that you would come into existence. That possibility was a thing that existed at that *moment*, 15 billion years ago, at the start of the universe. This may sound crazy, but it must be true, because you do exist now. In some sense then, the possibility of your existence *inherited* in the universe from the start. (I know this term "inhere" will not sit comfortably with everyone, but the actual content of the standard belief compels its use, in this situation and in other situations I will describe shortly.) Think about that: all the way back at the start of the universe, it was possible that you would come into existence. Yet, it *could* have been *not* possible that you would come into existence. This universe could have been one in which, no matter what happened, you would not exist at all ever. So why was your existence a possibility at the start of the universe, or why did it inhere in the universe? Why did it not *not* inhere in the universe?

Why, to repeat, shouldn't the universe have gone exactly as it did, and yet the time of your existence have passed by without you in it?

And there is another meta question on top of this one. Given the fact that this universe did bring you into existence, why this one and not another? Why was your coming into existence a possibility at the start of this universe, but not another? Of all the ways modern physics tells us there could be other universes—distant from ours in space, coming "before" or "after" ours in time (though in some sense not really in time, because our time began with our universe), in other dimensions, in an infinite number of big bangs "simultaneous" to ours, or whatever—we can imagine one physically identical to ours in every way, with identical physical laws and an identical amount of matter/energy and spacetime and all the rest, and having proceeded along the identical course, right down to every last physical detail of the physical facts that brought you into existence, and yet you are not there, you are here. In other words, you were not even a possibility in that universe no matter what happened there, just one here. The possibility of you coming into being—your personal existence coming into being—didn't *inhere* there, at the beginning of *that* universe, just here, at the beginning of *this* one.

It might be easier to grasp this idea of inhering if you consider this: our universe could have gone along an unimaginably large number of different courses than

¹⁷ This type of difference is called a haecceity. I won't be using this term, but anyone interested in the topic will recognize what I'm saying as being about haecceities.

it actually has. *Most* of these courses would not include you, according to the standard belief. Even the number of scenarios where your parents meet and have children, but none of them are you, is huge, yet it is vanishingly small in comparison to all the other ways the universe could have gone where your parents never met, or never even existed. There are many more ways for all different people to exist than there are for the same people to exist. Many more than that even for no people to exist. Yet, even if our universe had gone in one of these vast numbers of different ways in which you never exist, it was still a *possibility* for you to exist in it. But in any of these other universes, it was *not* a possibility for you to exist. Consider an alternate history of our universe without you in it and one of these alternate universes of physics where you weren't even a possibility side by side: look at one, then at the other. You don't exist in either. Yet, there is a difference: in one you are a possibility, and in the other, you are not. In one, the possibility of your existence inheres, in the other it does not. What can this even mean?

This is especially vivid if you consider the two universes to be qualitatively identical. Each one is exactly the same in physical structure, and you don't exist in either (because in our universe things went differently than they actually have), and yet in one your possibility inheres, while it does not in the other. Again, what can this even mean? What exactly *is* that inhering property that one has but not the other?¹⁸

But we need not even imagine other universes identical to this one. No matter what the specifications of these other universes, for each one either your coming into existence is a possibility in it right from the start, or it is not. And on the Standard Belief, it is only a possibility in one of them. (This is what you believe if you hold the Standard Belief, even if you weren't previously aware that you believed it. Even in another universe that goes exactly the same as this one does, with a human being exactly like you, you are here, not there.) What determines which universe your coming into existence was a possibility in? Why should it have been this one and no other?

And this leads us inevitably to the final meta question: just append "if any" to the last question. Why should you coming into existence have been a possibility in any possible universe whatsoever? Why not *not* a possibility in any universe? If it was not a possibility in some universes, no matter how they went, then it could have been not a possibility in any universe at all. What determined that you were a possibility in any universe at all? *Why was it even possible for you to come into existence?* And perhaps even more eerily, why was it *possible*, but not *necessary*?

These questions should be dizzying if you really consider them. Recall the quote from Thomas Nagel I began this chapter with. Here again is the second half, which applies to my questions as much as his:

These questions may strike you as ridiculous even if you ask them about yourself, but I am trying to evoke a sharp intuitive puzzle and to convince you that there is something real in it, even if its verbal expression is faulty. There may be cases where a trick of language produces the illusion of a question where really none exists, but this is not one of them. We can feel the question apart

¹⁸ On some philosophical conceptions of alternate universes, this alternate universe in which you are not a possibility is actually the same thing we were imagining when we imagined this universe going exactly as it has without you in it. But I'm really intending the conceptions of alternate universes from physics here. One point that may be useful for philosophers to note here is that, on for example David Lewis' conception of alternate universes, our actual universe *includes* all of the alternate universes of our actual physics, but there are other Lewisian alternate universes with different physics than these and none of what we would call "alternate" universes.

from its verbal expression, and the difficulty is to pose it without turning it into something superficial, or inviting answers that may seem adequate to its verbal form but that don't really meet the problem beneath the surface. In philosophy the question is never just what we shall say. We can reach that point only after considerable effort has been made to express and deal with inchoate perplexity.

These questions should also make you start questioning the premise they rely on, the gamete-dependence claim, if you haven't already. Why? Because it is the gamete-dependence claim that says that a single, unique, irreproducible-by-any-other-means personal existence is caused to come into being with the creation of a particular human body. This belief is the source of these Enigmas. I'll flesh this claim out in the rest of this chapter.

2.2. Who Actually Believes the Gamete-Dependence Claim Anyway?

Let's come back to ground from the dizzying heights of the previous section for a moment. Before I get into looking at the gamete-dependence claim in detail, I want to more firmly establish that it is in fact a widespread belief, and give a greater sense of the breadth and feel and flavor of the belief as it is lodged in a variety of people's minds. Given the implicit criticism of it from the last section and the explicit criticisms that are yet to come, you may become tempted to doubt that anyone ever actually believed it. So, as promised, I'll give you some other versions and formulations of it, as written or spoken by a variety of people.

My commentary on some of these quotes will be brief, but note especially how the different factors of hitting upon one sequence of DNA, one pair of parents copulating (at just the right time), and one particular sperm and ovum joining interact with each other in these statements of the belief. Not everyone claims every factor matters when they state the belief; some people emphasize one or two more than the other or others. Note too their kinship with Dawkins in having at least an undercurrent of amazement at coming into existence against these long odds, expressed more explicitly by some writers than others, but present to some extent in all. For this reason and others specific to each quote, I feel confident that what all of these writers have in mind is personal existence and not just a human body.

Let's start with two writers cut from a similar cloth to Dawkins. In his book *The Void*, physicist Frank Close raises a series of questions he asked himself in order to try to understand nothingness. He briefly paraphrases the Dawkins quote I shared in Chapter 1 to make his point:

[W]hat if there were no life, no Earth, no planets, Sun, or stars, no atoms with the potential to be reorganized into future somethings; what if there were just emptiness? Having removed everything from my mental image of the universe, I tried to imagine the nothing that remained. I discovered then what philosophers have known throughout the ages: it is very hard to think about the void. As a naive child I had been wondering where the universe had been before I was born, now I was trying to imagine what there would be had I not been born at all. 'We are the lucky ones for we shall die,' as there is an infinite number of possible forms of DNA all but a few billions of which will never burst into consciousness. What is the universe for the never-to-be-born or the now dead? All cultures have created myths about those that have just died, so difficult is it to accept that consciousness can just disappear when the oxygen pumps fail to power the brain, but what means consciousness for those combinations of DNA that never started, nor ever will be?

It is as hard to imagine how consciousness emerges and dies as it is to comprehend how something, the stuff of the universe, erupted out of nothing.

Note that Close seems to mean by "consciousness" here something similar to what I do by personal existence. Likely Close's "consciousness" encompasses everything I mean by personal existence plus some more, such as just the general phenomenon of consciousness. This illustrates the usefulness of defining more precise terms with more limited reference—terms with greater limits on what they refer to.

Psychologist David P. Barash's essay "What the Whale Wondered" comes in a collection of essays paying tribute to Dawkins that is subtitled *How A Scientist Changed The Way We Think*. Barash writes that "after being called into existence by natural selection", human beings have little or no purpose in life:

First, nobody gets out of here alive. This is pure biology. And at the other end, nobody arrived here [on earth, i.e., was born] except because of a chance encounter between a particular sperm and a particular egg. Had it been a different sperm, or a different egg, the result would have been a different individual. Biology again. Finally, as to *why* we are here, the life sciences once again have an answer: human beings, like all other beings, aren't here for any reason whatsoever, certainly for no purpose that in any way transcends what their genes were up to in the first place.

What does Barash mean by "individual"? He may assume he is talking just about a human being. But the care he expresses about this coming into being, underneath the veneer of nonchalance, makes me doubtful of that. He is thinking about the particular personal existence that that sperm and egg brought into being, not just the particular human body.

Philosopher and philosophical popularizer Jim Holt's book is called *Why Does The World Exist?*, and it is mostly about that wondrous and seemingly unanswerable question about the universe, "why is there something rather than nothing?"¹⁹ (We'll meet this question again in Chapter 3). But he does spend a small amount of time talking about the existence of each of us. He seems simultaneously completely confident in the Standard Belief yet rightly finds it perplexing, like he is on the verge of questioning it but doesn't know how. In his last sentence here, Holt echoes the Enigmas of Existence I was posing in the last section:

If your parents had never met, of course you would not exist. But much more than the mere meeting of your parents, or even their sexual congress at a particular moment in history, had to go improbably right in order for you to see the world. Perhaps the entity that really deserves your gratitude is not your mother or your father, but rather the plucky little sperm that, carrying half of your genetic identity as its cargo, gamely made its way through the amniotic sea, past millions of its ejaculate-rivals, to unite with the egg.

The coming into being of my genetic identity was indeed a long shot. But was even *that* enough to ensure the coming into existence of *me*? Could this genetic identity not just as easily have produced not me, but, as it were, my identical twin?

This is exactly the question of the Enigmas of Existence. Yet, note the confidence Holt expresses in his first sentence!

¹⁹ I'm with those who think that the attempt to answer this question with physics, such as in Lawrence Krauss's *A Universe from Nothing: Why There is Something Rather than Nothing*, isn't actually about this question at all. The physicists' question shares the form but not the content of the philosophical question, though many physicists, Krauss included, adamantly insist this is not the case. His is a fine book with lots of fascinating science, it's just not about the question of the title. It's actually about the question of "How the things we consider things arose from something that was almost but not quite nothing."

Next we come to philosopher Thomas Nagel, one of the most respected and profound thinkers of the past fifty years. You may recognize him from the quotes at the beginning of both Chapter 1 and 2, from his book *The View From Nowhere*. Perhaps alone among those I'm quoting on this topic, he understands well what personal existence is as an entity conceptually distinct from a particular human body, and about the Enigmas of Existence that this leaves us with (though he doesn't use any specific terms for these ideas). The quote I opened Chapter 2 with is the best statement by another writer of the idea behind these Enigmas I've come across, and the best defense against their casual dismissal with words that don't address the problem beneath the surface, which is why I chose it to set the stage.²⁰ I find his expression of these inchoate ideas profound and eloquent. Yet he also holds firmly to the belief that causes these Enigmas, the gamete-dependence claim. In the *The View From Nowhere* he also says:

Subjectively, we begin by taking our existence for granted: it is a given of the most basic kind. When in childhood each of us first learns of the contingency of his existence, even the simple fact that it depends on his parents, the result is a lessening of his unreflectively secure footing in the world. We are here by luck, not by right or by necessity.

Rudimentary biology reveals how extreme the situation is. My existence depends on the birth of a particular organism that could have developed only from a particular sperm and egg, which in turn could have been produced only by the particular organisms that produced them, and so forth. In view of the typical sperm count, there was very little chance of my being born given the situation that obtained an hour before I was conceived, let alone a million years before, unless everything that happens in the world is determined with absolute rigidity—which appears not to be the case. The natural delusion of my own inevitability collides with the objective fact that *who* exists and has existed is radically contingent, my own existence in particular being one of the most inessential things in the world. Almost every possible person has not been born and never will be, and it is sheer accident that I am one of the few who actually made it.

Nagel says “my *existence* depends on the birth of a particular organism” (italics mine). What could he mean by “existence” other than personal existence, contrasted as it is with the organism? It would be a tautology if he meant human being: “the existence of this particular human being depends on the birth of a particular organism”. Of course, as I said, Nagel knows what he is talking about here, he is acknowledging the very

²⁰ “It seems outlandish that the centerless universe, in all its spatiotemporal immensity, should have produced me, of all people—and produced me by producing Thomas Nagel. There was no such thing as me for ages, but with the formation of a particular physical organism at a particular place and time, suddenly there is me, for as long as the organism survives. In the objective flow of the cosmos this subjectively (to me!) stupendous event produces hardly a ripple.

These questions may strike you as ridiculous even if you ask them about yourself, but I am trying to evoke a sharp intuitive puzzle and to convince you that there is something real in it, even if its verbal expression is faulty. There may be cases where a trick of language produces the illusion of a question where really none exists, but this is not one of them. We can feel the question apart from its verbal expression, and the difficulty is to pose it without turning it into something superficial, or inviting answers that may seem adequate to its verbal form but that don't really meet the problem beneath the surface. In philosophy the question is never just what we shall say. We can reach that point only after considerable effort has been made to express and deal with inchoate perplexity.”

mystery that is at the center of the book you are reading now, but it is worth noting that this is a nice illustration of the way many people talk who are unaware that this is what they are talking about, unaware that by “existence” they mean this “personal existence” I have isolated from the human being and from the content of their lives. A great many people never separate the two.²¹

Nagel continues shortly after this passage with some other quotes that are both profound and further illuminate what he is talking about in the above quote:

I can imagine having died at the age of five, but it is not easy to grasp in full consciousness that the history of the universe might have run its course without my ever putting in an appearance *at all*.

And:

My own existence looms large at the center of my prereflective world picture, since this life is the source and avenue for my understanding of everything else. It is unnerving to be led through it to the discovery that it is totally inessential—one of the least “basic” things in the world. A world without me at any point in its history seems like a world with a crucial piece missing, a world that has suddenly lost its moorings. If you concentrate hard on the thought you might

²¹ This is a long tangent, but out of fairness, I feel compelled to offer up the full context of Nagel’s quote, for those who care and can understand, because unlike any of the other works I’m quoting from here, *The View From Nowhere* is actually in part *about* what I’m calling the Enigmas of Existence, and Nagel has written much more about the idea behind them than I could hope to summarize here. But I can give you an idea of where he is coming from. In the first sentence of the book, he declares, “This book is about a single problem: how to combine the perspective of a particular person inside the world with an objective view of that same world, the person and the viewpoint included.” (Note that by “person” Nagel appears to mean “human being” as I defined it at the end of chapter 1, not the more precise definition of “person” I gave there.) What Nagel means by “the person and the viewpoint included” as it relates to our concerns in this book can most succinctly be grasped from something he said twenty years before. It is yet another excellent explication of the central idea behind the Enigmas of Existence, and makes a similar point to that I was trying to make with the perfect doppelgänger thought experiment:

Consider everything that can be said about the world... This will include the descriptions of all its physical contents and their states, activities, and attributes. It will also include a description of all the persons in the world and their histories, memories, thoughts, sensations, perceptions, intentions, and so forth. I can thus describe...the entire world and everything that is happening in it—and this will include a description of Thomas Nagel and what he is thinking and feeling. But there seems to be one thing I cannot say in this fashion—namely, which of the various persons in the world *I* am. Even when everything that can be said in the specified manner has been said, and the world has in a sense been completely described, there seems to remain one fact which has not been expressed, and that is the fact that I am Thomas Nagel.

(The ellipses in this quote are the elision of Nagel’s technical term “token-reflexive expressions”, which I won’t explain here. It means something similar to a subject or an existence as I’ve been using the term, without the metaphysics.)

This, however, is only part of Nagel’s interest in what he calls the single problem of “how to combine the perspective of a particular person inside the world with an objective view of that same world,” and this fact is also important context to the quotes I’ve used from him. After this description of the single problem, he says further, “Though it is a single problem, it has many aspects...It is the most fundamental issue about morality, knowledge, freedom, the self, and the relation of mind to the physical world.” My focus in this book, and the focus of the quotes I’ve given from him, is only these last two aspects of the single problem, which are metaphysical. My goal in this book it to solve these metaphysical aspects of the problem, but it is important to note that this is not the goal Nagel set for himself. He acknowledges the mystery inherent in them but offers no solution. He brings them up in part to help us make sense of the other, more practical aspects of the problem, morality, knowledge and freedom. I’m less interested in these.

I will have a little more to say about Nagel’s beliefs in Chapter 3, but suffice it to say for now, I think that though he has isolated and eloquently stated what is confusing about these beliefs, like Holt, he has not found the important step necessary to solving this confusion. He still holds the Standard Belief about coming into existence as being obvious; he is not willing to question it. But all of this is jumping ahead of ourselves a little anyway.

never have been born—the distinct possibility of your eternal and complete absence from this world—I believe you too will find that this perfectly clear and straightforward truth produces a positively uncanny sensation.

Now let's leave the hallowed halls of academia, and get down with the common folk. Among my lineup in this chapter, the most important example of a statement of belief in the gamete-dependence claim comes from self-styled self-help guru Ali Binazir. He wrote a blog post on the odds of you existing in 2011, and an infographic of the post went viral shortly thereafter. It's virality is one reason why it's important, as it shows how widespread the belief is. Of course there were critics of his methods and assumptions, but by and large a great many people accepted his premises—that they wouldn't have existed unless their parents met and those two exact gametes joined—as obviously true. And as of this writing it is still one of the top Google hits for the question in the title of this book, "What are the odds that you would exist?"

Binazir's wording in the title of his essay is "what are the chances of your coming into being?", and in the post he words it as "the probability of your existing as you, today". This latter wording has implications Binazir probably doesn't intend; does this mean he believes the not-moving-to-France-at-age-five-dependence claim? Clearly not, because everything else in his post is based on the assumptions of the gamete-dependence claim. I'll take this as evidence not of sloppy thinking, but just that a lot of people don't know how to talk about this subject, even if they think about it a fair amount. In our present language, it is not clear how to word what you want to say unambiguously when you want to talk about your existence. At risk of repeating myself too many times, I'll say again that this is the reason I spent so long in Chapter 1 trying to do just this, to isolate personal existence as the thing we are actually all talking about.

Binazir tries to arrive at an actual number for these odds of coming into existence based on two factors: the odds of 1) your parents meeting and then 2) those two exact gametes from your parents joining up. And then the odds of the same thing happening for every one of your ancestors down the line, "back to where it doesn't bear thinking about", as Dawkins said. I said in the second sentence of the introduction to this book that it is difficult to calculate an exact number. This is because of the difficulty of putting an actual number to these factors. It may seem straightforward to just, for example, count up all the sperm in that one copulation event and calculate the odds from there, but then we have to ask ourselves, for example, why consider just that one copulation event? Why not all the sperm your father ever produced? Or why not all the human sperm produced on the planet at that time? But then we should wonder, why just the sperm produced at that time? A sperm produced in 1965 could fertilize an ovum ovulated in 1985 just as well as a sperm produced in 1985, provided the 1965 sperm was frozen. And then we might wonder, why consider only all the actual sperm produced? Why not factor in all the possible sperm that *could* have been produced? Well, for one, there is an infinite number of possible sperm that could be produced. (If you are wondering what would distinguish one merely *possible* sperm from another merely possible one—it's generally straightforward to distinguish one actual sperm from another actual sperm—then you are once again asking the right questions. We'll get to those in Chapter 4.) How do you figure the odds from an infinite number? And there is a similar difficulty with calculating the odds of your parents meeting.

I'm going to go through a similar exercise here shortly, so I won't go into the details of Binazir's process. Rather, I'll just tell you the comically large number he arrives at: 1 in $10^{2,865,000}$. This isn't comical because Binazir is being ridiculous, mind

you; his methods are as sound as anyone's could be in trying to reach an actual number. It's comical because it is so large that you probably haven't even grasped the extent to which you can't grasp it. And worse, he arrived at it using *conservative* estimates of the quantities required (number of sperm, number of people).

Consider the following to try to put it into perspective (taken partially from examples Binazir gives): the number of atoms in a grain of sand is about 10^{20} . Now notice how little that exponent increases when we move up to the number of atoms in a whole human body: 10^{27} . How much bigger then will the number of atoms be in the entire planet earth? This is more times bigger than us than we can even approximately appreciate. Yet the exponent slightly less than doubles: 10^{50} . Ah, but surely, as we all know, the *entire universe* is unfathomably huge, unfathomably huger than the planet earth, certainly—this is what Carl Sagan and every other scientist on TV tries to drive home to us every time they talk about it. It's so much bigger than we can even imagine imagining! So the number of atoms it contains must be off the chart, somewhere in the vicinity of Binazir's number for the odds of coming into existence, right? Not even close. The exponent is much less than doubled from the number of atoms in the planet earth: 10^{80} . Even if we filled this entire unfathomably huge universe with solid matter, no empty space except that which occurs within each atom itself, the exponent would still much less than double again: 10^{120} or thereabouts. Consider just how much space there is between heavenly bodies, between the Earth and the sun, or between stars, or galaxies. And yet, filling in *all of that space* with matter increases the exponent by only about 40.

Such is the nature of exponents, and it's why you cannot even come close to grasping the size of a number with an exponent in the millions range. We might nonchalantly think that 10^{27} is something like 7 times bigger than 10^{20} , but this isn't even nearly right. 10^{27} is ten million times bigger than 10^{20} . And 10^{81} is ten times bigger than 10^{80} . Which means if the margin of error for the number of atoms in the known universe is within a few exponents, and it is, then there could be ten or a hundred *times* more or fewer atoms in the universe than we have guessed. Not merely twice as many, but a *hundred times*. Or maybe this is more vivid: there are apparently 10^{80} cubic meters in the observable universe. (It is a coincidence that it is the same as the estimated number of atoms.) 10^{81} cubic meters, a paltry single exponent larger, would be ten times larger in volume than the observable universe. (Nine more whole universe glued to our own, as it were.) And even $10^{2,865,001}$ is ten times bigger than $10^{2,865,000}$; at four significant digits, the margin of error of that exponent is in the thousands— 10^{1000} . That's a 1 with a thousand zeros after it. This means that the *margin of error* of Binazir's number is far, far beyond our ability to comprehend. Perhaps now you can at least grasp the extent to which you cannot grasp the extent to which you cannot grasp the size of that number.²²

²² There is no more entertaining attempt to get a handle on such large numbers than Daniel Dennett's "The Library of Mendel" in chapter 5 of *Darwin's Dangerous Idea*, from which I earlier borrowed the capitalized term "Vast" for very large numbers. I'll revisit this in the next section.

Incidentally, I'm not sure of the accuracy of Binazir's analogy for grasping this number: "So what's the probability of your existing? It's the probability of 2 million people getting together – about the population of San Diego – each to play a game of dice with trillion-sided dice. They each roll the dice, and they all come up the exact same number – say, 550,343,279,001." Surely 1 in $10^{2,865,000}$ is Vastly much less likely than even this?

Also incidentally, it actually *is* pretty eerie how similar Binazir's random 12-digit number is to my random 20-digit number. Starts with two 5's, and has only 17% of the numbers over 5? I didn't even remember he named a random number when I generated mine, let alone knew what it was.

At any rate, the point I will take from this is that the virality of this post is solid evidence that a great many people thought its reasoning was sound and message correct: they wouldn't have come into existence but for those factors, and so it's truly an amazing stroke of luck that those factors came out as they did. And people accepted this *even when confronted with such a stupidly huge number*. The intuition that your coming into existence depends on a couple of very-unlikely-to-come-to-be physical factors runs deep, and for most people does not enter into the field of view of facts that might be questioned, no matter how strange the consequences end up being.

I've said though that not everyone thinks about the gamete-dependence claim in the same way, and one of the comments on Binazir's blog post demonstrates this nicely:

Fun post – my only quibble is about the probability of the right sperm meeting the right egg. You estimate 1 in 400 quadrillion. However, I don't really care about specific sperm and egg – I only care about specific genetic material. In other words there are 23 chromosomes in the human genome. I need to get the exact set of 23 pairs that creates me.

This commenter appears to be saying, uniquely among those I've seen make such claims, that he or she thinks that neither gametes nor parentage matter, just that some set of gametes from somewhere be brought into existence with his or her DNA sequence. I think the commenter could easily be made to see the error of this belief by pointing out that many gametes with the same DNA could be brought into existence and they could not all have been him or her—only one pair could have in fact—but the point is just that this was someone's knee-jerk (or possibly even well considered) response to this. The answer as to what physical factors we should consider when thinking about coming into existence seems obvious, until we look at it closely, and then it seems impossible. The uncritical acceptance of the gamete-dependence claim is indeed a problem.

Out of fairness Binazir, I'll tell you the ending of his post. He finishes with a flourish; as a self-help guru, his purpose for this exercise is encouragement, cheerleading for living the best life you can:

A miracle is an event so unlikely as to be almost impossible. By that definition, I've just shown that you are a miracle.

Now go forth and feel and act like the miracle that you are.

As my final example I give you a figure from popular culture, although admittedly one that once again falls not that far from the Dawkins tree. (By that I mean that the overall domains of their beliefs on a wide range of topics overlap considerably.) In an interview with Marc Maron on Maron's podcast WTF, the magician/comedian/raconteur Penn Jillette discusses the idea of heaven:

I don't need everlasting life. Who could need more than [what we have]? How can you breathe a breath of air, how can you hear a wonderful piece of music, see a beautiful piece of art, feel the love of your friends and family, and go, "yeah, but this is just a veil of tears...beyond this is the real happiness"? I can understand if you're in Auschwitz. But living in the United States of America? And having children who love you? And having friends that you can hang out with? Going to see great movies, and then you go, "yeah, but the world beyond is so much better". How greedy are you? You've been given everything! You have won the most amazing lottery that has ever been given. The chances of you being alive are zero. Just point zero zero zero zero zero zero zero—[makes noise implying a many more zeros]—one that you happen to be here." (Episode 231)

I don't know if Jillette had in mind 2,865,000 zeros here, but presumably he would accept the spirit and methodology of Binazir's calculations, if not any exact number.

So we can see the belief in the gamete-dependence claim and in these specific criteria popping up in more or less detailed analyses and tossed off asides in all sorts of places and across all sorts of discourses.²³ It seems to be an extremely common belief,

²³ There are two other statements of this belief that I have not mentioned, and each comes from a philosopher and a book widely considered among the most important and influential of the 20th century, so those in the know will be wondering at their absence. The first philosopher is Saul Kripke and the book is *Naming and Necessity*, originally delivered as a lecture in 1970. For some in the world of philosophy his is the foundational statement of this belief (although I feel it must predate him). I'm not including him here because, for once, he really doesn't seem to be talking about personal existence, but rather just about the existence of a human body. (Forbes 1985 p. 134 agrees; see below.) It's possible that he like others is surreptitiously thinking of personal existence when he makes the claim, but I would not try to pin it on him. It seems likely though that *some* people who have taken up his argument are surreptitiously thinking of personal existence, just because the odds of that misunderstanding never occurring are pretty slim. It seems to me very likely that personal existence is what some people are surreptitiously using as the *grounds* of their arguments in transworld identity (the field Kripke's work is identified with; it refers to the identity of objects in alternate possible worlds) even if they never make it explicit. At any rate, I think Kripke's quote is not relevant here, but I include it below for the curious.

The other philosopher is Derek Parfit and the book is *Reasons and Persons*. I alluded to his mention of the gamete-dependence claim in the introduction to this book. (Actually the name "gamete-dependence claim" is a modified version of his name for the claim, the time-dependence claim.) It plays an important part in my discussion in Chapter 3, so I will save it for that.

Here is the relevant portion of Kripke's quote, as surgically extracted by Graeme Forbes from Kripke's discursive comments. He is speaking about Queen Elizabeth II here:

The question [is]...could the Queen—could this woman herself—have been born of different parents from the parents from whom she actually came? Could she, let's say, have been the daughter instead of Mr. and Mrs. Truman? ...we can imagine discovering this...But let's suppose that such a discovery is not in fact the case. Let's suppose that the Queen really did come from these parents...The people whose body tissues are the sources of the biological sperm and egg...Perhaps in some possible world Mr. and Mrs. Truman even had a child who became Queen of England and was even passed off as the child of other parents. This would still not be a situation in which *this very woman* whom we call 'Elizabeth II' was the child of Mr. and Mrs. Truman, or so it seems to me.

And here is Forbes' comment on Kripke's meaning:

[I]t would be beside the point to dispute Kripke's claims about the Queen on the grounds that the Cartesian self who is the Queen could have inhabited any old body. Rather, the Cartesian and others of that ilk, should read Kripke's remarks as claims about the Queen's body, albeit infelicitously expressed.

and perhaps is considered to be the *required* belief for materialists.²⁴ So let's finally put it under the microscope and see how well it survives close scrutiny.

²⁴ I would wager that it is shared by many who are not certain of materialism, who may believe to some extent in gods and souls and the like, although I have not yet found a quote from such a person to support this. My conjecture is based on the fact that I recall having these thoughts and conversations myself when I was young and believed in God and souls, and I was having these conversations with members of my family who believed the same. One has to look deeper to wonder whether it makes sense to hold both beliefs at the same time.

2.3. Gamete Identity

It is quite clear then that a great many people take these physical factors of DNA, a pair of gametes, and a pair of parents as the direct cause of their existence. And that when such people say that one or more of these factors caused them to exist they may think they are just saying that they caused their human body rather than another to exist, but what they really *mean*, even if they are unaware of it, is that these physical factors caused their personal existence to come to be. So let's finally look at these three factors separately to see how they stack up in the supposed function they're supposed to play in bringing your personal existence into being.

Note that my use of the term "gamete identity" for this section is indeed meant to echo the term "personal identity". I always found it puzzling that no writers who so obsessively hashed over personal identity thought to question gamete identity.²⁵ This section was originally conceived as an attempt to correct that oversight, although it has now gone far beyond that original mission.

2.3.1. DNA

Let's start with DNA. It would be easy enough to come up with a raw number for the "odds of your particular sequence of DNA coming into being" if we divorce it from other considerations. Among all the possible completely random sequences of base pairs in DNA, what are the odds of one particular sequence being hit upon?

Let's just consider a sequence the length of a human genome. There are three billion base pairs in the human genome and one of four different bases that can occupy each position, symbolized by the letters A, C, G and T. The total number of possible combinations of bases in a human-length genome is therefore $4^{3,000,000,000}$, which, to maintain a consistency in our notation, is equal to $10^{1,800,000,000}$. That's a 1 with one billion eight hundred million zeros after it.²⁶ Don't worry, I'm not going to get you to try to imagine how much you can't imagine how large that number is. We've probably had enough of that. It is, suffice to say, way larger than Binazir's number for the odds of your parents meeting and that one sperm and egg joining, and that happening for all your ancestors all the way back to the beginning of life, which "only" has an exponent in the millions: $10^{2,865,000}$. If this makes you suspect that Binazir's number for that must be way too low, I would agree, although I don't have a clear idea of how to improve upon it.

$10^{1,800,000,000}$ is an easy number to obtain, but it's not very helpful. The odds of any one particular sequence of DNA *that would produce a human being* coming into being aren't nearly as bad as that. A very small fraction of those $10^{1,800,000,000}$ combinations of DNA would produce any kind of a viable organism at all, let alone a human. (Different species have different numbers of chromosomes and different total lengths of DNA and so different numbers of base pairs, but it is conceivable that organisms that weren't human could exist from DNA of the same number of base pairs as humans have—which is only a rough number anyway and is different for men and

²⁵ The most thorough examination of gamete identity by a professional philosopher I've found is Graeme Forbes (1980, 1985), whose topic is, like Kripke's, transworld identity, not personal identity.

²⁶ I won't go into the details of why this is the way to do it, mostly because it doesn't matter whether you know why, but also because I haven't done the math to figure out (or remember; I used to be far more conversant in mathematics than I am now) why, I just adopted the method from Daniel Dennett.

women.) And by a very small fraction, I don't just mean something like 1 in a million. That's only 1 in 10^6 , which would reduce our original number only to $10^{1,799,999,994}$. I mean a fraction on the order of 1 in 10 to the power of millions, or perhaps more.

Most sequences of DNA would *produce* nothing at all. Functionally, they would just be regular nongenerative molecules like all the other molecules in the universe. But even among those that were capable of producing an organism under the right circumstances, the vast majority would produce an organism, human or otherwise, with such grave problems that it wouldn't survive and grow to be conscious, if it was even capable of being conscious in principle, and of those that could survive and become conscious, most would have extremely problematic lives. There are many more ways of being very badly off genetically than there are of being hale and hardy.²⁷ Note too that it's possible that non-human organisms could be created that were far *more intelligent* than human beings from a strand of DNA the length of our 23 chromosomes. There are many possibilities. For simplicity though, let's just focus on human beings.

Jorge Luis Borges' "Library of Babel," expanded upon by Daniel Dennett, is an instructive analogy. (See the book *Labyrinths* for Borges' version, and the chapter titled "Library of Mendel" in *Darwin's Dangerous Idea* for Dennett's, which includes a more complete description of the following analogy.) Imagine a library containing every possible 500-page book. In other words, every sequence of letters, numbers, spaces, and other characters that could be printed in a 500-page book. Forty lines of 50 characters on each page comes to one million characters, and if there were 100 characters to choose from (a credible approximation, including lowercase and uppercase letters, numbers, spaces, punctuation, and miscellaneous characters such as "@"), there would be $100^{1,000,000}$ different books, which is equal to $10^{2,000,000}$ in our notation. How many of those would contain only words of a known language? A vanishingly small number of the original $10^{2,000,000}$. How many would contain only words of English? Even smaller still. How many would contain only sensible sentences of English? Much smaller still. And how many would contain only sensible sentences and paragraphs of English strung together into a sensible whole to produce an understandable work of fiction, nonfiction, poetry, or some other genre? Much much smaller still. Yet, the total number of all possible sensible 500-page books is immense. Just think of the number that would tell the true life story of every person that ever lived (including you), and then variations on that true life story that emphasize different parts of the life, and then variations that include some lies, and then variations that include every possible life story of every person that ever lived (moving to France at age 5, etc.), and then variations that include every possible life story of every possible person to ever live. It seems infinite. And yet, "biography" is only a very small subset of all the possible strings of characters that could make up a sensible 500-page book.

So what are the actual number of possible combinations of human DNA that would produce a viable and conscious human being under the right circumstances? In other words, just how many genetically different human beings could there be? As with the number of possible sensible books in English, it's impossible to know for sure, as we don't know the boundaries of what combinations would produce a human being (or conscious organism of any kind), and even if we did the boundaries would be vague. But we can be sure it is still a very very large number, unimaginably large. Even the total number of atoms in the observable universe, 10^{80} , is unimaginably large. I would

²⁷ This is my second echoing of a quote from Dawkins: "There are very many more ways of being dead than alive."

bet the total number of possible combinations of DNA that produce a human being, though much smaller than $10^{1,800,000,000}$, is nonetheless much larger than 10^{80} .

But this is conjecture, and not very useful. Maybe this is why people don't try to do the calculation, and why Binazir didn't include it in his calculations. It is not clear what quantities we should be calculating from.

Fortunately, we know that none of this matters anyway. This whole discussion is a red herring, an attempt to fire your imagination and get you emotionally invested in the question. Because we know that no particular sequence of DNA guarantees the coming into being of any particular personal existence. We knew this already even without the perfect doppelgänger and the other analyses we've gone through in this book so far. We knew this because of the existence of identical twins. Dawkins shows he understands this when he says "there is more to personal identity than genes, as identical twins (who separate after the moment of fertilization) show us." Yet he still insists that that one particular combination of DNA was required to bring you into existence, when he says

The potential people who could have been here in my place but who in fact will never see the light of day outnumber the sand grains of Arabia... We know this because the set of possible people allowed by our DNA so massively exceeds the set of actual people. In the teeth of these stupefying odds it is you and I, in our ordinariness, that are here.

Dawkins basically acknowledges a glaring problem with the belief he is professing and then slides past it as though it doesn't matter. In this of course he is only echoing the move a great many people make. How can people do this? It is possible to ground this move in sound reasons: the philosophically respectable way to say this would be that a particular combination of DNA was a *necessary* condition to bring you into existence, but not a *sufficient* condition. In other words, it is necessary in the sense that you would not exist without that particular combination of DNA, but it is not sufficient because that particular combination of DNA doesn't guarantee that you would exist. That combination of DNA is not *enough* to ensure your existence. I don't know if this is what Dawkins had in mind. I'm fairly certain it's not what most people have in mind when they make this claim. And anyway, it brings up the question neither Dawkins nor anyone else tries to answer: what then are the sufficient conditions for a particular sequence of DNA to bring you into existence? In other words, if a particular sequence of DNA alone doesn't guarantee you'll come into existence, then what other factors are required to make a gamete with that sequence of DNA the one to bring you into existence? I'll get to this question in the next two sections, when I examine gametes and parentage.

Jim Holt also shows he understands this problem with considering DNA as a factor for bringing you into existence when he says

The coming into being of my genetic identity was indeed a long shot. But was even *that* enough to ensure the coming into existence of *me*? Could this genetic identity not just as easily have produced not me, but, as it were, my identical twin?

He asks the right question, but has no answer for it.

So let's think a little deeper about DNA. It is different from the other two factors usually given as causes of or necessary conditions for your existence, a particular pair of gametes and a particular set of parents. Those factors both involve a particular object, either a gamete or a human being, making their way through time and space. It is easy (though not entirely unproblematic, as we will see in Chapter 4) to just stipulate that *that* gamete or *that* parent had to exist, and not a copy, in order for you to exist. In everyday life, it is not usually vague what we mean when we distinguish one particular object from all others. A sequence of DNA, in contrast, is just *information*. It is physically embodied in the DNA molecule, to be sure, but the aspect of it that matters to us is the information it encodes. And, unlike a physical object, information doesn't have a single identity. There is no sense to the idea of only *that* information and not a copy. A copy of the information *is* the information. Sure, any piece of information can be embodied in many different ways, but the embodiments *aren't the information itself*. Considering the fact that we take the information of DNA to be *the thing* that was required to build the body that brought your personal existence into being, this has interesting consequences.

Consider this analogy. The Empire State Building was built from plans. Let's imagine a large blueprint. It was actually a volume of blueprints, of course, but for simplicity let's just imagine one big sheet with all of the details on it. The sheet is a physical object, but the information within does not depend on any particular physical object. If the blueprint is copied, the information is still the same. Even if it is memorized by the builder (a pretty amazing builder), and he or she carries around no physical copy at all, it is still the same information. In an alternate universe, as long as the building is built on that plan with those materials, it would still be the exact same building.²⁸ It wouldn't matter if the builder had built it from another copy of the blueprints, or just from memory. When considering the identity of the Empire State Building, we don't consider how the information to build it was embodied, we just consider the information itself.

What does this mean for the DNA portion of the gamete-dependence claim? Does DNA-as-information operate in the same way as blueprints-as-information? Let's consider. If all that was required for you to come into existence was the *information* of the DNA sequence being enacted, using the same materials and perhaps in the same location, then would the B gametes in the B universe have brought you into existence after all, since they, like the copy of the Empire State Building blueprints that could have been used to build the Empire State Building, built a human being on the same plan and with the same materials as the A gametes did? (Assuming the atoms were swapped out before they were joined.)

You may once again be tempted by this possibility. But if so, then you have to give up the claim that you would have come into existence if the A gametes had joined somewhere else at a different time, and the resulting body had been built from different materials. If you do that, then we have to move back up the chain from the first chapter, and believe that you would not exist right now if your mother had moved to France when she was pregnant with you, or when you were five, etc. If you don't give that up, then you will maintain two contradictory beliefs: you would be the person who was the result of the A gametes, no matter what, and you would be the person who was the result of the B gametes, no matter what. In fact, you would be the person who was the

²⁸ Perhaps it would also need to be built in that location, but perhaps not; can we not imagine *the* Empire State Building having been built one block over? I'll look at this further later.

result of *any* gametes that had that combination of DNA. This can't be true, because all of those human beings could come into existence at the same time and could meet each other, and you could only be one of them, at most, according to the standard belief. (It is of course also possible for you to be none of them, as explained in the first section of this chapter.)

But there is another intriguing idea in this notion of DNA as information, an alternate version of the gamete-dependence claim that makes sense once you consider it but that I've never yet seen suggested.

Look back at the roiling ball of ova from section 1. Every one is identical to the ovum A that produced you. Let's assume ovum A is one of the ones in there. Setting aside the history of each one (how it came to be), just look at ovum A in the present moment in your mind's eye, and then look at ovum B, or C, or any of the other identical ovum that *would not* produce you. What do you see? You believe that somehow you *inhere* in that A ovum and no other (just as you did with our universe and no other). All of the ova have the same DNA, and the same structure, yet in one of them there you are, in all the others there you are not. Or at least, there is the *potential* for you, since you will only come into existence if the right sperm fertilizes the ovum, while someone else will come into existence if another sperm does. But in all the other ova, there isn't even the *potential* for you. The potential for you *does not* inhere in those ova.

There they are, two identical ova, one with you in it and the other without. This seems like an exceedingly odd belief, especially for a materialist, and yet it is an unavoidable part of the Standard Belief about coming into existence.

But it gets even stranger. Consider this: in order for someone to "exist" at all, for a personal existence to come into being at all, there has to be a brain. No consciousness, no existence. And no brain, no consciousness. Yet, look at that ovum: there is no brain in there whatsoever. There is not yet even a hint of a brain. The brain is built by the information in that DNA from scratch, from the first atom up.

So *maybe*, when we use the body-tracing criteria in our imaginations, what we should have been tracing back to all along was not a particular pair of gametes, but a particular brain. In other words, like the Empire State Building, a structure built on a particular plan (from the DNA) using a particular set of matter. So that, as long as the building of a brain was *begun* at the time and place the building of your brain was begun and from the same plans (again, DNA) as your brain was built from, then that *brain* would bring you into existence. And after that brain was built, *it* could go anywhere in the world and "bring" you with it, like a car leaving the factory. Thus, which set of "blueprints"—which actual gametes with the correct set of DNA—it was built from would not matter. Only the materials, structure, and probably time and place would matter, just like with the Empire State Building.

An intriguing idea, but it doesn't really get us anywhere new, other than to show us in a new way why our uncritical acceptance of the gamete-dependence claim is problematic. It otherwise still leaves most of the same puzzles and enigmas standing, and leaves us with some new ones. Like, when is "enough" of the brain completed that it can begin to have alternate careers and still "take" you with it? In other words, at what point can it move to France without resulting in you not existing? Maybe you'd be tempted to say, "when it becomes conscious", but even a cursory examination shows this to pretty arbitrary. When did you become conscious? Your first memory? Why choose that point? Could we not say you were conscious before that but just don't remember? And if your first memory is the point you choose, do you really want to live with that? You then believe that *nothing* could have been different in your life for the

first couple of years, up to the point of your first memory (if it had been different, you wouldn't exist), and then after that *everything* could have been different and you would still exist. We simply switch from the not-moving-to-France-at-age-five dependence claim to the not-moving-to-France-at-age-two dependence claim. (My first memories were right around age two.)

If we don't want to go there, we are back to believing it had to be the A gametes for you to come into existence. No copies of the gametes would do in this case. This does make sense, because remember that the gametes, and especially the ovum, act not just as information, but also as the beginning of the body. They are the first matter from which the human body is built, and thus the end-point of our tracing backward through time in the body-tracing criteria. The single-cell zygote right after conception is, as I said, essentially just the matter of the ovum plus a tiny bit of matter from the sperm.

So we move on and look at the next of the factors given in the gamete-dependence claim: the gametes themselves. Those two physical objects moving through time and space.

2.3.2. A Pair of Gametes

I've isolated "a particular pair of gametes" as a commonly given condition for someone coming into existence because this is one of the three ways people talk about the odds: the odds of a sequence of DNA coming to be, the odds of that sperm joining with that ovum, and the odds of your parents meeting. But, like DNA, there is something that sets this criterion apart from the other two: DNA and parentage are both *properties* of the gametes. The truth is, though all three factors are often placed side by side, gametes are the real necessary condition of you coming into existence, and DNA and parentage are just properties that distinguish one particular pair of gametes from another.

So this brings up the question: are DNA and parentage the *only* properties relevant to making a particular pair of gametes bring you into existence? Are those characteristics the only thing you need ensure for you to exist? No, they cannot be. DNA alone we've seen cannot do the job, because of identical twins (and these days, clones). People know this, and sometimes bring it up as a problematic factor with DNA. But what no one ever mentions is that parentage is a problematic factor for the same reason. Parentage is no more a sufficient condition for bringing you into existence than DNA is. Just like a particular sequence of DNA can produce a lot of people who are not you, a particular pair of parents can produce a whole lot of people who are not you (and your parents did produce one or two or a few if you have any siblings.)

But what about in combination? Are DNA and parentage together sufficient to guarantee your existence? No, they cannot be. Setting aside the confusing issue of the splitting of a zygote and questions about who does and does not come into existence when that happens (which I will explore fully in Chapter 4 in the section on consciousness dividing), either of your parents could have produced a gamete with the same DNA as the A gamete they contributed to your creation at *any time* in their gamete-producing lifespan. (This was explained at the end of Chapter 1.) And they could have produced that gamete at that time *instead* of producing the A gamete at the time they produced the A gamete they contributed to your creation, or *in addition to* the A gamete. So gametes coming from your parents with your sequence of DNA are not enough to ensure you coming into existence. These are not *sufficient conditions* even in combination.

There must, therefore, be some other conditions that are necessary for a particular gamete to produce you, assumed but unmentioned in the gamete-dependence claim. It's time we bring them out into the open. There are five possibilities that I can think of. Most of these we've alluded to already:

- 1) **The exact structure or plan or shape of the gamete**, inside and out (this includes DNA, but also involves everything else about the structure as well), had to be exactly what it was in order for it to be a gamete that would bring you into existence.
- 2) **The particular atoms or matter that went into the construction of the gamete** had to be exactly the atoms they were in order for it to be a gamete that would bring you into existence.
- 3) **The time or timing of the formation of the gamete** had to be exactly when it was in order for it to be a gamete that would bring you into existence.
- 4) **The location of the formation of the gamete** (either in absolute space, or relative to the space in the gamete-producing organ of a parent's body) had to be exactly where it was in order for it to be a gamete that would bring you into existence.
- 5) **The process of formation of the gamete** had to be exactly as it was in order for it to be a gamete that would bring you into existence.

This, then, is the only way to truly pinpoint one pair of gametes and no other as the gametes that were required to bring you into existence when people express the standard belief about coming into existence, the gamete-dependence claim. Essentially, it is the exact specification of every property possible of the gametes. This *must* be what people are thinking of when they express the gamete-dependence claim, even if they are not aware of it. Keep this in mind if you think I'm getting too obsessive about the tiniest of details.

These factors will be the basis of our building up to the new view about coming into existence that I argue for in chapter 4, and we'll look at them in detail there. For now, let's take a cursory examination of the other things that must be involved in the belief that some or all of these conditions were necessary for you to exist, even if the person holding the belief isn't consciously aware of them.

Let's take sperm as the example this time, since we're talking about the actual creation of the gamete and sperm are created very near the time they perform their function of contributing to the creation of a person. As I explained in the previous section on DNA, when you look at the A sperm side-by-side with the B sperm, or as one among a huge or even infinite number of identical sperm, if you believe that the A sperm and only the A sperm had the possibility of producing you (had it joined with the right ovum), then you essentially believe that you, your personal existence, some essence of "youness", is inhering in that sperm A, but not in sperm B, just as the potential for you inhered in our universe at the start of it but not in any other. We can then take this a step further looking at the properties above.

If you believe for example that only those atoms and no other could have gone into the creation of sperm A, then you essentially believe that the potential for your personal existence inhered in those atoms. Something about *those* atoms and no other brought you into existence. This was true long before they created the sperm, back to when they may have been spread out across the earth. Imagine that, each of those atoms, just sitting somewhere on earth or elsewhere in the solar system or universe, far from

the others many millions of years ago, yet somehow their combination and only their combination contains the possibility for you to come into being. *You* inhered in this disparate scattering of atoms.

If a sperm of the exact same specifications had been created at the same time and place but with different atoms, then you would not exist. If your father had had sushi a week before the copulation event that led to your creation instead of the pasta he actually had, yet everything else from that point on went exactly as it actually did, including the creation of a human being exactly like you, would you not exist? Could your father having sushi instead of pasta have led to the creation of your perfect doppelgänger? *Did your personal existence inhere in that particular plate of pasta?*

Surely this seems farfetched. But this is really the content of your belief if you believe the particular atoms that produced you were a necessary condition for you to come into existence.

So perhaps the atoms weren't essential (after all, atoms can be swapped out of a living being without causing that being to cease to exist), but some of the other factors were. Was the location of creation essential? Did the possibility of your personal existence coming into being inhere in that one location and no other? Think of that one location along the seminiferous vesicle where the sperm that created you was created. Was there really no other location in the universe in which the potential for you could have come into being? Think about that location, and then the spots just to either side of it. Apparently, the potential for you was not inhering in *them*. It makes that one spot seem rather magical, doesn't it?

Or maybe it was not the location, but the time of creation. Could the sperm that created you have been created a few seconds before or after the time it was created? Why, in fact, if the potentiality for you inhered in the universe from the beginning, was that potentiality only discharged at that particularly moment of creation of the A sperm? (And decades before in the creation of the A ovum.) Isn't it odd that though the potential for you was created at the beginning of the universe and has inhered in it for all of the time since, billions of years passed during which you could not have been created no matter what happened in the universe, and then with the coming of this one moment, suddenly the potential for you could be realized, but only if all the right things happened?

Or maybe it was the process. Could the exact same end product of sperm A have been created of the same matter and to the same plan in the same place and time, but from a slightly different process? Did your personal existence inhere in the *process*?

These questions may seem comical to you, and it's not worth trying to actually answer them, because any answers we give will be arbitrary. We'll be looking at these exact questions very closely in Chapter 4, as we argue our way toward a new belief about coming into existence. The point of all this for now is to see that it's not enough to simply point to a pair of gametes and say, those are the ones, and no others, because we can simply look closer at those gametes, and wonder where the line for those gametes being those gametes is. How much different could the creation of those gametes have been before they would no longer be ones to produce you? Too small a change—like a single atom or an extremely tiny increment of time—seems too small, while too large a change—completely different matter in a completely different location—will result in gametes that could come into existence in the same universe as the actual A gametes, and therefore *couldn't* be gametes that would bring you into existence, on the gamete-dependence claim.

In other words, we have to believe that either no variations whatsoever are allowable, or only variations within certain limits are allowable. If we decide to believe the latter, then we face the trouble of finding reasons for defining what the limits are. If we decide to believe the former, then we have an incredibly restrictive belief that seems untenable when we look at it closely. Neither seems particularly desirable or sensible.

2.3.3. Parentage

So we turn to the third condition, that your parents had to meet and copulate and produce a child in order for you to exist. In the light of everything we've learned about identifying a particular pair gametes up to now, we can see what lies beneath this claim as well: It is not enough for the gametes to merely have the same construction at the same time as the gametes that produced you, they must have had the correct source: your actual parents. Though farfetched, one can imagine a situation in which your parents never existed, but gametes identical to the ones that created you came into being at the same time and location in space and from the same matter and the same process, but from genetically different people. Would the resulting person have brought you into existence anyway?

This is surely not what people have in mind when they say they could have only come from their parents and no other source. They are likely simply assuming that only their parents could have produced their particular sequence of DNA. This may be true for all practical purposes, but strictly speaking is wrong. At any rate, given the way people such as Binazir and Dawkins talk about parentage and ancestry and the long odds of coming into existence that result from the many alternate possibilities thereof, and the many ways gametes of the same DNA as the A gametes could have actually been produced, it's worth considering, what did your parents actually contribute to you coming into existence?

Let's look at the odds first. If we start with the uncritical acceptance of the notion that your parents must have existed in order for you to exist, then we must also accept that each of your parents' parents must have existed in order for them to exist and thereby for you to exist, and each of your parents' parents' parents must have existed in order for...well, you get the idea. And the same questions can be asked about the gametes that produced your great-great-great-great-great grandmother as about the gametes that produced you. Out of all the gametes that existed at that time, the potential for her inheres in only one pair and no other.

But not only that: the potential for *you* inheres in that pair of gametes that produced your great-times-five grandmother and no other too. This is where it really gets strange, and unbelievable. If you believe the gamete-dependence claim, and Ali Binazir's outlandish number about the ridiculous odds against each of your ancestors meeting and copulating back to the beginning of life, and just the right sperm and right ovum joining in every case back to the beginning of life, then you believe that the potential for *you* inhered not only in the A gametes, but in every precursor to the A gametes, right back to the beginning. In the gametes that produced your great-great-great-great-great grandmother, she inhered, you inhered, your great-great-great-great grandparent inhered, your great-great-great grandparent inhered, and on up the line to your own parent. The potential for all of them was there in each gamete and resulting human being in each case.

Just look at the formation of one of those gametes in your mind's eye, and imagine the potential for you and all of your ancestors since to come into existence somehow inhering in there in those gametes, and then being built into just one ovum and no other of your great-great-great-great-great grandmother as she grew in her mother's womb, and being carried with her as she is born and grows up, and then sent forward into your next ancestor when she conceives with that one ovum. It's mind-boggling. (And this isn't even to mention all of the personal existences inhering in each one of those ova that are not and will never be realized.) Even more mind-boggling might be to consider a great-great-great-great-great grandfather, and all the sperm he produced. Of the approximately two trillion sperm he produced in his lifetime, there you are inhering in one and only one, and every one of your ancestors between him and you. In every other sperm he produced or could have produced, neither you nor any of your ancestors inhered. And that's just one ancestor in a line of...thousands...hundreds of thousands...possibly millions, depending on how far back we need to go.

A famous person from the past might make this vivid. Perhaps Augustus Caesar was one of your ancestors. Just imagine, Augustus Caesar himself going about his young life and the early part of his reign in Rome, doing his Emperor things, and there you are, the potentiality for little old you (and a great many other people) being carried around with him with his every famous and important movement, wherever he goes, just waiting for him to produce the right sperm at exactly the right moment and copulate at exactly the right moment to ensure that you will come into existence a few thousand years into the future.

And consider too that at the time of Augustus Caesar you didn't have just one ancestor, and most likely had more than two or four; you probably had dozens or hundreds or thousands or millions.²⁹ They were all carrying around the potential for you, waiting to create and release just the right gamete at the right time, and if any of them had "failed" in this, or had failed to exist at all, then you wouldn't exist right now, according to the gamete-dependence claim.

And that's just someone a mere 2000 years ago, and it's still mind-boggling to consider. Humans have been on Earth for at least 100,000 years, and we must keep going back to before humans if we are to keep this logic up. Imagine another of your ancestors now, an ape-like creature, sitting in a tree some millions of years ago. According to the standard belief, that ape had to copulate at the exact time as she did with your male ape ancestor, and that exact sperm had to fertilize that exact ovum. And we can ask all the same questions about those gametes as we did about the ones that produced you. There you are, you personally, inhering in that ape sperm and ape ovum and no other, and in every set of gametes before and since in your line of decent.

Dawkins said "this doesn't bear thinking about." Here again, he is just echoing the tacit agreement of a great many people: we're going to believe that our parents and no other were necessary for us to come into existence, but we're not going to think about what that belief actually entails. We can see now that doing so makes the belief awfully hard to maintain.

²⁹ The actual number is a complicated question I don't know exactly how to go into, but consider that just multiplying by two as we go back in the short term (two parents, four grandparents, eight great-grandparents, sixteen great-great grandparents, etc.) quickly leads us to greater than the population of the world at a given time (1000 years back gives us over a billion ancestors). Consider too that there could easily be an island isolated from all other people, with 100 people on it, which has had a stable population of 100 people for 2000 years, in which case, each person on that island has *at most* 100 ancestors who were living 2000 years ago, but *not necessarily* that many.

Where do we stop? Eventually, when we keep going back, we get to asexual reproducers, organisms like modern-day amoebae, that just split in half to reproduce, each half growing into another full-sized organism. If just one of the hundreds of trillions of these asexually reproducing organisms in the oceans of earth those billions of years ago had fissioned in just a slightly different manner, would you have never existed? This, as much as everything else, seems to be a required if hidden premise of the gamete-dependence claim. But what would that even mean, to “fission in a particular manner, but not another”? If this single-celled organism splits *here*, your potential to come into existence will be carried forward, but if it splits *there*, it will not. What is a sufficient distance to make that difference? A single atom?

We could keep going back even further, to the first bare replicator molecules. Or even to the matter that existed before replicators came into being. But I think the point has been made. The gamete-dependence claim says everything in the history of the world (at least) had to go exactly as it did go in order for you to come into existence. But look how incredible that claim becomes when you actually look at the details.

In pointing out how long the odds really are of you coming into existence if you truly believe the gamete-dependence claim, often people will reply with something along the lines of “well, it doesn’t matter how long the odds were, because it happened, and here I am.” As long as there was a chance, a 1 in something instead of a 0 in something, then there is nothing to be surprised about. I find that to be glib. Surely anyone who answers that way has never truly considered the odds of everything going exactly as it did, nor of why they should believe it had to.

Think of the possibilities. If just one thing had gone differently during, say, those asexual reproduction days, if just one asexual reproducer had split differently than it actually did split, then a whole world of life would have been created that does not and *could not ever* include you. And that was decided *at that moment*. As soon as that one difference happened, the possibility for your existence that had inhered at the start of the universe vanished. What could this mean? You were possible from the beginning of the universe (and only in this universe not even in another identical one), but that one event billions of years ago made it disappear. The possibility for you gets snuffed out because one single-celled organism billions of years ago splits differently than it needed to for the possibility for you to be carried forward to the next moment. Think just of how amazing it is that the possibility for you lasted *up to* that moment. It could have been snuffed out much earlier. But it was carried forward for billions of years through billions of generations of asexual reproducers. And then in one moment with one tiny event, it disappears.

Why would you ever believe this?

And think of that whole world of life that could exist right now without you in it. Think of all the many different ways there could be a planet full of human beings right now, even a planet rather similar in culture and development to where we are at this precise moment, and not one of these people is you or anyone that actually does exist right now. And there are 10 to the power of millions or billions or trillions of different ways this could be. These could have come about from a different splitting of one of those asexual reproducers, or from Augustus Caesar waking up a minute later one day than he actually did, or from any number of differences in between.

And yet, still, the universe saw fit to have the potential for you inhere in it right from the start, even if the odds of that potential actually being realized were so infinitesimally small. *But*, it only inhered in one single chain of events among a vastly

large number of possible chains of events (or, perhaps, infinite). The natural question is, why is that chain of events wedded to *you* coming into existence?

And there is another question in here, which I asked before: why now? If the potential for you inhered in the universe from the beginning, why could you only finally come into existence when you did? Why not before or after? Was there some sort of time stamp on it? We have to believe that that potential for you coming into existence had to be carried forward throughout all of history, only to finally be discharged at the moment it was, in the formation of gametes at a particular time but no other, in a particular manner but no other, of a particular set of matter but not another, and into a particular structure but no other. For some reason. This seems like an exceedingly odd belief.

2.3.4. A Very Special Perfect Doppelgänger

I find these thoughts dizzying every time I truly consider them. I must once again take us down from these dizzying heights before we get to the conclusions of this chapter though. There is an important question about the perfect doppelgänger thought experiment I've been holding back up until now, and this talk of parentage seems an appropriate place to finally bring it up.

I asked you in PD to imagine someone you are very close and intimate with being a perfect doppelgänger, such as a friend or spouse. I deliberately did not suggest an obvious intimate relation, one of your parents, because this poses a special question of its own.

Imagine your mother in the perfect doppelgänger thought experiment, where she rather than you were the A gametes. Then imagine that the B gametes on the spaceship were selected, rather than the A gametes that produced your mother in this universe, and the B person grew and lived a life exactly like the one your mother did. So rather than your mother existing and living the life she has, her perfect doppelgänger did instead. The question arises, then: would you exist? Under the stipulations of PD, she lives a life exactly identical to your mother's, and this includes producing a child with your father, your actual father, not his perfect doppelgänger, in exactly the manner that they produced you, from exactly identical gametes, your father's being the actual sperm that produced you and your mother's perfect doppelgänger's ovum being...well, that's the question. Is it the same ovum? Would you come into existence in this situation? Is there *youness* inhering in *that* ovum?

If you accept the standard belief, then you should answer no. Your mother's perfect doppelgänger is a *different person* than your mother, as surely as if both her and your mother had come into existence and lived side-by-side. You could not have come into existence from anyone but your mother, not even an identical twin of your mother. The potential for you would not have inhered in any identical twin of your mother, and thus it would not have in her perfect doppelgänger. In which case, your mother's perfect doppelgänger would give rise to children who are perfect doppelgängers of you and your siblings, and you and your sibling's children would then give birth to perfect doppelgängers of the children you have or will have, and their children, on down the line, until the entirety of humanity becomes perfect doppelgängers of the people that will actually exist in this universe in which your actual mother and you both exist.

And we can switch this to the past tense to make it really vivid, and make one of your distant ancestors a perfect doppelgänger instead. If you go back far enough, you will come to someone who is a distant ancestor of all of humanity in the present day.

We can take this person's gametes out onto a spaceship, and so imagine the entire earth being physically exactly as it is today, except that no one who exists now exists, or will ever exist. It is simply perfect doppelgängers of everyone throughout the world.

But this "no" is such an odd answer. Why wouldn't you come into existence from your mother's perfect doppelgänger? The formation of that ovum and its subsequent career is identical to what it was in this world. Same atoms, same processes, same time, same location, same structure, same everything. Is that numerical identity, or merely qualitative identity? A perfect doppelgänger is only qualitatively identical to the "original" person, not numerically identical, but what about a perfect doppelgänger's children? In the example of your mother, the only difference is "who" the person is "inside" of that collection of atoms that makes up a human being at that point in time and space. How could *that* affect whether you, or someone a million years from now, comes into existence? All the *physical* factors are the same as the physical factors that produced you.

(And, calling back to the brain-dependence claim I mentioned above, wouldn't it truly be the same brain in that case?)

This question, I find, is exceptionally powerful in isolating the eerie insight of the Enigmas of Existence, the strangeness that your personal existence should come into being at this time and place and with this matter and structure and process of creation. It is perhaps the best question to come out of PD, the one that stabs straight into the heart of the mystery of our own existence. Here we have a situation even more perfect than PD, where *all* physical facts relating even to your own creation are exactly the same as in the actual universe A that created you, and yet we still have a question, would *you* come into existence here? Giving a "yes" answer forces the question "why?" and a "no" answer forces the question "why not?", and this thereby distills the very essence of what I'm driving at: there is a physical object that either does or does not bring you into existence. Whether it does or does not has no basis in any physical fact. And therefore it cannot be answered. And so we can see clearly that both of those questions—why or why not—are just as valid for the *actual circumstances* of your coming or not coming into existence as they are for this possible scenario of your mother being a perfect doppelgänger. Your actual coming into existence had no basis in any physical fact either. We just think it did because we never examine that belief critically.

2.3.5. Conclusions from Gamete Identity

This is the only conclusion we can reach from all of this: Neither gametes nor any of the essential properties of gametes, including DNA and parentage, *explain* why you exist, either separately or all together. They do not bring any clarity to the question "why do I exist?". You can ask this question, and it's a good question, but usually someone will answer by appealing to one or more of these three conditions of DNA, gametes, and parentage. But none of these conditions, either individually or in combination, function as an explanation for why *you* exist.

In fact, we can now see that pointing at gametes and saying "you exist because these existed" is no better than someone just pointing at your body and saying "you exist because this exists." Many people who got the latter kind of answer would consider it to not be addressing the question. And yet, when we get down to gametes and DNA, many of these same people suddenly come to accept it as a profound answer where our body was not, just because they are smaller, or the last thing we come to as

we trace backward down the chain. But it's *not* a profound answer. Pointing at gametes is no more profound or deep than pointing at a whole human body. Gametes and DNA are just an answer to the question "why does this exist" when someone is pointing at your body, and so if pointing at your body is not an answer to why your personal existence obtains, then neither are gametes and DNA. There is no obvious link between any DNA or gametes or parentage and your coming into existence. We can clearly conceive of all of those facts obtaining and you still not existing; there could be an infinite number of gametes identical to the A gametes wherein none of them caused you to exist, or we can conceive of the universe could having gone exactly as it has, and you not come into existence. (The former should be uncontroversial; the latter may be for some people, and this will be discussed in Chapter 3.) All any of those factors explain is why a human being of your genetic makeup and parentage came into being at a certain time. They don't explain why that person is you rather than not, or why you exist now rather than don't exist now. And it is worth reflecting on the fact that so many people are satisfied with them as explanations of their own existence, when they are no such thing.

2.4. Rejecting the Gamete-Dependence Claim

The gamete-dependence claim is untenable. It cannot be true. And so we go looking for a better belief. There are two possibilities. The first one I will introduce in Chapter 3. It is a belief that already has a fair number of supporters and a fair amount of good philosophical argument in its support. But this belief has problems, I think. Depending on how you look at it, it may not solve all of the problems I've raised in this chapter, only almost all of them. More importantly though, it rejects one of my most unshakable beliefs about my own existence, that I exist not only now but existed in the past of this human body, will exist in the future of it, and would have existed in alternate possibilities for it. In Chapter 3 I will explain why I find this intuition to be so unshakeable, and therefore why I reject the alternate belief.

In Chapter 4 I begin the argument for what I believe to be the correct belief about our existence, which culminates in Chapter 5 in materialist reincarnation. Recall, from the introduction, that materialist reincarnation is the belief that you don't cease to exist when you die, but rather become another person, and in some ways become or really "are" all other people. There is, in other words, at bottom only one personal existence.

A key feature of materialist reincarnation is that it maintains the intuition I so value about existing in the past, future, and alternate histories of the human body you are now. Thus, if you hold this intuition as well, and feel as I do that it is unshakeable (or simply don't know or understand the alternate belief), and if you moreover would like to get straight to the point of how you can believe you will survive death, you may wish to skip Chapter 3. In essence, the through line of *my* argument jumps from Chapter 2 straight to Chapter 4. Chapter 3 exists for those whose intuition about their existence is different than mine and the way I've described so far, and for those who want a more broad and thorough grounding in this topic for their own education or edification. (Or those who want to win arguments: some people only need to convince themselves of something to be satisfied, while others need to convince everyone else too.) I leave it entirely up to you which route you choose.

Chapter 3: Objections

Other Views on Existence

If philosophy were a sport, its ball would be human intuitions. Philosophers compete to shift our intuitions from one side of the field to the other.

-Joshua Rothman, in *The New Yorker*

3.1. The Two-Stranded Objection to the Arguments of Chapters 1 and 2

3.1.1. Closed and Empty Existence

I've been keeping a secret from you. There is a name for the view of existence I described in the first section of Chapter 1, and which I've assumed to be correct up until now. It's called Closed Existence.

This view is the belief that not only do you exist right now, but you existed fully in the past of your human body, will exist fully in the future of it, and would have existed fully in alternate histories of it. The example I used in Chapter 1 is that you would exist now today if you had moved to France when you were five. You would exist *there* now. You would not *not* exist, as would be the case (according to this belief) if you'd died. If you'd died, you would exist not at all. You would exist nowhere.

At the end of Chapter 1, I introduced another way of thinking about this view: the body-tracing criteria. The body-tracing criteria is the method we use of deciding, in our imagination, *whether* we should place our existence somewhere in the universe in the past, or in imagined futures and alternate possibilities to what is actually the case now or was actually the case in the past or will actually be the case in the future, or whether we should *not* place our existence somewhere in the universe in one of those situations. It is also the method we use of deciding, if we answer yes to the first question, *where* we should place our existence. We answer these two questions by tracing a body through space and time, with its origin in a pair of gametes. Wherever and whenever we find that body alive and existing in our imagination, we place our existence (excluding, in some cases but not others, times before that body became conscious). Wherever and whenever we don't, we do not place our existence.

Closed Existence frames this same view like this: your personal existence is *enclosed* within the borders and boundaries of your body. It starts with your body, it ends with your body, and it follows your body wherever it goes. Your personal existence exists nowhere else, and can exist nowhere else. It is closed-in as by a door in a room. Your personal existence cannot get out, cannot escape the boundaries of that body.

I've been keeping this name hidden up until now, describing and assuming the truth of Closed Existence to you without telling you that that's what I've been describing and assuming, because this belief is the unquestioned backdrop to so many of our lives, and I wanted to keep it that way as much as possible while laying the groundwork for my argument.³⁰ I didn't want you to notice that your current view of existence was even a thing. Naming something calls attention to it, which invites examination, and in the case of beliefs, curiosity as to whether it is the only possible one. If you hear the name Closed Existence as a description of your beliefs, you should immediately and rightly question whether your belief is the only possible one, even if it had never occurred to you to wonder that before.

And of course, Closed Existence turns out to not be the only possible belief about existence. I introduce the term now because it contrasts to the view I will be introducing and arguing against, albeit not definitively, in this chapter. This is the view

³⁰ Obviously, I failed in that subterfuge, because I had to at least mention the alternate theories to assuage those who hold them and tell you where I was ultimately going with this book, but I did my best to keep them out of your mind.

I alluded to in the introduction as the “alternate solution to the paradoxes” of questions such as “why was your existence even a possibility in the universe at all?”, and have been mentioning in brief asides throughout the book up until now, such as when I said, at the beginning of Chapter 1,

[N]ot everyone has the same beliefs about their existence of course, so I won’t actually be describing everyone’s beliefs here. But there are certainly some beliefs that are more common than others. So the ones I’m going to be describing here are what I believe to be the most common ones. We’ll get to other beliefs later.

This is the later. This is where I describe the other beliefs.

These other beliefs also have a term associated with them. They are called Empty Existence. There are two types of Empty Existence. The first (I’ll call it Completely Empty Existence) is the belief that you do not exist at all. There is no such thing as “existence”. There is nothing to which the terms “I” or “self” or “your existence” refer. It is a fiction, a hallucination. A good portion of this chapter will be devoted to my argument against Completely Empty Existence. I believe it is an indefensible, perhaps even nonsensical, view. It seems to me that it is based on a misunderstanding of what people who believe they exist are talking about, or a changing of the subject.

The other type of Empty Existence is the belief that you do exist right now, that there is indeed something to which your existence or “I” refers right now, but you do not (or it does not) persist through time. Your existence, or “I”, or “self”, does not stretch past the present moment. In other words, there is no relation between your existence now and the existence of the person you might be tempted to call “I” from 20 years ago or 20 years in the future, or the person that could be in France right now if you had moved there when you were five, that would justify calling it a single thing, a single “I” or “self” persisting through time and change.

This second version of Empty Existence I’m going to rechristen Non-Persisting Empty Existence. Now, it seems to me that the only truly *empty* existence is Completely Empty Existence, and that Non-Persisting Empty Existence isn’t really empty, and so would better be called just Non-Persisting Existence. I identify it as a version of Empty Existence in part because this is the schema developed by the philosopher who coined these terms, Daniel Kolak, and these terms are already in use. And there is a practical reason as well: the two beliefs certainly do share a family resemblance, and are closer to each other than to any of the other beliefs about existence I describe in this book. In fact, some people who adhere to Empty Existence aren’t always clear as to which version they adhere to, and can switch back and forth between proclaiming one or the other without much notice. (More on that later.) All the more reason to give them as two versions of the same belief.

I should tell you that I’ve done a small amount of violence to terminological economy with my terms, because the terms Kolak coined, which are gaining increasingly common currency within certain communities of discourse, are Closed and Empty *Individualism*, not Closed and Empty *Existence*. There is a big part of me that regrets changing the terms in this way. In the first place, I would like to honor Kolak’s influence on my thinking. (More on that in a moment.) In the second place, *this* change doesn’t add anything conceptually new to the discussion. As far as I can tell, the Closed/Empty/Open Individualism as used by Kolak and others means *exactly* the same

thing as what I mean by Closed/Empty/Open Existence. The two sets of terms are perfectly interchangeable. My switch to Existence for the terminology is solely because that is the term that fits *my* framing. This should be obvious already, from Chapters 1 and 2, but later in this chapter I'll provide even more definitive reasons for it. Focusing on the concept of existence to the exclusion of all other ways of framing the questions is actually integral to the way I conceived the problem and therefore reach my conclusions. Other people have reached essentially the same conclusions as me through a different route, and therefore would not need to adhere so strictly to the term "existence." So, outside of this book, I have no problem with the sets of beliefs being called Individualisms rather than Existences.

So, Non-Persisting Empty Existence is the belief that you do exist now, but did not exist in the past of your human body, and will not exist in the future of your human body, and would not exist in alternate possibilities of your human body. If you had moved to France when you were five, *you* would not exist right now. There is nothing that the statement "I exist" that you make in the present moment refers to that would be in France right now in that situation. Presumably, if you had moved to France when you were five, the effect on your present existence, now in this moment, what you are referring to when you say "I exist" right now, would be the same as if you had died when you were five. The human being living in France right now under your name would be another person, just as all the other people in France would be in that situation (if you had died when were five), and just as all the people in France right now are.

A couple of caveats to this. First, the way I have stated this claim is obviously not a technically correct way of saying it if you believe in Non-Persisting Empty Existence. "If *you* had moved to France when *you* were five"? Saying "you" like that already assumes that the persistence through time of Closed Existence is true, that it was *you* who I am talking to right now that was there at age five, that the thing you are referring to when you say "I exist" now also existed back then. A more technically correct way of saying it would be something like, "If the physically continuous antecedent to the human body you are now, or the human body you are referring to now when you say 'I exist', had moved to France when it was five...." Mercifully, not even Non-Persisting Empty Existentialists speak or write like this; they simply talk the way everyone talks, and so I have felt free to do the same. In fact, when some (but not all) Empty Existentialists (whether of the Completely type or the Non-Persisting type) make such counterfactual claims ("counterfactual": statements about other possibilities, i.e., possibilities *counter* to the actual *facts*), it is most likely that they are thinking about human bodies when they say "I" or "you" or "exist", or at least think they are thinking about human bodies when they say these words, and not this metaphysical idea of personal existence I've been talking about. So there is no contradiction for an Empty Existentialist to say "when you were five" if by "you" they just mean that human body and the conventions we use for calling it the same thing at different points in time and space. They would say that the convention we use of tracing a human body through space and time and calling it the same name does not mean anything to the metaphysics of the persistence of a subject of experience or self through time.

And this brings me to my other caveat. I say "presumably" and "most likely" in the two above paragraphs because, as far as I know, no one actually calls themselves an Empty Individualist/Existentialist. At least, no professional philosopher writing with peer-review. In some of the informal online forums I'm on, some people have semi-accepted the label for themselves. But it is not a word that is currently a widely accepted label for a position. It is a name given to a set of beliefs by Daniel Kolak, a philosopher

who does not believe them. As we know, people are generally hesitant to accept the names given to them by those with opposing beliefs, and resistant to accepting the characterizations of themselves by their adversaries. And I am in the same camp; I don't believe in Empty Existence, so when I characterize what it is about, as I did above, and apply the label to other people, as I will do in moment, I'm putting someone else's beliefs in my own terms. We know all too well how easy it is to misunderstand other people. We are, in most cases, filters and shapers of the information we take in. Any one person has vast areas of experience and inner life we know nothing about, and we get but the faintest shadows of it through the external communication modes of language and facial expression and the like, and then we take *that* shadow and filter it through what we already know and are capable of understanding ourselves. And what we are not capable of understanding, what we have no reference or categories for, is by and large *invisible* to us. We don't even notice it. So take my characterization of Empty Existence with this grain of salt. The actual characterization of it can only come from someone who really believes it. (And even then they are only doing their best, and perfection is not guaranteed.) I've read many of these characterizations and have worked hard to understand them, but there may yet be things in them that are invisible to me and my understanding, and so my filtering of these beliefs and restatement of them in my own terms using my own categories would completely ignore these things. But you reading one of these characterizations might see it right away, and notice its absence in my characterization.

A caveat to this caveat: I say that we are "*in most cases* filters and shapers of the information we take in" because we don't just take in information passively, and don't just take in the information we are given. We are capable of constructing insights that are more than the sum of the parts of the information we were given. And sometimes we are correct in these insights. We can sometimes see more about what is going on in someone else's mind than they themselves do. The entire practice of psychology and therapy relies on this, as does philosophical debate and progress. I claimed in Chapter 1 that I understood that people were referring to personal existence and not their human body when they made the gamete-dependence claim or said "I exist", even if they didn't know they were, even if they insisted they weren't in the case of making the gamete-dependence claim, and I stand by that. I make this special caveat for my characterization of Empty Existence simply because it is a belief so foreign to me that I know my characterization of it cannot capture what someone who really *feels* its truth must believe about it. But I'm going to give it my best try, largely through the words of those who do believe it and have argued for it.

Kolak coined the terms Closed and Empty Individualist in his book *I Am You* from 2004. As you may be able to guess from the title, that book argues for essentially the same conclusion about existence that I do in this book, which I called materialist reincarnation in the introduction. Kolak calls this belief about existence Open Individualism, and I will also change this to Open Existence here.³¹ It is, as far as I know, the only peer-reviewed book-length argument for this belief. (There are other

³¹ Kolak perhaps wouldn't approve of my term "materialist reincarnation." He thinks "reincarnation would require an entity to travel through time, etc., and to reincarnate itself at each new instant," which he does not believe in. As I said in the introduction, I don't believe in any such entity either. He prefers the term "multiple incarnation" to describe Open Existence/Individualism, because "in a phenomenologically analyzed disintegrating universe, nothing persists." I assume our different terminology then is just me taking less care in being precise in this instance and him taking more care: I use the term "reincarnation" without any particular semantic or historical justification, but just because it is by far the most well-known and understood term in the popular imagination for existing as another human or other physical being after you die. See *I Am You* 332, 397-399, and 489-493 for Kolak's full explanation.

arguments for this belief I will tell you about later.) And even though the book was published right around the time I began my first stumbling baby steps into the thoughts and research and writing on this topic, and well before I hit upon the idea of materialist reincarnation or Open Individualism/Existence myself, which was around 2013, I didn't discover it until I completed a first draft of the present work and put it out into the world for feedback. Kolak's work is not (yet) widely read or discussed among philosophers, and so my diligent pursuit of existing work through the webs of citations in the works I was reading never brought this book to my attention.

I give you this inside view of my process because it informs the structure of this book, and because I owe Kolak a great debt. Learning the terms Closed, Empty and Open Existence/Individualism from him was a tremendous breakthrough in my understanding of what I wanted to say and how I needed to say it. This conceptual distinction completely transformed the structure and content of my own argument. Before Kolak it was a mess. That the persistence of your personal existence or "I exist" through time and space was even a belief and not simply a fact was invisible to me, and so I wrote the first draft truly assuming everyone believed it. And though I had arguments against Empty Existence/Individualism, mostly the same arguments I present in this final version, my target was unclear, as without a name I didn't see clearly what I was arguing against. But Kolak's conceptual distinction completely cleared away this fog. (Kolak frames his argument in terms of dissolving different types of supposed borders and boundaries between persons, which I will explain at the end of this book when I describe his and others' arguments for Open Individualism/Existence. I adopted these terms above for my description of Closed Individualism/Existence as well.)

[Note: Chapter 3 is still in rough draft. The first half is pretty solid, but the second half is still fresh and not quite as well organized or phrased as I'd like it to be. I think the important points are conveyed clearly enough though.

I use both of the terms closed/empty/open "existence" and "individualism" in this chapter, and I'm considering reverting to just using "individualism", partly because saying closed/empty/open "existentialism" is bound to be confusing. I'm still weighing the costs and benefits of using one or the other.]

3.1.2. Everyone Has To Be Someone: Objection to the Enigmas of Existence

There are two objections to the arguments I've made so far in Chapters 1 and 2. Empty Existence (Completely Empty and Non-Persisting Empty Existence) is the first objection, denying the very first premise—Persisting Existence—I try to establish in the first part of Chapter 1 in the case of Non-Persisting Empty Existence, and denying that I'm talking about anything at all in the case of Completely Empty Existence. I will give the second objection in this section. Then I will describe the Empty Existence beliefs through the work of those who believe them and my arguments against these beliefs and for Persisting Existence. Finally, I will tie the two objections together, showing why they necessarily go hand-in-hand, and this tying together coupled with my argument for Persisting Existence will form my rebuttal to the objections, showing why, if Persisting Existence is true, and therefore the first objection is false, then the second objection must be false as well. Or, more conservatively and accurately, showing why, if there are reasons for believing in Persisting Existence, if in other words

one can be allowed to believe it, then one need not accept the perspective of the second objection, however powerful it may appear. This is more accurate because Persisting Existence and Non-Persisting Empty Existence aren't true or false, but merely beliefs about ourselves or perspectives on ourselves.

Here is the second objection. It is the most cogent and powerful objection to the Enigmas of Existence I gave in the introduction and explored fully in Chapter 2:

Every conscious being has to be someone. It makes no sense to ask why I am me, because by default when matter becomes conscious, such as the matter that makes up my body (and especially brain) has become, then someone, some personal existence, comes into being. That conscious matter we call a human being has to be someone. That's all your existence is. And it's quite plain then that it couldn't have been "anyone else".

This is indeed a powerful objection, a viewpoint that I get sucked into some of the time. I'm going to call it the Everyone-Is-Someone perspective. Let's look at some of the Enigmas of Existence again and see how it dissolves them.

We can ask, why couldn't the human being that you are have come into existence and not been you? If you are thinking the way I've been priming you to think in Chapters 1 and 2, which I'll call the Enigmas perspective, then this question makes sense, and may even give you a jolt of a sort of existential vertigo. But if you put yourself in the mind of the Everyone-Is-Someone perspective, then this question suddenly disappears, loses all meaning. The human being you are simply by being a conscious organism must be someone. That is an inextricable part of the meaning of being conscious. What "you" are or what you mean by "I exist" is just that conscious organism experiencing being someone. That's all there is to your existence. So it is incoherent to ask why that human being couldn't have been someone else.

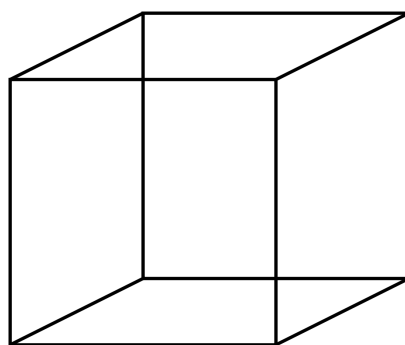
We can ask, why was it the case that any organism would bring you into existence rather than not? This too makes sense if we think in the manner of the Enigmas perspective. All these other organisms, both actual and possible, didn't bring you or wouldn't have brought you or won't bring you into existence, so why did this one do it? But then we switch our thinking to the Everyone-Is-Someone perspective, and this question too dissolves. You weren't a someone waiting to come into existence before the human being you are was created. You just are that organism experiencing existing. Someone had to be. And so the fact that it is you means it would always and only be you. That is all you are. It could only be you. Whatever someone it is that experiences being that organism, it will be you. It is a confusion to wonder otherwise.

We can look at another human being and ask, why am I me and he is him, rather than the other way around? Why am I here in this body while he is there in his body? This is actually a question I asked myself while looking at my older brother when I was around 5 years old. And if we think in the Enigma manner of Chapters 1 and 2, as I was then, this question can seem striking and profound, as it did to me then. Yet if we adopt the Everyone-Is-Someone perspective, the question vanishes. I am me just because what "I" means is this human body experiencing itself, and he is him for the same reason. There is no question to be asked about it.

The Everyone-Is-Someone perspective makes banal and mundane what seems deep and profound. At least, it does when we approach the questions in the order of viewpoint that I have done in this book. If we look at the Enigmas perspective of them first, then the Everyone-Is-Someone perspective dissolves the profundity. But we could

just as easily do it in the opposite way, and describe the mundane Everyone-Is-Someone perspective first, then ask the profound Enigma questions. For some people asking the Enigmas questions out of the blue provides a flash of insight and wonder, however brief. And this is actually closer to what usually happens. It seems that almost nobody has the Enigmas perspective on their mind most of the time. Most of the time the mundane perspective is all there is, even if it isn't stated as I've stated it here, or stated at all. The mundane perspective is in part just the tacit assumption that when we say "I exist" we are merely referring to a human body and nothing else. Many people never think to ask the questions of the Enigmas perspective.

We can then ask the question, which perspective is correct? I think that question doesn't have an answer. Which is better? *I* think the Enigmas perspective is better, in the sense of being a more accurate look at the way we think of ourselves and the way what is important to us in terms of existence and death behaves, and I'm going to give an argument for this belief in this chapter. But I cannot say it is correct and the Everyone-Is-Someone perspective is wrong. In truth, the two views are like the famous Necker cube, the two-dimensional line drawing of a cube in which your mind can be made to see first the one side and then the other as the one closest to you the observer. This analogy has been made for many such competing philosophical viewpoints before. I first saw it in Richard Dawkins' *The Selfish Gene*, where he uses it to contextualize the nature of the gene's-eye view of evolution. But though the metaphor may be frequently used, it is very apt here as well, and is always a helpful visualization to make concrete the sort of perceptual shift between competing explanations or intuitions such as that between the Enigmas perspective and the Everyone-Is-Someone perspective. Just look at this picture and allow your mind to make the switch, first seeing the square which is on the lower left of the 2D plane as the front of the cube (so that it is as though you are looking down at it from above), and then seeing the square on the upper right as the front (so it is as though you are looking up at it from below):



This is similar to what my mind does when I switch between the Everyone-Is-Someone perspective and the Enigmas perspective of existence. I cannot see both at the same time, but rather see the sense in each as I force myself to consider it. And I am never certain that the Everyone-Is-Someone perspective is incorrect. But when I dig deepest, when I feel I have reached the most profound truth about myself (which may just be the most profound truth about how I conceive of myself), about what is most important to me, it is the Enigmas perspective that I feel certain is the right way to look at it, and I feel a near-certainty that the questions it asks, the Enigmas of Existence, are real questions demanding answers. I thus feel, in those moment, that though the Everyone-

Is-Someone perspective makes sense, it is missing an essential point. If I'm being honest, I don't feel I have a complete grasp on what that point is yet, but I do have a partial grasp of it, have made significant headway in understanding this most mysterious of things. It is that argument against the Everyone-Is-Someone perspective that I will be giving here. As I said, that argument relies on the argument against Non-Persisting Empty Existence, so I'll turn to a detailed examination of that next, including my argument against it.

3.2. Against Empty Existence

[Note: this section of quotes is a rough draft]

I divide Empty Individualism into two types.

Completely Empty Individualism is the view that there is no self or personal existence at all. It is a fiction. This much-quoted passage from Hume is a good illustration:

For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception.

I'll say something about this quote in a moment.

Non-Persisting Empty Individualism is the view that there is a self or personal existence, but it is very short lived. Galen Strawson feels this about himself intuitively, and also argues for the truth of it in his book *Selves*. There are many passages where he discusses this belief, in this book and in other articles, and I'll give you two of them, both from *Selves*. The asterisk attached to "I" and "me" in these passages means "I" considered as a self, not a human being, which is similar to my meaning for "personal existence".

I offer myself as an example of someone who has all the normal human equipment but lacks the Persistence Belief (and Persistence Experience).

If I engage in the philosophical exercise of trying to reach back to some part of yesterday's consciousness in [an] intimate or from-the-inside way... and manage to come up with something, I will certainly judge that it 'belongs with' today's consciousness in so far as it is consciousness on the part of the same single human being that I am... I know, for one thing, that I can't reach back to anyone else's consciousness in that from-the-inside way. But I don't thereby feel that it belongs with my present consciousness in such a way that I think that it was I* who was there yesterday (I have no Connectedness Experience). It feels remote. Nor do I judge, or feel, that it is I* who was there yesterday. On the contrary, I judge—feel—that I* certainly wasn't there (I have no Persistence Belief).

And

I'm fully aware that my past is mine in so far as I'm a whole human being, and I fully accept that there's a sense in which it has special relevance to me* now, including special emotional and moral relevance, and yet I have no sense that I* was there, and I think that I* was not there, as a matter of metaphysical fact. I think, that is, that what I am, in so far as I am considering myself as a self, was not there.

I acknowledge that perhaps it is a misunderstanding of Hume's intentions to call him a Completely Empty Individualist. Hume say further, immediately after the above quote:

If anyone, upon serious and unprejudiced reflection thinks he has a different notion of himself, I must confess I can reason no longer with him. All I can allow him is, that he may be in the right as well as I, and that we are essentially different in this particular. He may, perhaps, perceive something simple and continued, which he calls himself; though I am certain there is no such principle in me.

Perceiving something "continued" would be Non-Persisting Empty Individualism.

In his article "Parfit and the Buddha: Why There Are No People" (1988), the philosopher Jim Stone writes "To put the matter paradoxically, we need to face the fact that we don't exist. There is simply nothing in nature for us to be. This is probably what Heraclitus thought, it is plainly what Hume and the Buddha thought." Yet he switches in the very next sentence to the other kind of EI, Non-Persisting Empty Individualism: "Neither Hume nor the Buddha could find a persisting self... Hume observed that the mind, confronted with what is in fact a series of different but similar beings, slurs them together into one and creates the illusion of identity." He makes the same switch for himself two paragraphs later, confirming that he has two different ideas for what "we don't exist" means, and isn't sure which one he subscribes to: "Probably we are very transient: if we exist at all we come and go in a moment." This is good evidence at least that people aren't clear in the way they describe their beliefs as to which of the two version of EI they mean. At the extreme end of possibility, everyone could mean Non-Persisting Empty Individualism even when their descriptions sound like Completely Empty Individualism. Even if that were the case, CEI would still be a view that needs to be acknowledged, to at least demonstrate that people should stop sounding like they are professing CEI if it's not actually what they mean. But I think some people do mean it.

I'll give you a more complete version of the Stone quote, because other than this unclarity over whether "we don't exist" means "we don't exist" or "we don't persist", it is excellent. The "reductionism" Stone refers to here is Parfit's reductionism about personal identity. Stone believes Parfit is being inconsistent in being a reductionist yet still claiming that persons exist.

[I]f reductionism is true there are no persons. Either persons are extra, or there are no persons. Reductionism, which affirms the existence of persons while denying that they are something extra, is incoherent.

...

To put the matter paradoxically, we need to face the fact that we don't exist. There is simply nothing in nature for us to be. This is probably what Heraclitus thought, it is plainly what Hume and the Buddha thought. Neither Hume nor the Buddha could find a persisting self—perhaps this explains why both of them died so well. Hume observed that the mind, confronted with what is in fact a series of different but similar beings, slurs them together into one and creates the illusion of identity.

...

Thoughts and desires represent the succession that contains them as a persisting substance, somehow underlying itself, thereby creating the illusion of the personal, which is cherished and nurtured by moral and cognitive behavior designed to thicken it. The slurring of different beings into one is motivated by the craving for permanence; I suspect that Hume would have liked this view.

...

Probably we are very transient: if we exist at all we come and go in a moment. Like all processes in nature, animal lives are comprised of empty phenomena rolling on, except in this case the momentary phenomena tend to take themselves very seriously. I suspect that this is the truth about us and that it is the inevitable consequence of science and empiricism, but how one comes to live with the truth I don't know.

3.2.1. The Actual Referent of "I Exist", Take 2

3.2.1.1. An Argument Against Completely Empty Existence

What do we mean when we say "I Exist"? I already answered this question in Chapter 1, but now I'm going to attack it from a different perspective. Some people claim we don't mean anything by it, that it refers to nothing. I think it is impossible that it refers to nothing. I'll explain why. This explanation will be somewhat roundabout, trying to circle and point at an idea that is difficult to see and grasp, so I hope you can bear with me.

Consider first this insight: there are some questions people seek answers for just for the sake of getting to the bottom of them, out of curiosity. For example, some people are very curious to learn and discover what is true and false about prime numbers. Is there a pattern to precisely where prime numbers appear on the number line? (So far none has been discovered, which is why there is always a largest known prime number, but there has never been a largest known even number.) Are there an infinite number of some types of primes but not others? (Yes.) What is the highest prime number humanity is currently aware of? (As of September 30, 2019, $2^{82,589,933} - 1$). In most cases, when people go searching for the answers to these questions about primes, they don't have a specific notion of what they want the answer to be before they find it. They just want to know what the answer is, and no further good to their life comes from finding out aside from the satisfaction of knowing and the mystery of why the answer is what it is, which is akin to a sort of aesthetic satisfaction. Some topics in philosophy are probably like this, such as the transworld identity of inanimate objects. (For example, if the Empire State Building had been built one block over from where it is now, but of essentially the same plans and materials, could we still identify that as *the* Empire State Building? It's an interesting exercise to try to figure out what we mean when we say "the same" by examining cases like this, but there isn't any great problem in the world we're trying to solve by doing this or anxiety in our lives we're trying allay.)

In contrast, we don't think about what is true about our existence just to get to the bottom of it, out of curiosity. There is likely some of this type of motivation to it, and some might claim that this is all the motivation they have to it, but likely for most people there is more to it: what keeps people coming back to the questions over and over even though answers are so difficult to obtain and/or unsatisfying is that it matters to us what the answers are. There are answers we want out of it, conclusions we want to reach. Namely, we want to exist, and don't want to not exist.

The reason I say this is not to point out how we are influenced in our philosophizing by the conclusions we want to reach, though this is of course an important point to keep in mind with all philosophizing, both our own and others. Rather, it's to try to discover more about the actual referent of the term "existence" or "I exist". What is it we are referring to when we say this? How can we find it? Well now we know a characteristic of it: Existence is, in the first place, *something which we want*.

In fact, we can see that the topic or referent of existence is in some ways *defined* by our want of it. The fact that we want it is in part why it is even a topic in the first place, is in part why we consider it a thing or discovered that it is a thing. Our desire for it is why we noticed it. The desire for it came first, and then we (some of us) thought to ask, what is this actually a desire *for*?

And here is how we can use this to discover something important about our existence: this want of existence is a specific type of want. Namely, it's not something people are hoping to *gain* or *acquire* at a later date. What people fear about it is not that they might never obtain it. The fear people have about it, and the only fear they have about it, is that they will *lose* it, and in particular lose it in death. And so, we should believe that this existence, "I exist", is a thing which *each one of us already has*.

This is the essence of my argument against Completely Empty Existence, the idea that there is no personal existence at all, that there is nothing to which the phrase "I exist" ever actually refers. My argument might sound glib, if it is taken merely as the statement of a premise—that we aren't afraid of not gaining existence, but of losing it—and a conclusion—therefore, we must already have existence. But this is more than just a syllogism;³² it is an attempt to jog your intuition into seeing something which you know is true but that often remains hidden from you. Or at least, it is my attempt to describe or point to something that strikes *me* as both profound and obvious from time to time. What am I thinking of when I have this flash of certainty and insight? What is the content of that thought? Answering these questions was my same goal with the perfect doppelgänger thought experiment, but in that case my attack was direct, trying to get right to the heart of the matter. The attack in this chapter is less direct. It circles the idea, using several different techniques, of which this argument is just one, trying to get you to see and feel the obvious truth of it yourself. It is an attempt to illuminate, rather than directly argue for or explain, an underlying fact or concept that resists being captured. Pointing out that existence is something we want to keep, and deducing from this that we must thereby already have it, is one way of doing this.

And I'll point out once again that this is a pre-verbal, pre-philosophical idea. I'm trying to get at the idea of existence that people had in mind before they invented the word "existence" (or at least before they thought to apply it to themselves) in

³² A syllogism is a conclusion drawn from two premises, such as P1) All matter is made of atoms P2) Shinjuku Station is made of matter, therefore C) Shinjuku Station is made of atoms. The second, assumed premise in my argument above would be "anything we are afraid of losing must be something we already have".

whatever language first had such a word. When I say existence is something we want, and are afraid of losing rather than trying to get, I mean it is for example what some of our pre-language ancestor might have been thinking of (in part at least) that they were trying to preserve by avoiding dying, or what they grieved over losing when they grieved over death, or that they feared that they'd lose in the possibility of death. It was simply this thing we have right now that we want to keep. It is the sort of insight that might strike you at a random moment, walking down the street, as obvious, as the key to everything, and then slip away a few moments later. This is the way this line of argument struck me, at least, but I managed to hold on to it long enough to try to put some words to it. The words are still not entirely satisfying, but they point in the right direction.

That said, let me offer some defenses of the argument. There is an objection to it that is a bad objection, because it borrows from a well-known argument but misses the point. Some will point out that my argument is similar to Descartes' famous argument that the one thing it doesn't make sense for me to doubt is my own existence. Or the one thing you could not be imagining or be being deceived about is that you exist. And they will also point out that although Descartes is widely admired as one of the great philosophers, this particular conclusion is widely rejected among philosophers.

I agree that my argument here is Cartesian. But this wholesale rejection of Descartes' conclusion is an error. The correct rejection of the Cartesian intuition is only a partial one, a rejection of the things Descartes claimed must follow from the first intuition, for example that this existence must therefore be an actual thing, and that being an unextended thing (taking up no space) it therefore must be a non-material thing, that is, a soul, and that this must be the basis for us taking someone to be the same person at different times, which is the idea of persisting existence through time. *These* conclusions are all widely rejected, and I reject them as well. (By that I mean, I reject the idea that Descartes made a good or thorough argument for them, but in the case of persisting existence, I don't reject it, as I will show in a moment.) But it is a mistake, a confusion, to throw out the original conclusion with them. The original conclusion is solid: the one thing it doesn't make sense for me to doubt is my existence. Or my expression of it: the thing I'm talking about in existence isn't something I'm hoping to gain, it's something I'm hoping to *keep*. Therefore, by definition, by the very fact that I even brought it up, what I *mean* by it must be something I already have. My whole point in talking about it is to try to keep it.

This then is my position: The words "I exist" must by definition refer to something we already have, and that we want to keep, *whatever* that thing is, and whatever its actual ontological status.³³ The referent of it was fixed in this way when we started talking about it. "I exist" is a thing we want to be obtaining, and *the present actually is the state of affairs we're satisfied with* in that regard. This is an important point that you might miss if you don't think about it deeply enough. The whole reason we're talking about existence is because we like the way things are right now and want to keep them that way. So "I exist" by definition refers to something about how things are *right now, at least*.

If you try to define "I exist" or "personal existence" as one thing or another, such as any of the list of Descartes' conclusions above, or reduce it just to this physical

³³ Ontology, remember, refers that to the theory of what does and does not exist, or in what sense something does or does not exist.

process or that, and then show that whichever of these things you are examining does not in fact exist or does not in fact hold in some fundamental way or is not what it appears to be or what we think it is, you have not shown that nobody exists, that “I exist” doesn’t refer to anything. You have just changed the subject. Your argument for why this other thing doesn’t exist or hold or is not what it appears to be may be completely correct or at least very useful, but it doesn’t touch the actual referent of “I exist”. The actual referent is whatever it is I want out of existence—out of using the word—that obtains at this very moment. Whatever it is that obtains at this moment, that is the thing that “I exist” refers to. Whatever arguments we make about it or whatever scientific truths we discover about what actually underlies our concept of existence, the referent of “I exist” moves until it settles back on the thing we have right now that I’m trying (hoping) to preserve. This is true even if we had previously taken one of those scientifically or philosophically debunked concepts (such as a soul) as being what our existence actually consisted in. Our existence doesn’t disappear when we find out there is no soul, it just becomes something else. This is the important point: what we are referring to by “I exist” shifts as we learn more about it, but it can never disappear completely, because we by definition have it, whatever it is.

And so I want to propose a new way to express the idea of “I exist”. From here on out, when I say “existence” or “personal existence” or “I exist”, the referent of these terms is: the thing we want that we have right now. Or, the thing we want that obtains at this moment. Or, the thing we want that we are afraid of losing. *Whatever* that is. In fact, I’m going to add a new term to the already abundant ways I’ve coined of referring to personal existence. In order to continue to remind you of this and to jog your intuition in a specific way, I am now going to sometimes call it “the thing we want”.

3.2.1.2. The Counter-Argument: You Are Only Imagining That You Exist

Perhaps I can make all of this clearer by discussing the main counter-argument to this claim, which is, couldn’t people just be imagining that they have it, this “existence”? Couldn’t this be an illusion? This is the way it is framed by a lot of people, in fact: “Existence is an illusion.” (Or the self is an illusion, the subject is an illusion, etc.)

My counter-question is, what could that mean, to imagine existing, at this moment at least, but not to actually exist? What would “actually” mean in that instance? “Actual” according to what? “Existence”, at this moment, is the kind of thing that it would be incoherent to claim you could only be imagining it obtaining, but it not obtaining in “reality”. This claim would seem to offend what is necessarily the definition of reality, or at least one definition of it.³⁴

³⁴ The referent of “reality” should also rightly be capable of shifting if you try to define it away—there is more than one set of criteria of what we should consider reality to be, more than one context in which the word is useful. Or, to put it simpler, more than one level or kind of reality. We are tempted to count the most fundamental things that underlie the objects of our experience and thoughts as the real reality. We can do this with physics, and say, for example, “In reality matter doesn’t exist. What underlies all the matter we see and feel is just diaphanous energy in various configurations.” Or we could say, “In reality time doesn’t exist. There is no time variable in the equations that describe reality at its most fundamental level.” Yet, we experience matter and time in a very consistent way, such that we can endlessly repeat experiments involving matter or time and keep getting the same results. Is it not useful to call this “reality” too, acknowledging that the word refers to different things in different contexts? Perhaps one day soon scientists and philosophers will coin some new modifiers for the term reality that we can give consistent definitions to in order to clarify our discussions, such as “human-interface reality” and “fundamental reality”.

Let me give you some arguments by analogy. As is usual with such things, the analogies will not fit perfectly, but the aim is to jog some insight in you.

Let's say I have a love with a woman, a love I don't want to lose. What does it mean to "have a love"? For me, it is just a state that obtains in my brain that is a combination of my feelings for a woman and my imagination of her feelings for me. Whether I am imagining something close to her actual feelings for me, or am completely wrong about them, to me her feelings for me are just something in my mind, so either way it's my imagination; the real question is whether I am imagining her feelings correctly or incorrectly, not whether I'm imagining them at all.

So let's say that, even though we are dating and it appears I have this love, it turns out she doesn't actually love me, and never did, even from the start. She was with me for an ulterior motive, and just tricked me into thinking we had a love together. So this love is an illusion. Even while I think I have it, I don't really have it.

So, the argument might go, I can't actually lose it, because I never had it, it was never there, it was an illusion. But is it therefore meaningless for me to say, while I still think I have this love, that I don't want to lose it? What is the "it" in reference to there? I think it's to a true love, but it's actually to a false love, to an illusion of love. But whatever it is, it's still definitely something I want, and something I don't want to lose. And it's something I genuinely *can* lose, by finding out her true feelings for me, or even by her breaking up with me without revealing she never meant it anyway, so it must be in some important sense a real thing, and a real thing that I have. So if we switch the referent to "the thing I want", rather than something like "love" which can have multiple interpretations and be said to obtain or not obtain in reality, then "it" by definition becomes whatever it is that obtains in the moment that I like and that I want to hold onto at that moment. And what I actually do have, what actually is making me happy, is the illusion of love. The thing that will actually make me sad is losing the illusion. But it doesn't mean I actually have nothing. I have the illusion, and it is coherent for me to want to keep it.

So if I say "I want to be existing now, and to continue to exist", and you claim that it is an illusion, we could grant that the actual ontology of this (for whatever reason) is just that I want to have an illusion of existing now and to continue to have this illusion of existence. So, in a meta sort of way, I can say, "Okay, the thing I want to have then is the illusion of existing. And, by the way, this is actually what I will mean from now when I say 'I exist'. It is, in a sense, what I've meant all along by 'I exist', if this is the actual ontology of what I'm talking about when I talk about existence. So I'm just going to keep using the word 'existence' and you can take this to be a stand-in for 'illusion of existence' from now on, because we both agree on all of the facts about what I'm referring to."

In this case though, unlike in the case of love, there would be nothing else I would want anyway, and nothing else I even *could* want, if this is just the nature of what I take or perceive to be my existence anyway. But at any rate, the word "existence" would have a referent after all, even after the true ontology dissolves what we thought it was, and it is something I can want to keep. (We have a great many possible realities in which it doesn't obtain, and a great many possible times in which it doesn't obtain, to contrast it to.) The referent would just shift to something new, this illusion. It doesn't

And one need not defer to science to think only what underlies everything is the true reality. Many Christians interpret the Bible to mean that our earthly lives are unreal, and only God and the kingdom of heaven count as the true reality. Which we mean by "reality" depends on the context of the use of the word.

matter what the ontology of it is, it's just a thing I want and want to keep. And if I remain unaware that my own existence is an illusion, I will just want to keep whatever it is I have.

In the case of love, though the experience of having the love could similarly be exactly the same whether it is an illusion or a reality, there is an objective fact that can decide whether it is an illusion or not, namely, how the other person actually feels about me. This gives the term "illusion" a definite meaning in this case. The term is doing some work here. But in the case of existing, there is no objective fact to appeal to to decide whether it is real or an illusion. There are just some ideas we have of what underlies "existence" (such as a soul) that may turn out to be false. And so, the two collapse into meaning the same thing. The experience of existing is also exactly the same as actually existing, but there are no further facts to appeal to to distinguish them. There is no way to define what "existing" means outside of my experience of it. And so to call it an illusion is meaningless. What is the difference between actually existing in this moment and only having the illusion that I exist? If I had this illusion of existing and kept it for all eternity, how would that be different from actually existing? And not just in appearance, but fundamentally in reality? It is in this way that the referent of "exist" always slips to something I actually have, no matter how I try to define it away.

I am using a form of content, "the feeling of being in love", as an analogy to the thing I have otherwise conceptually separated from content, personal existence or "I exist". So it is imperfect. "I exist" is an incomparable concept; there is nothing else like it. But I'll give you another example from content, and perhaps this one is even closer, because it doesn't necessarily involve another person: pain.

What is the difference between having an actual pain and an imagined pain? "Imagined pain" certainly has an objective definition, as one that has no physiological basis anywhere in a body outside of the brain, and is not an indication of anything wrong with any part of your body, and perhaps not even detectable in the firing of your neurons. But surely if you are feeling a pain, whatever the cause, then that pain obtains, and it is not true to say you don't *have* it, even if you are imagining it. It *is* pain. Our phenomenological experience of pain fixes the reference of the word. If another organism, similar or alien to earth organisms that feel pain, had the physiological characteristics of pain in its body and its brain, but did not "feel pain", it wouldn't count as pain (whether or not there is in principle any way of detecting whether it "feels pain"). It would be something different. And so, you can say, "I want this pain to stop", and someone can tell you, "you are only imagining it anyway so it doesn't matter if it stops or not", or if they're being more careful, "it doesn't actually exist so it can neither stop nor continue." The only correct response to this is, well, whatever it is that's obtaining right now that I don't like, I want it to stop obtaining. I want to subtract that, and maybe just that, from what is obtaining at this moment in the universe.

What would be the difference between having the illusion of pain for eternity and actually being in pain for eternity?

So, again, if you want to say I'm only imagining existing, then I want to keep imagining it; if "imagining existing" is what obtains right now, then that's what I want to keep obtaining, and that's the state I'm referring to when I say "exist". The referent will always just slip back to whatever it is that actually obtains right now. *That* is the state of affairs I'm satisfied with, and *that* is what I don't want to lose, and that is therefore by definition what "I exist" refers to. I want nothing more than this, and in some ways never have. In some ways, no one ever has.

That is my argument against Completely Empty Existence. I find it an incoherent position, for the same reason Descartes did. But there is the other version of Empty Existence, which I called Non-Persisting Empty Existence, that is actually coherent to an extent, and provides the most important counter-argument to this book. The rest of this Chapter will be taken up with my examination of it.

[Note: I'm pretty happy with everything above. What follows in the rest of Chapter 3 is newer, and so my confidence in my presentation of it is lower than anything else in this book. I do feel confident that the essential points are gotten across. This is the only portion of this draft that I feel this way about. Chapter 4 is many years old, and is to my mind very solid.]

3.2.2. Persisting Existence

3.2.2.1. Why I Believe I Persist

The above argument against Completely Empty Existence applies only to the present moment. It is an argument that it is incoherent for me to say that I don't exist right now. It doesn't however say anything about the coherence of making claims about my existence for the past or future or other possibilities. I will next build upon the foundational argument for my existence above to explain why I believe I existed in the past, will exist in the future, and would have existed in some cases if the universe had gone other than it has.

I exist right now. I have what I want. But this isn't the only time I've had what I want. I've always had it, every moment of my life, from the dawn of my consciousness (whenever that was, and whatever that might mean) up until the present moment. This of course is true for the person or the "me" at all of those different points time, but the important point is this: there is nothing lacking for me when I reflect on my past, no notion that I wish I had had the thing I have now in the past of my body as well. To my present self, the thing I want obtains now and had obtained in the past. It has obtained all along. This is not in doubt to me. I for example do not feel lucky that it has obtained, or feel that even though I exist right now I might not have in the past of my body, that my existence might not have obtained in the past of my body.

And, as with my argument against Completely Empty Existence above, this is not something you can make me doubt by analyzing the connections (or lack thereof) between me now and the entity I claim was me in the past, as would a personal identity theorist (more on that in a moment). (Or arguing that a persistence self cannot qualify as an object, as Galen Strawson does.) I *already have* it, already have what I want, in the past period that this body was alive. Arguing it away, convincing me that persisting existence isn't a thing because there is no basis for it, doesn't suddenly make me *wish I had had* it, wish I could change the past and make something—my existence—obtain then that didn't obtain then. I am satisfied with this state of affairs, with the relationship of the past of my brain and body to the obtaining of the thing I want, my existence.

This negative argument—that **there is nothing in the past of this body that I wish I had had that I didn't have**—is the core of my argument for persisting existence.

It is more precisely an argument that I existed *then*, at *that time* (pick any time in the life of my human body), than it is an argument for persistence. I merely make claims about points in time with this argument, and answering yes or no to the question

of whether I existed at that point in time. Calling it “persistence” might be misleading because I make no claims about connections or relationships between now and any of those points in the past, or anything or any entity carrying through time. But ultimately, by existing at all points—or at least a large number of points, if one wants to discount sleep (which I don’t)—in between now and then, we end up with what is essentially persistence anyway. So I opt to call it Persisting Existence, for simplicity and impact. I’ll say more about the “point in time” aspect of this argument in the next section.

Further, I keep finding that the thing I want continues to obtain in every succeeding moment of the life of this body. No matter what the future content of my life is, and no matter what the connections or lack thereof I find upon reductive analysis between “me” now or my body and brain now and the person or “me” or body and brain in the future (again, more on that in a moment), I nonetheless know that what I want is going to obtain as long as this body and brain continues to exist in a normal manner. It is perfectly reasonable to expect this, because it happens *every time*, and as far as I can see, for *every person* (or, if you like, human body), under all but the most extreme circumstances at least. It is not even a question. When the time comes I’ll (still) have what I want. I know this. Call it an induction if you want. But it just simply is not a worry for me, and as far as I can see for anyone, that my body and brain might continue to live and be conscious in a normal manner, but that I will cease to exist, that the thing I want will disappear. No analysis of the connections between myself now and this future person can change this fact. What I want does/will obtain in that future person.

This all follows from taking the argument that our want of existence in some ways defines what we mean by existence, and that the referent of the term shifts until it settles on the thing we already had before we learned anything else about it, and applying that to our existence in the past and future. Our feeling of already having had what we want in the past in some ways defines what we mean when we talk about our existence, and therefore our feeling that we persist means we do persist. We get it for our future as well, because we have found that we always expect to keep existing if this human body stays alive, and have found to never have been disappointed in that. Once we have this for our past and future, we can grant it for alternate possibilities for ourselves, as it would be inconsistent to trace one line through space and time and say that the thing we had at point 5 continued to obtain to point 20 (or more accurately, also obtained at point 20 and every or most points in between), but that if the line had diverged after point 5 to an alternate reality for you (moving to France, for example), then the thing we had at point 5 would not have obtained at the alternate point 20. In considering all the possibilities for your life, what has actually happened has no special status that would warrant such a conclusion. It is merely one among many equal possibilities. (Not in the sense of equally likely to have occurred, but more like “on equal footing” for certain considerations, with whether it would be you being one such.)

In short, if we grant our existence—that the thing we want obtains—minimally at this present moment in time, then we have to grant it for the entire life span of the human body we are, if there is nothing missing that you would want from the past of your human body, and nothing you expect to possibly not have in the future of it. The thing we want obtains as long as our body stays alive. There is nothing more we could want of existence than what we already have right now for the entire lifespan of our human body. Nothing is missing that we could wish we had had or will have.

This is the best description of my pre-philosophical intuition of my own existence, of the object or concept in my mind and the way I framed it that sparked my inquiry in the first place. This is why I can claim it is whatever I say it is, because it

was an object or concept to me before I did any philosophizing or encountered any other philosophy. There was a definite thing I was thinking about and more importantly *concerned* about before I had any words to describe it, and this is my best attempt to tell you what that is, staying as authentic to my original intuition or insight as I can.

And this leads me to my next subject. This brief sketch of my argument for persisting existence will be fleshed out a little more in the following sections.

3.2.2.2. Why My Topic is Existence and not Identity

My conclusion about persisting existence is earned in part from my shift in perspective from the way most philosophers consider the question, as a question of identity, to the way I consider the question, as a question of existence. Actually, it's not entirely accurate to call it "*my* shift in perspective". I never shifted my perspective; I always considered the question in terms of existence, from my first musings on it before I was aware of any of the existing philosophy about it, up until the present. So when I say "shift in perspective" what I really mean is shifting the perspective of the way it is usually discussed, and therefore shifting *your* perspective if you are among those who is used to discussing it in terms of identity. This shift in perspective alters the answers we get to our questions. Let me explain what I mean by focusing on existence rather than identity.

To start with, I'll point out that identity is about comparison between two or more things, asking, is this thing here now the *same* as (*identical* to) that thing there then? If we are talking about the identity of a simple object, say, a billiard ball, to use the classic example, we might wonder whether the eight ball I have in my hands right now is the same eight ball I played with when I was in college. Is *this* one identical with *that* one? We might judge it to be so if this one traces an unbroken line through space and time back to that one (the body-tracing criteria again). But then again, surely it has changed somewhat in that time. The paint has worn off or faded in spots, it has a few chips of matter missing. So it is not the *same*. But still, we may find it useful to call it the same, to call it identical, to say that identity holds between the two, because of this physical continuity. And in this case, almost everyone would.

However, what if it had been repainted between then and now, and turned into a cue ball? The object still for the most part traces an unbroken line through space and time, but now not only is the physical difference greater than in the last example, the ball has a completely different function in games in which it is used.

The questions about the billiard ball are asking about the identity of a physical object. In this case, they may not be particularly interesting or matter to anything that matters to us. But another kind of physical object we could ask about is a human being. Let's say we are talking about a 50-year old human being standing before us. We can ask, is this human being here identical to the one that existed 40 years ago that it is physically continuous with through all of the space and time that has intervened between the two? (Easier to understand but possibly question-begging way to phrase it: is she the same human being now as when she was 10?) The differences between the 50-year old and the 10-year old are much greater than those between the billiard ball(s) at different times, so it seems even stranger to say they are the same. And yet the continuity through space and time of the body, and the fact that the kinds of changes it

undergoes follow a roughly similar and predictable pattern for every human being, leads people to speak in most cases as though they *are* the same.³⁵

But now one might ask, isn't the real question not whether the human being is the same, but whether it's the same *person* inside? In other words, the same personal existence. In fact, this criterion is what some people are using, either consciously or subconsciously, to determine whether she is the same human being at age 10 and 50, in other words, to ground the claim of identity between the two. And this is where the question of *personal* identity comes in, and why it is its own subject. Because one of the big questions of personal identity is whether there really is a question of whether it is the same person inside. Some people say there isn't, that there could be no such question, that the only things there are to ask about are continuity of the human body and the content of the brain or mind. The question of the "person" inside is nonsensical, or an illusion. And other people, of course, think that that is the question that really matters, the one worth really caring about.

This leads me to the first reason why I have avoided the term "identity" in my discussion and focused instead on existence: it seems to me that people discussing personal identity aren't always aware that this is a foundational question. Some people might be thinking of personal existence, or the person inside, when they discuss personal identity, while other people might be thinking only of content or the human being as an object, and the meaning of "personal identity" in these discussions often shifts imperceptibly between these meanings, often within a single discussion between writers and sometimes even within a single writer's work. People just assume that personal identity is about content, or about personal existence, or about a human body, and then argue strenuously for their own beliefs about personal identity, the answers seeming obvious to them because of what they take it at ground to mean in the first place. This is one of the ills my distinction between content and personal existence from Chapter 1 is meant to cure: to force people to be clear about what they are talking about. Some people can use this distinction to talk about one or the other thing, while others can use it to say that their whole point all along has been that personal existence is not a thing, and that the only thing there *is* to talk about is content. Therefore, when they've talked about personal identity, the only thing they've been talking about is content.

Another trouble the term "identity" has accrued in the existing discourse is that it seems to me that some writers misuse the term semantically, asking questions like "is this my identity (in this hypothetical thing)" or "whose identity is it"?³⁶ These sentences are not well-formed because, again, the notion of identity is about comparison. An "identity" is not a thing in itself that will or will not obtain in certain situations. I think the word being sought here is "existence".

Further, sometimes a writer will shift from using the word "identity" to using the word "existence" in their writing on personal identity, yet give no notice that they have done so. They will just throw the word in there. And most people follow along without even noticing, myself included oftentimes. This is a problem because they've actually introduced a new term, yet said nothing about it, not defined it or anything, and further have tacitly equated it with personal identity. The two terms don't even equate

³⁵ In regard to "roughly similar": Imagine if some ten-year old human beings grew into the mental and physical shape of elephants by the time they turned 50 (though we still called them human, and when they reproduced they reproduced regular human children), while others stayed almost exactly the same as they were when they were 10, what might be our natural unreflective thing to say about being "the same human being".

³⁶ I don't have any citations, because this thought occurred to me only very recently, but I seem to recall this, and if any readers know of any or spot any please let me know.

semantically, but even setting that aside, there is a difference between the two, which my separating of the concepts of existence and content brings to light.

These reasons all come from possible confusions already existing in the discussion of personal identity. There is another reason I have chosen existence rather than identity as my topic, more personal to me and this work, which I have already alluded to: “Existence” is how the topic first occurred to me and is therefore at heart and by definition the topic of my inquiry, so continuing to use the word “existence” is my way of ensuring I remain true to my original pre-philosophical inquiry and don’t change the subject. To remain true to what I was originally thinking of and concerned about when I began asking questions about my existence. And this shift in perspective to existence changes the meaning of the questions we ask and therefore the answers we get to them. Let me explain how.

If we grant that the question of “the person inside” is sensible and legitimate, then identity being a question of a comparison between two things and asking if they are the same, personal identity asks, is this person, this self or subject of experience, identical to, the same as, that one. By “this person” consider someone here right now in the present that we both know, as is usually done in discussion of personal identity. By “that person”, consider someone in the past, or future, or in an alternate possibility (moving to France at age 5, etc.). Are these two people the same people? Can we identify the one as the other?

I don’t need to know the answer to this question. I don’t need to know whether there is something called a person that is identical between those two situations. Some people say that only something like a soul could ground that identity, and since there are no souls (they say), then there is no identity. I’m fine with saying that we can’t ground identity without a soul, something to be the same in both situations, when all the content is different. My question about existing is different, and it’s the same question about existing in the past as it is about existing now: Did the thing I want obtain then? I answer yes to this. The reason I answer this way is because I ask this more important question: Is there something more I would wish of that time and place than what did obtain then? No, there was not. **There is nothing more I could wish to add to that time and place. Everything I want to have obtained was already there.** Just as I have the thing I want now, just as there is nothing more at this moment that I wish were obtaining in regard to my existence—what I am thinking of or referring to when I contemplate my existence—than actually is obtaining, there is also nothing else I could want to have obtained back then than what did actually obtain. The state of affairs of the past is what I’m *already satisfied with*. I don’t need any objective definition or criteria that can be put into terms of identity to justify this. It already comes from within me, and by definition from what I’m talking about and concerned about when I talk about my existence. Remember that the concern came first. I then endeavored to discover what it actually was I was concerned about after I had already developed the concern.

The most important question, the foundational one I want answered first, is did the state of affairs I want to keep when I say “I exist” obtain back then? And my answer is yes it must have, because there is nothing I want to change about that time in relation to the thing I am satisfied about right now.

Perhaps my answer to an intriguing debate in personal identity will make my position clearer. Most people, not relying on my type of argument but just on their pre-critical intuitions, already believe they existed in the past of their human body. So let’s say there is a 50-year old woman with memories of being 10. She at age 50 believes

she existed when she (her human body) was 10. She believes she did not exist 60 years ago though. So this is one way we can understand what she means when she says “I existed at age 10”; the contrast between 40 years ago and 60 years, the obtaining of something 40 years ago (and every moment in between) that she believes didn’t obtain 60 years ago.

Some people would claim that the reason she believes she existed at age 10 is because she has memories of it. I agree that this is part of the reason for holding this belief. But some people would claim that it is the only reason she believes this, the only justification she has for maintaining that she existed then, and is in fact the only criteria available for it being true. In other words, only if you remember being 10 did you actually exist then.

We then come up with a puzzle case. We have a woman who just turned 50 and remembers being 10, and we therefore say that she existed when she was 10. However, something happens to her during the year she is 50, and she loses her memories of that time. She has amnesia. When she is 51, she no longer has any memories of being 10. Many people would say that now she did not exist when she (her human body) was 10. And there is some sense to this. With no memory of it, everything that happened to that 10-year old girl and every thought she had might as well have happened to a completely different person and have been thought by a completely different person. The time in the life of that 10-year old girl to the 51-year old woman is the same as that time in the life of one of the friends the 10-year old girl had then. So it is easy to conclude she didn’t exist then as that girl, just as much as she didn’t exist then as one of her friends.

But this is not the answer I give. If at age 50 I say I existed at age 10, if the thing I want obtained at that time, then a loss of memory between then and now doesn’t change that. I don’t retroactively lose the thing I want from that time, don’t stop having had the thing I want then. A curtain comes down between then and now for me, but it doesn’t change one bit what is behind that curtain that I can no longer see. This, perhaps, sheds some light on my “point in time and space” conception of my existence, whereby a connection is not required between the two, a persisting entity is not required to make my existence obtain sometime in the past. This is so even if the memories that I lose are the reason I believe I existed then in the first place.

In a sense, then, whether I existed at a time in the past is independent of my knowledge about it. This may sound outlandish, because in a material world, without souls, what else could existence in the past consist in but knowledge that you existed in the past and the resulting belief that you existed in the past? Yet, what else can we make of the widely held gamete-dependence claim except that people who believe it also believe that they existed sometimes even if they don’t currently know (remember) that they did? Two gametes had to come together to bring you into existence, and by doing so they brought you into existence for the full stretch of the life of the organism they created. Therefore, you existed during that whole time, the thing you want obtained during that whole time, whether you remember it or not, if you believe the gamete-dependence claim. Yet, think of how much you don’t remember about your past even without amnesia. Do you believe you didn’t exist during all those times you don’t remember, which is surely about 99.99% of your past. Certainly, it may be just *as if* you didn’t exist, but do you really think you didn’t? Was all that time you don’t remember exactly the same in relation to your existence as before you were born or after your death? Better to say, before I was born I didn’t exist, but those times in my life I don’t remember I did exist then even if I don’t remember it now. The thing I want obtained then, there was nothing more I could wish to have been obtaining at that time.

For example: I wish I had existed in 1960 and 1961 so I could have traveled to Liverpool to see the Beatles perform at the peak of their live days, before they were famous.³⁷ (This is what I would say as a naive Closed Individualist.) But that party in college? I existed there. I just don't remember it. My friends told me we had fun though.³⁸

I actually had some trouble with the study of personal identity when I first encountered it. As I said, I had the questions about my existence first, and then only later discovered this field in philosophy that was trying to answer these questions. But I didn't understand what "identity" meant (I think at best I was equating it with like an identification card like a driver's license one might use to prove his age or address, but all my notions were vague), and I therefore had some confusion as to what people were saying about it and how they were trying to answer the questions. After much study, I had the epiphany that identity is about a comparison. But before I even had that epiphany, I was already writing about my existence, early drafts of this book, and found that I was using the word existence in my writing, and never identity, even though much of what I was reading and drawing from was using the term identity. So I was translating what I was learning from the literature about identity into my inquiry about existence. (I suspect a lot of people do this, thus leading to the subconscious terminology confusions I mentioned above.) The two aren't extremely different, and in some cases, possibly even most cases, they are the same or almost the same save for the different semantics of the terms. Nonetheless, I still never wanted to stray from the term existence. It's what I knew I was really talking about at bottom.³⁹

You may not see any difference between what I'm doing in talking about existence and what people are talking about when they talk about personal identity. You may feel that the two can be perfectly translated into each other, and that therefore my insistence on using the term existence seems a little precious. Possibly. Ultimately, I do come to the same point as personal identity theorists. Starting from my perspective and asking, did the thing I want obtain in the past of this body? I answer yes to that. Therefore, I am the *same* person. My personal identity obtains then, I persist through time. So I still feel free to use these terms. But I didn't come to them by asking questions about identity and persistence.

My main motivation, as I said, in stubbornly adhering to the word existence and only the word existence in the face of the rest of the world calling this study identity is to remain true to my original inquiry, and not accidentally change the inquiry to something else under the powerful and persuasive influence of some of the greatest minds in philosophy. Start talking about identity, and people begin looking for an objective entity that could be identical in two different times. I don't need that. My subjective experience of existence is all I need. It's what defined the term of my inquiry. I don't need to translate it into something else.

This is something that can happen to you imperceptibly in any discourse, whether there are towering intellects involved or not. You must be careful of letting

³⁷ I wouldn't go to Hamburg though. That sounds dangerous.

³⁸ Rhetorical. I never partied like this in college. In fact, though I've drank too much on a few occasions, it's never been enough to black out.

³⁹ I actually didn't understand either word of the term "personal identity" for many years while I was studying it. "Personal" I was confused about too: I was unconsciously thinking of it in terms of ownership, as in the phrase "personal property". After many years I realized this is what I was thinking and that it didn't mean this at all; what it actually means is "of a person", and thus that "personal identity" means "identity of a person." This is the same thing I mean in the term "personal existence."

others set the terms of your discussion, as it can change the topic. Not even a professional philosopher can tell you by fiat what you are really talking about—can reduce what you are trying to articulate from your own *sui generis* thoughts into their own terms and say “what you are trying to say is just this, and it’s already been discussed in philosophy for years, and here’s some answers.” I mean, they can do this, but they must argue for it. The point is that it doesn’t come for free—no matter how well you know the existing philosophy, you don’t know for certain what concepts are the real object of concern of another person.

This, like much else in this chapter, is my attempt to articulate a somewhat inchoate feeling. I spent many years encountering claims and arguments that would be categorized as Empty Individualist, meaning Completely Empty and Non-Persisting Empty Individualist, though never called any of these things. And my reaction was always, “No! You’re missing the point! You’re not talking about what I’m talking about. You’re not talking about what matters to me.” In my gut I felt that so much of what they said was not relevant to me or my interests (as a person, not as a philosophizer of course). So I plumbed the depths of my thinking, to try to put it into words the difference between what I was thinking/talking about and what they were talking about, and this is what I’ve come up with. I’m not completely satisfied that I have found the words to fully convey the feeling, of what I really mean, of why it seems so obvious to me at times. But then, I suspect this is the case for so much philosophizing, and perhaps need not be said.

3.3. The Everyone-Is-Someone Perspective and Non-Persisting Empty Existence

3.3.1. The Problem With The Everyone-Is-Someone Perspective

The Everyone-Is-Someone perspective requires belief in Non-Persisting Empty Existence.

The Everyone-Is-Someone perspective, recall, is the view that there is no “why” you are who you are rather than someone else or no-one else, or why you are in this or any universe rather than not. It just is. Evolution produced a human body, and every conscious human body has to be someone. (The philosophical zombie is impossible.) It just happens that one of them is you. If one wasn’t, then all the other people could just as easily ask the same question and think they were asking something profound. But they wouldn’t be either. Pointing at your human body and saying “you exist because this exists” or at your gamete antecedents and saying “you exist because these existed” is just a correct statement of a brute fact, and there is no further “why” question to be asked about it. It is an illusion to think that there is.

Non-Persisting Empty Existence is the belief that you exist now but did not, for example, in the past of your human body.

I’ve already explained why I reject Non-Persisting Empty Existence, because it is not a faithful representation of how I perceive my existence, of what I am concerned about when I talk about my existence, and how I perceive my existence in an important sense defines what I mean by “my existence”. I will now tie these two beliefs together to show why rejecting Non-Persisting Empty Existence deflates much of the power of the Everyone-Is-Someone Perspective. In other words, if you believe in Closed Existence, which is the only way most people know to believe in persisting existence—believing that you existed when your body was 10 years old, but that you cannot exist as any other person—then you cannot help yourself to the Everyone-Is-Someone perspective to dissolve the Enigmas of Existence. If you believe in Closed Existence, then the Enigmas of Existence stand, and must be confronted. Belief in Closed Existence in essence *causes* the Enigmas of Existence.

To explain why, I’ll start by building a new (to this book) conceptual apparatus, a four-dimensional space-time matrix. It sounds complicated, but it is not so difficult to understand.

Consider first just your human body now. It is situated in a particular place in the universe. Now consider just one moment of that human body, frozen in time. A time-slice we’ll call it. That human body in that time slice is conscious, and therefore it has to be “someone”. This is the definition of consciousness. Someone, some self, is experiencing being that human body. This is the power of the Everyone-Is-Someone Perspective. We’ll call this time slice of you Person A₄₅₅. The subscript 455 is randomly chosen for this example, meant to imply a point in time. If we really wanted to number every point in time since the time of your conception, or maybe since the time the ovum you became was created, we’d have to use unimaginably large numbers, which would be cumbersome, so I’ll keep the numbers simple, under four digits.⁴⁰

⁴⁰ “Point” or “moment” in time is itself not a clear concept; aren’t there an infinite number of points in time between any other two points in time, just like real numbers? Physicists don’t think so. There is a Planck time and a Planck space, which defines the smallest unit of each that exists in reality. The Planck time is 5.39×10^{-44} s., which means

You might wonder, can we say that a person at one moment, frozen in time, is conscious? Consciousness requires change, is inherently a flow through time. The idea of being conscious frozen in time is incoherent; we don't know what to imagine. Consciousness requires at least the tiniest amount of time elapse. Perhaps the best we can imagine is this tiny amount of time elapse repeating *ad infinitum* like a skipping video. This would for the most part work for the task I want to put this conceptual apparatus to, but at bottom the concept I'm using is a point frozen in time, and I think it doesn't much matter if it is nonsensical in reality to say a person frozen in time is conscious. It is merely an idea to use for a larger purpose.

So we have Person A₄₅₅, which is you captured in time at...*this* precise moment. We also have Person D₆₃₂, which is another human being captured at the same moment. (Since people are born/conceived/oogenesized at different times, then different human beings at the same instant will have different subscripts.)⁴¹ And Person E₈₈₉, which is another human being at a point in time ten years ago. And Person F₁₉₀, which is another person 40 years into the future. And Person G₄₅₅, and Person H₄₅₅. All of these people, as conscious beings, must be, and are someone. So far so good for the Everyone-Is-Someone Perspective.

We also have Person A₁₃₀, which is you many years ago. And Person A₂₃ and Person A₉₆₁ (should you be so lucky). Each of these is a human being with a different configuration, different shaped body, different shaped brain, different thoughts, memories, desires, etc. Just like Person D₆₃₂, Person E₈₈₉, Person F₁₉₀, Person G₄₅₅, and Person H₄₅₅ are.

So we collect all of these time slices of all of these people and look at them. We are now looking at Person A₄₅₅, Person D₆₃₂, Person E₈₈₉, Person F₁₉₀, Person G₄₅₅, Person H₄₅₅, Person A₁₃₀, Person A₂₃, Person A₉₆₁ all together in a group. All these time slices of these human beings have different configurations, different brains, and different memories. Contentwise, each time slice is different. It's true that Person A₄₅₅, Person A₁₃₀, and Person A₉₆₁ are all more similar to each other in content than they are to the other person time slices. (Person A₂₃, being a child, is in some senses more different, but in some sense still more similar to the other Persons A than they are to any of the other person time slices.) But what is the significance of this content similarity? There are still significant differences between them. And anyway, it turns out that Person A and Person H are identical twins. (Since you are Person A in this scenario, you can just imagine you have an identical twin.) So even though they have lived separate lives, the content of their time slices are more similar to each other than they are to those of other people as well.

When we look at this collection of human being time slices, we apply the Everyone-Is-Someone Perspective and think, every one of these human beings is conscious, so every one must be someone, some personal existence experiencing being that human being. This is correct.

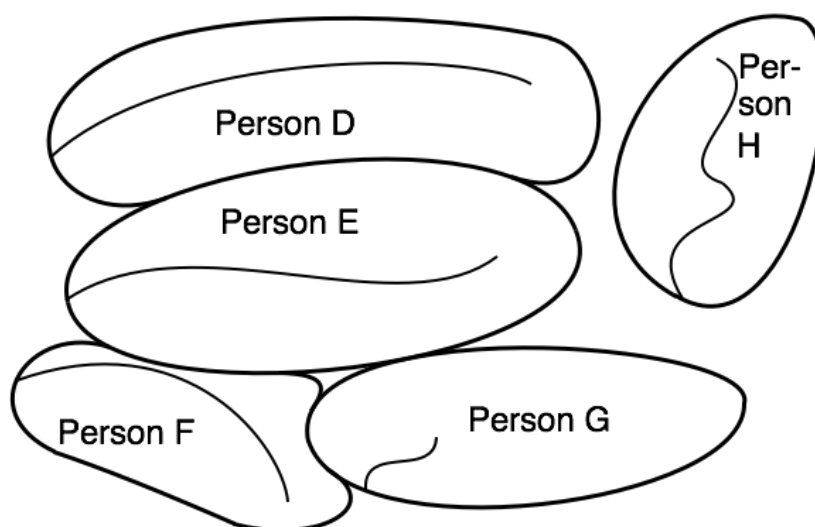
The question we then ask is, why do we think Person A₄₅₅, Person A₁₃₀, Person A₂₃, and Person A₉₆₁ are all the *same* personal existence, while the others are all different personal existences? The Everyone-Is-Someone Perspective necessarily treats every separate Everyone as a separate Someone. Or at least it treats every separate

there would be over 10^{44} subscripts accruing to Person A every second. Which is why we're keeping it simple to numbers below 1000.

⁴¹ I'm starting with Person D for the other people rather than Person B so this is not confused with the perfect doppelgänger thought experiment. These other people aren't qualitatively identical to Person A, they're just regular other people.

person time slice as of equal difference to the others in the Someone it is. There is no connection between any two Someones in the Everyone-Is-Someone perspective. Well here we have several separate Everyones who are supposedly the same Someone. The Everyone-Is-Someone Perspective, in its attempt to simplify and demystify our view of our own existence and dissolve the enigmas that come from this, provides no space within its conceptual world for thinking any two Everyones are the same Someone (or, for that matter, different). On the Everyone-Is-Someone dictum, every human being time slice is someone, but we've no reason to think any two are (or, for that matter, are not) the same Someones.

When I think of this, I begin to imagine a fence in our conceptual space for those who believe in Closed Individualism, separating off all of the objects and potential objects in the universe we think are you, from all of the ones we think are not you. All of the different time slices of single human beings and potential human beings are corralled off and put within this fence. All of the other ones are placed outside this fence and within their own fences. I imagine something like this:



[This is an old diagram, produced for an earlier draft with this story told in a different way, and there is no Person A in it. I'll add that later. Just imagine there is one for now.]

The line represents the actual life of that person. Every point on that line is a different time slice with a different number. Yet, if you believe Closed Individualism, then every point on that line is the same personal existence. The enclosures are the fences. Every point within an enclosure that is not on the lines is a different *possible* life for that person. The possibility of having moved to France at age five for example. All of those time slice points are also human beings with different configurations of their matter and different content, yet again, on Closed Individualism, we believe they are the same personal existence. Two gametes came together to *create* that personal existence, and it persists as the same thing everywhere inside that fence. It is true that

every point within an enclosure is a conscious human being that has to be *someone*. But why are they all the same someone within that fence? Why are they all the same personal existence, as those who believe in the gamete-dependence claim think? The point is that the Everyone-Is-Someone perspective gives us no reason or even space to believe that. It cannot allow it. The Everyone-Is-Someone perspective treats all points in the whole diagram as equally different from (or the same as) each other, and the fences and lines fall away. There is no reason to think there is no change in the someone from one point to another within a fence, but a complete change to a different someone from one point to another across a fence. The Everyone-Is-Someone perspective gives us no connections (or lack of connections) between any two time slices or points in this diagram, and yet if we are Closed Individualists we believe in that connection. The Everyone-Is-Someone perspective therefore relies on Empty Individualism for its power. Only an Empty Individualist can help themselves to the Everyone-Is-Someone perspective to dissolve the Enigmas of Existence. When we believe Closed Individualism, we cannot take on the Everyone-Is-Someone perspective, and so the Enigmas of Existence return, and must be confronted.

3.3.2. Examples of the Everyone-Is-Someone Perspective

Let's look at some people who proclaim something like the Everyone-Is-Someone Perspective, to see what we can ascertain about their beliefs from the way they state it. Keep in mind that, as with Empty Existence, no one calls themselves an Everyone-Is-Someone Perspectivist. It's a term I made up, to describe a view that I think is held in common among some people but that as far as I know had never been named before and therefore was not previously thought of as a thing. Nonetheless, I think these two quotes are representative.

First, Bryan Magee, from his highly entertaining and insightful memoir *Confessions of a Philosopher*:

Imagine lottery tickets, each with a different number on it, in a pile as big as you like—as big as the universe if you wish, if not bigger; infinitely large if you think such an idea coherent. There is nothing the slightest bit problematic about my plunging my hand into the pile and picking out a ticket. Nothing could be easier. Whatever ticket I pick out will have a number on it that is the only instance of that number in the whole pile. If at this point I clap my hand to my head and cry: "My God, this is completely and utterly incredible! The odds against my picking this number were infinity to one against, and I've picked it. It's impossible!"—I might feel goggle-eyed with wonder, but in fact this sense of wonder is totally misplaced, because whatever ticket I picked I could say exactly the same thing. And there is not the slightest difficulty about picking a ticket. So here is something that feels amazing but is not in the slightest bit odd. It is, as it were, a conceptual illusion. Now the important point is that this consideration applies to all questions about anything existing out of a wide range of possibility, however great—the sense of extraordinariness that this particular person should exist, or even that this particular universe should exist. Even if there were an infinite number of different possible universes there would not be on that ground the slightest room for surprise that this particular one exists. The only valid ground for surprise is that anything exists at all—e.g. that

And Derek Parfit puts it like this, in his characteristically excellent essay on why there is something rather than nothing:

The thing to note here is that both Magee and Parfit try to dissolve questions about the amazement of being one person rather than another, or of having come to be out of all of the possibilities in which you did not, which are the closely related Enigmas of Existence and odds of existence, by comparing your existence to things that are *points*, single things, not lines or multi-dimensional shapes. Magee talks about “the sense of extraordinariness that this particular person should exist”, and compares this to a lottery ticket, which is a single object or a single number among many. Parfit compares the question “Why are we who we are?” to a number—why is 9 9?—or time—why is it now right now?

I agree with Parfit and Magee that their analogous questions are not good questions. I agree with Parfit that, for example, “why is now the time that it is” is a bad question, though superficially it might fill one with a sense of wonder. If time exists at all (and in some sense it must, even if it only exists as an illusion or is otherwise created by our minds—see my previous comments about reality), then it always has to be some time and not any other, and so there is no need for further examination about why it is a particular time right now, and it is not an amazing coincidence or amazing luck that of all the times it could be, it is now. It just is because it had to be some time. I agree with Magee that there should be no amazement that a particular lottery ticket was selected out of a vast number. But these are not good analogies to existence, if you believe in Closed Existence, which entails persisting existence, which means the same existence, the same thing, in many different instances. The same personal existence created at a particular time and persisting for a lifetime.

A single lottery ticket among many, the number 9, the moment now: These things are *one* thing, and one thing only. They are one-dimensional. Anything even slightly outside of them is not that thing. No matter how many millionths or billionths or $10^{-1000000000000000}$ (to the power of a googol) above or below the number 9 you go, you no longer have the number nine, you have a different number. Same for a moment in time. But your existence is not like that, if you believe in the persisting existence of Closed Existence. You are not one thing, one object, only. You have been many things: a ten-year old child, yourself now, and everything in between and much before. Each one of those things was a different object. And you could have been many different things, on belief in the gamete-dependence claim. You could have been a human being with a very different biography and living anywhere else on earth, or in outer space, if you had just gone there or been brought there sometime after you were born or conceived (or your gametes were created). Each of those would have been a different object as well, contentwise. And so there are many objects you could have been, and many others you could not have been, if you believe the gamete-dependence claim. In other words, something *disappears* when we move from the set of all of the objects in conceptual space that are/were/would have been you, to the set of all those that are not/would not

have been you. On the gamete-dependence claim, it is not simply a shift of view from one point in this conceptual space to another, with each shift being exactly equal to the others, but it is the maintenance of a particular sameness between some shifts and not others. This is unlike the number 9, or the moment now.

Here is another perspective on Magee's and Parfit's analogies: What the gamete-dependence claim says is that, the conditions for your existence, conscious life, can exist, but you don't necessarily exist. This means that, in addition to conscious life existing, there are additional specifications to *you* existing. But the problem is, once we look at these specifications—time of origin, place of origin, etc.—we find that our question as to why you exist still has not been answered.

This is different territory than numbers or time. The only condition necessary for the number 9 to exist is that numbers exist. The only conditions necessary for the present to exist is that time exists and the universe has lasted long enough. But on the gamete-dependence claim (and thus Closed Existence), your coming into existence isn't obviously established even after the condition of the existence of conscious life is met. So on the gamete-dependence claim it is a good question what it was about this particular conscious life form and no other that it should bring you into existence. There was no possibility that numbers would exist but 9 would not be one of them, or that time would exist and the present would not be one of the times, either actual or just possible if the universe had happened to end before the present time came to be.

There is also nothing in numbers or time like the condition for you to exist that a body of a certain specification should exist. And so it is a further good question why was it that it should be possible for you to come into existence at all, rather than not. In all the numbers, there is no logical possibility that all the conditions for 9 to exist will be met, but the actual number 9 will be passed over, never exist. There is no alternate universe in which numbers exist but the number 9 is not a possibility. A similar thing can be said for time. Of all the times, there was no chance that all the conditions for the present to be reached might have been met, but the actual present never exists. There is no chance that the number 9 or the present might have been passed over without ever existing. But on the gamete-dependence claim, this *is* possible, both in alternate possibilities to the way things actually are, and in a meta-possibility that it might not even have been possible for you to exist at all.

So the Everyone-Is-Someone perspective requires belief in Empty Existence, which treats every point in a diagram such as the one in the last section as being in the same category of things, just as all the numbers are numbers and all of the points in time are points in time. No points can be grouped together in fences. The fences must disappear. Closed Existence, on the other hand, has divisions between personal existences at different points in time and space. Some of them are *all* one thing, all one personal existence, while others are all a completely different personal existence. It is only by dropping this grouping—and consequently believing in Empty Existence, or, as we will see and some of you may have guessed, the other possible solution to the Enigmas of Existence, Open Individualism, which I argue for in Chapter 4⁴²—that the Everyone-Is-Someone perspective can be adopted to dissolve the Enigmas of Existence.

It is interesting to note that not only do Magee and Parfit make something like the Everyone-Is-Someone argument, but there is reason to believe they both in some

⁴² This was not meant to be the opening sally in that argument, just an argument against the Enigmas of Existence for Closed Individualists, although it does function as an opening sally.

way affirm belief in Closed Existence, and so they are possibly in contradiction to themselves. This point is not essential to my argument, but it is instructive.

Bryan Magee has never argued one way or the other for Closed or Empty Existence, but I think he believes Closed Existence, without seeing that it is a belief and not a fact, as most people in the world do. It is the invisible backdrop of his life, as it is for most people. I think he believes this because he has written a lot about death, and his fear of the total annihilation of death. This presupposes that he thinks he's had something all this time he's been alive that will be irrevocably lost in death. It seems to me that fear of death of this type requires a belief in Closed Existence. Of course, we can dislike the prospect of death because of all of the content that is lost (which is a loss even on Empty Individualism, since it exists at the point just before death, and would have still mostly existed in the next point in time to be bequeathed to the next in your succession of personal existences had that human being not died, whereas death makes all of it disappear), but the sort of dread Magee talks about implies the dread of losing something else in addition to this, existence itself. So I believe Magee is in contradiction with himself when he compares existence to lottery tickets. He is unconsciously thinking of that one lottery ticket number as standing in for an entire single existence persisting through space and time, which makes his analogy a bad one.

(Galen Strawson, on the other hand, argues quite directly for Non-Persisting Empty Existence, yet says he still fears death for similar reasons people who believe they persist fear death. I don't understand his reasons for this. An example of a reason why you shouldn't take my word for it on the beliefs of Empty Individualists.)

Parfit too I think is in contradiction with himself. But this is a much larger point, so I will take it up in its own section.

[The section on Parfit has been cut from this draft, as I am still not sure of the correctness or importance of this point.]

3.4. What Do We Really Want?

3.4.1. Unattaching From The Content Of Our Lives

None of the contents of my mind is going to survive my death. My memories, desires, intentions, likes, dislikes, loves, hates, hopes, dreams, anxieties, beliefs, aptitudes, skills, all of these things will disappear when I die. We have empirical evidence of this assertion, unlike most of the other things I argue for in this book. There are numerous documented cases where damage to a specific part of a person's brain, either by disease or injury, caused one or more of these things to change or disappear, while the person remained alive, conscious, functioning otherwise normally, with other faculties still in operation and other content remaining. We thereby have ample evidence that these things are embodied in the brain, and can often even roughly locate where they are in the brain. Further, it is universally acknowledged that this brain crumbles to dust when a person dies. This happens 100% of the time, in the absence of special preservation. Add these two facts up, and the inescapable conclusion is that all of this content of person's life crumbles to dust with the brain that embodied it.

I first became convinced of this fact, against my will, reading Oliver Sacks' *The Man Who Mistook His Wife For A Hat*. Sacks describes case studies of so many of the things that we take for granted as essential aspects of ourselves, disappearing in individuals when their brain is damaged. This includes even things that were previously invisible to us as special faculties, like the ability to recognize human faces, or, indeed, the ability to recognize that one's wife is not in fact a hat. Also demanding consideration is the foundational case of these types of studies, Phineas Gage, in which a righteous and responsible man, surely destined for heaven, became a psychological mess and what some would consider a not-properly repentant sinner after a steel rod took out part of his brain in an explosion while working on the railroad. This is especially powerful because the belief in the dominant Christian tradition of the time and place, mid-19th century America, was that your behavior and attitudes on earth determined where you went in the afterlife, and that you carried those characteristics with you to the afterlife. In other words, that there are characteristics that are an inseparable part of who you are, of your soul, and that you earn eternal punishment or reward because of these. If an accident to your body on earth that is beyond your control can dictate what these characteristics are, this is problematic for the idea of just deserts, especially eternal ones.⁴³

These stories struck me hard because my Christian upbringing conditioned me to expect from my very first thoughts about it that everything that occurred in my life would last and would matter for all eternity. Since I'd generally been a good boy, with faith when that became required, that had always been a comforting thought. And its absence when I decided I no longer believed was terrifying.

This attachment to the specific content of our own life is a peculiar kind of tunnel vision though. The truth is, most of us don't care about the specific content of our lives nearly as much as we think we do. We can imagine having lived a completely different life than the one we have lived, and know that we could easily be just as happy with that life as the one we have now, and could probably have had a life we were even

⁴³ Gage pops up frequently in the literature, but Antonio Damasio describes and analyzes the case well in *Descartes' Error*.

more happy with. I could have been adopted by a French couple, and I'd probably be doing pretty well by now. (Why do I think about France so much? It's more the idea of being European that I like. I'm probably more German in character—I seem to naturally make friends with Germans more than French—but France is a bit further south, and I *aspire* to be more French in character anyway. I reckon growing up in France would be a good way to get like that.) Or, if at birth some roguish but kindly pirates had kidnapped me and I'd been whisked away to an isolated Polynesian island and taught to live self-sufficiently in a tropical paradise, I could be existing there right now at this moment, and I rather think I might be quite happy with it. Ecstatic even. Amazed at my good fortune. In other words, we freely and happily acknowledge that the content of our life is contingent anyway; it generally does not frighten us to think that it could have all been quite different, and that the current content of our life might never have come to be. We know the content of our life is not an immutable essence of our self. So why would it be important to us that this contingent content last for *eternity* in our subjective memory? Why does the loss of this content, after the fact, frighten us?

There are some reasons for this, of course. We've put an awful lot of hard work and heartache into building up all of this content, for one, and it's depressing to think that it was all for naught, in the grand scheme of things. But then, it is also a well-known fact that a large amount of the content of our life is lost while we are still living it. A tiny percentage of the specific memories we had when we were ten years old remain with us now, and an even tinier percentage of everything that happened to us in that eleventh year of our life remains with us. The contents of our mind disappear bit by bit even while we are still living a life with that mind. We mourn this only a small amount, and infrequently. We are already well aware of how transient the content that we count as our "self" is, yet we still continue mostly satisfied lives. Dissatisfaction only becomes deep and persistent when the losses are drastic and rapid, such as happens with Alzheimer's in old age.

The content of our life does matter to us, and it is acceptable for it to matter to us. But it matters less than we think it does.

3.4.2. Why Existence Matters

Existence, on the other hand, matters to us much more, if anything matters at all.

You may immediately disagree with me intuitively on this. Existence matters quite a lot to me. I think to some people it genuinely does not. I don't have access to what it feels like for them for existence to not matter, but I believe them. I have no need to try to convince them to feel otherwise, but I do have an argument for why it makes sense for existence to matter to us more than content.

First, if we only cared about content, and not existence at all, then we wouldn't care in the perfect doppelgänger thought experiment whether it was universe B or universe A that had obtained. If content were all there is to us, then universe B would be as good as universe A. But I don't believe this is so for most people with reasonably happy lives.

The thought of never coming into existence, and especially the thought of how, ostensibly, many things had to go exactly right in order to bring about our existence, when we really reflect on it, can cause a sort of terror or awe. And the most important thing about this anxiety or terror at how narrowly we escaped not coming into existence is that the thought of someone else, our perfect doppelgänger, living exactly the life we

have lived would likely have little effect on most people's anxiety about it. If you don't come into existence, you probably don't care that much about the specific details about what other people would do, as long as they are happy. You likely don't care that someone else would bring about the exact same content as you have. The content is really not what we care about, or is at least not the thing we care about most, or at bare minimum is not the only thing we care about. We care, possibly much more, about existing.

This is probably controversial. For many people who have lived reasonably happy and productive lives, if a specter appeared at their bed some midnight hour and informed them that she was going to erase them from ever having existed, they might find it comforting if the specter then told them that someone else would nonetheless live exactly the same life they had lived in their stead. They would find it comforting that the content of their life would be preserved, in the same way we want any artifact, such as a book, to be preserved. Moreso, the content of their life isn't just any artifact, it's something they worked very hard and struggled and suffered to achieve. Someone else having that content, that life, upon their total annihilation would feel like the preservation of something they worked hard to create. This would not in fact be the case of course; the content would actually be something another person worked very hard to create when they were annihilated and this other person came into being. Nonetheless, unreflectively it would certainly *feel* like the preservation of something they'd worked for.

Even moreso, those who are more other-focused than self-focused would be pleased that their sudden total annihilation from ever having existed wouldn't affect anyone they cared about at all. Their partner would still have exactly the same (to them) partner, their friends the same friend. (Ah, but the question from Chapter 1, would their children be the same people or perfect doppelgängers of their children, still looms—surely no one could be contented with the sudden total annihilation of their children...) I do not doubt the sincerity of this feeling. But I think it is also unreflective, resting more on anxiety for change and the unknown, and not wishing to have to think too hard about things, than on sound critical thinking. It's easier to just say "keep everything exactly the same" than to have to think about what would and would not be equivalent or better than the life you have lived. Objectively, if you are erased from existence, there is no reason to favor the content of your own life over the content of any other good possible or actual life.

You might object, that last sentence applies equally well to your existence. Objectively, there is no reason to favor your own existence over the existence of anyone else. This is true. In fact, when we get down into the weeds like this, we might begin to think that wishing to remain existing if our total annihilation would bring into existence another person (either identical to us or different), is close to allowing someone else to die in order to preserve our own life, and that it is therefore not just selfish to favor your own existence above those who were not so fortunate as to have come into existence, but possibly immoral. We are getting into the territory of the famous trolley problems here, and I won't pursue it further, but rather just grant the point that there is objectively no reason to favor your own existence over another. But there is a difference between the content of your life and your existence in this case, an additional reason why the content of your life should be objectively less important to you: you could have had many different life contents with the same existence, but you couldn't have had many different existences with the same life content. You only have one possible existence. You have many different possible life contents. Your one existence is precious to you;

it's the only possible one you could have had. The life content that has actually obtained is one of many, and so should be less precious.

Upon examination, this is probably a tautology, since "you" refers to "your existence" anyway. But let's look at it a different way.

For me, the content of my life has been pretty good, and I'd be happy for someone else to have had it. But being happy that someone else would have it is quite different from thinking it is *essential* to my sense of what I would want to have obtained in the world that *someone* should have had it, or that I would regret it if *no one* had had it. I would mainly be happy if someone else had the content of my life because it is one of any number of sets of good content. I'd be equally happy for someone else to have *any* of these sets of good content. There is nothing special about *mine*.

To make what I'm saying clearer, I'll put this question to you: if you had to choose right now in this moment between a) not having lived this life you have, but instead having lived a very good alternate life (France, Polynesia, whatever your greatest dream is), and therefore no one having lived your life, the content of your life just being erased from ever having existed, or b) not having come into existence at all, ever, but your perfect doppelgänger living exactly the life you have lived, and therefore of the exact content of your life obtaining, just without you in the universe anywhere⁴⁴, which would you choose? I think most people would choose a). And in fact I think the only reasonable answer is a), if we reflect on just how unspectacular the content of our own life is when viewed from outside as just one of the tens of billions of human lives that are being or ever have been led. Choosing b) would be, it seems, holding fundamentally conflicting values. You would have to be so "selfless" as to not care about existing at all, yet so "ego-centric" as to think that everything about your life is objectively amazing and therefore should be lived by *someone*. This seems almost incoherent. If we don't care about existing (which, I do care about existing, but I'm not going to tell anyone that it is irrational not to), then we should be fine with no-one having the content of our life as long as everyone's lives go equally well as ours if ours has gone well, or better (including our friends and families and lovers having equally good or better but qualitatively different relationships with other people that they had with us). Having generally good content for other people should matter, but it is not reasonable to think it important that the specific content of our life should obtain for another person, unless we are very egocentric. And if we are very egocentric, we should care about existing as well.

To clarify: It makes sense (is consistent) to care deeply about both the content of your life and your existence. It also makes sense to not care about either (this is an admirable total lack of ego)⁴⁵. It makes sense to care deeply about your existence but not that much about the content of your life, as long as it is good. (This is how I think most people feel, if they really examine it.) But it does not make sense (is inconsistent) to not care about existing but to care deeply about the content of your life.

So it is okay to not care about anything at all related to ourselves. This is probably some sort of enlightenment in fact (or depression, but I won't get into that

⁴⁴ It would be best to keep offspring out of this, but if we must let's assume that your perfect doppelgänger's children would be different people too, so that choosing this route doesn't save your children from never having existed either. In both cases, your children would never exist, but you have to choose one of the cases.

⁴⁵ I'll just note that imagining that your perfect doppelgänger came into existence instead of you but lived one of your desired alternate lives (France, Polynesia, etc.) instead of a life identical to yours, is essentially the same as to imagine any universe in which you don't exist but other people do, whether it contains someone with your same genetic makeup or not. In other words, at that point, the genetic makeup shouldn't matter to us at all. In fact, I'll make this point at length in the next chapter.

here). But if we egocentrically care about anything at all, we should care about existing. It is only if we are truly ego-free that we are able to not care about our own existence, but if this is who we are then we should not care about the content of our life either.

And we know we cannot keep the content of our lives after death. This is an empirically grounded fact. But can we keep our existence? It seems to me that there is no empirical evidence possible for this. But we do have beliefs about this, and beliefs can be swayed by arguments. The next two chapters are an argument for answering “yes” to this question. The argument is grounded in the fact that believing in the gamete-dependence claim and thereby Closed Individualism leads inevitably to the Enigmas of Existence.

Chapter 4: Solutions

How to Reject the Gamete-Dependence Claim

Introduction

This chapter is devoted to a single task: to convince you that you could have been born of—brought into existence from—two completely different gametes than the ones you in fact were born of.

This argument assumes that your current belief about your existence is the one I described in Chapter 1, that you exist now, existed in the past of your body, will exist in the future of it, and would have existed in alternate possibilities of it. In Chapter 3 I pointed out that this belief is called Closed Existence, but otherwise I’m going to ignore the distinctions I made in Chapter 3 here as I proceed through the argument. At the end of the argument in Chapter 5 I’ll bring those distinctions back into the discussion.

The one thing from Chapter 3 that carries over to this chapter is a new term for personal existence that I coined there. In addition to “personal existence”, “existence”, and “I exist”, I now also call it “the thing you want”. The reason for this new term is explained in section 3.2.1.1. Briefly, it is meant to highlight the fact that your existence is a thing that you want that you already have, rather than a thing that you want that you hope to obtain later. That there is nothing missing in the present moment that you want or wish you had in regard to your existence. Personal existence is “the thing you want”, and you already have it. This was used as a “proof” of sorts that you do exist right now, against those who would claim that your existence is an illusion, that there is nothing which the words “I exist” refer to, and possibly taking this and saying that the entire discussion of a book such as this one is meaningless. I continue using the term “the thing you want” here to jog people’s intuition when I feel it will help to make a point vivid.

If you skipped Chapter 3, then I assume you already understand what personal existence refers to and are on board with it, so you need not be concerned with the particular meaning of “the thing you want” if you don’t wish to be. You can just take it when you see it in the remaining chapters to mean “personal existence” as already defined, or even better, what you intuitively think of when you talk about your existence anyway. The term does not add any new layer of complication to the concept. It is just a different way to refer to the same thing.

4.1. A Gamete Sorites: Could Other Gametes Have Brought You Into Existence?

4.1.1. Matter Sorites

4.1.1.1. First Steps

Consider, once again, the gametes that produced you. More precisely this time, we would say the gametes that produced your human body. These gametes and this human body are ostensibly what have caused you to exist, but we don't know why, don't know what the connection between them and your existence is. So we'll just revert to the simpler colloquial expression "the gametes that produced you" for now, and we can understand it in the pre-philosophical way that most people do, which includes producing both your human body and "you", your existence or your "I exist". These gametes that produced you are, by definition, the A gametes, the same A gametes we've been talking about all along.

What we are going to do now is examine the A gametes closely, and specifically the creation of the A gametes: we're going to perform a sorites argument on them. "Sorites" comes from the Greek word for heap, and refers to a type of argument involving changing one very tiny part of something at a time, such as removing one grain of sand at a time from a heap of sand. If we do this until only one or two grains are left, we no longer have a heap, but we can ask, at the removal of which grain did it cease to be a heap? In no case will removal of a single grain cause something to go from being a heap to not being a heap, i.e., a heap of sand minus one grain is always still a heap. This is called the "sorites paradox" or "paradox of the heap".

The solution to the sorites on something like a heap of sand is fairly straightforward: the word "heap" is a vague concept to begin with, and often depends on context. You can't make something go from being a heap to not being a heap just by removing a single grain of sand. But there are definitely some things that in some cases it is useful for us to call heaps and some things it is useful for us to not call heaps. In between, the usefulness fades from one to the other. By analogy, if you are standing on a mountain top and see a cloud below you, you generally cannot, as you walk down, go from not being in the cloud to being in the cloud in one step. But there are definitely cases where it is useful (you could substitute the word "correct" here if you like) for you to describe yourself as in the cloud, and cases where it is not useful to describe yourself as in the cloud. Yet, the borders of the cloud are vague, not clearly defined.

So we're going to perform this kind of process on the creation of the A gametes. We'll see that vagueness doesn't get us out of the paradox as easily as it does in the above two cases, because of the assumption we make that a particular gamete and no other can bring into being a particular personal existence, one which cannot exist under any circumstances without that gamete. I'm going to call this argument the gamete sorites; "sorites" is a word that, much like many I've coined myself for this book, I've never liked, but in this case as well there is none better. Don't let the repetition of the technical sounding name make this process feel more difficult than it is. I'll explain it in such a way that you never need remember the meaning of the word "sorites." It's just the name of the argument of this whole chapter.

We'll start by doing this gamete sorites to just one of the gametes. I'll choose the sperm, because sperm are much smaller than ova, and come into existence very near the time they would usually take part in the creation of a human being, if they do at all, which as we will see makes the argument easier to conceptualize and more urgent. Each ovum, in contrast, is created when a female is still a fetus inside *her* mother, and lives for many years before it takes part in becoming a human being, if it does at all. But this gamete sorites on the sperm applies to the ovum as well.

Assume in this sorites on sperm A that you would not have come into existence unless *both* sperm A *and* ovum A joined to each other. In other words, assume that the belief I mentioned in Chapter 1 that you would have come into existence if any sperm fertilized ovum A is not true. In the end, it doesn't matter if it is true or not, but assuming it is not true allows us to use the sperm in this sorites argument instead of the ovum.

So let's do the gamete sorites. I ask you to pay close attention to the details of the process that follows, even if it is tedious. Much hinges on this.

The sperm that produced you, the A sperm, came into being at a particular place in space at a particular time, from particular matter subjected to a particular process and completed in a particular configuration (meaning the actual arrangement of the matter).⁴⁶ These are the criteria of gamete identity I examined in Chapter 2. As I said there, this argument is a continuation of that one.

I'm going to start with considering just the matter of sperm A, and will assume that all the others of these factors remain exactly the same, including configuration and the process of its formation. Consider all the matter that actually went into producing sperm A. During a particular stretch of time and at a particular location all this matter underwent a particular process, and out came sperm A, which is the sperm that produced you. Here's the question I want to ask: if one atom of that matter that went into producing sperm A had been different, would this sperm still have produced you? Would you still exist in that situation, had one atom been different in the production of this sperm, and had this sperm then gone and fertilized ovum A, ovum A being exactly the same ovum (numerical identity) that actually did produce you?

I think most people would naturally just answer "yes" to this question. And my answer is "yes", on three levels: my quick intuitive answer is "yes" (actually, "yes, of course, don't be ridiculous"); my answer is still yes after a cursory consideration of the plausibility of the alternative (see below); and my answer is an even more confident "yes" after bringing to bear every bit of analysis I can muster (see section 4.1.1.3.). But I know there will be some people who are ready to answer "no", whether out of sincere conviction or just an impish delight in being contrarian. Or perhaps they see where this is going and want to block it. I aim to convince you that this "no" answer is wrong, and if I cannot do that, then at least to show you that it is much more difficult to hold to than it might at first seem to be. "No" might seem to be just an uncomplicated and straightforward answer here, hard to strictly speaking argue with even though it seems a little extreme, but actually there is a hidden arbitrariness to the "no" answer that makes it much less straightforward than it might appear at a casual glance.

But first of all, to move back to just the cursory consideration of plausibility I promised in the last paragraph, consider that each sperm is composed of 100 *trillion* atoms. For scale, consider that 100 trillion standard-sized Rubik's Cubes would take up

⁴⁶ Configuration and process would sometimes both be subsumed into just process, since any change in configuration would necessarily require a change in process, though a change in process would not necessarily result in a change in configuration.

18.6 cubic kilometers, or a cube 2.65 kilometers to a side. If this doesn't seem that big to you, imagine walking all the way around it, staring 2.65 kilometers up to the top the whole way, over 3 times higher than the Burj Khalifa. Or, 100 trillion grains of mid-sized sand, 1-mm diameter, would take up 10,000 cubic meters, or a cube a little over 46 meters to a side. Imagine a cube of sand on half a football field or slightly less than half an 11-a-side football pitch. Now imagine walking up to that cube and plucking out one grain of sand, and replacing it with one you brought you with you in your pocket. (Or perhaps the track at a monster truck rally or a major dirtbike race would be more apropos, as these things actually exist.) So we can see that one atom of the structure of a sperm cell is an exceedingly tiny difference. And remember that in this situation the sperm still has the exact same configuration as sperm A, including the same DNA, and was produced at the same time, place and by the exact same process, and came from your father. All these factors are the same. Add to this the fact that the matter changes in our own bodies all the time, and it seems really difficult on these grounds alone to believe that one atom difference in the creation of sperm A would have caused you to not exist.

I think most people would agree without further argument that they would still have come into existence if one atom had been different in the creation of sperm A. But even if you cannot accept it, let's consider it provisionally accepted for now, or accepted for the sake of argument, at least to see where it takes us. This should be easy enough if you can at least entertain the idea that you would have still come into existence in this situation. Certainly no one can be said to know for sure; there isn't even in principle a way in which it could be ascertained whether it is true. We first of all can't rewind the clock to try it, and second, even if we could, there is no question we could ask the resulting person or that the resulting person could ask him or herself and no empirical test we could do to find out if it was "you" or not.

So, back to the sorites. Strictly speaking, this sperm that is one atom different from sperm A, even though (or "if", if you prefer) it would still bring you into existence, is not the *same* sperm as sperm A. As a physical object, it is very slightly different. So, I need to introduce a new notation for the sperm, so we can be perfectly precise about it. The sperm that would have come into existence had one atom been different during the creation of sperm A will now be called sperm A₁, the subscript meaning simply "1 atom difference".

So now look at sperm A₁. In this slightly alternate world, you come into existence from this sperm. Now we ask you in this slightly alternate world, what if the matter that went into the creation of this sperm A₁ had been one atom different? Same process, same configuration, same time and location and parentage, just one atom of matter different. This would be sperm A₂; it is 2 atoms different from the original sperm A, though only 1 atom different from sperm A₁. Would you still have come into existence if this sperm A₂ had fertilized ovum A? If we stick with the reasoning so far, then the answer is yes. To the you in this slightly alternate world, going from sperm A₁ to A₂ is exactly the same as going from sperm A to sperm A₁ was to you, because you *are* (or more accurately come from) sperm A₁ in this alternate world. Sperm A₁ is your sperm A, and would be called sperm A in that alternate world. So the logic of going from sperm A to A₁ and A₁ go A₂ is exactly the same. *Exactly* the same. And therefore you exist as that person in all three of those situations, just as surely as you exist now, would still exist now if a minute ago you had moved to the left 1 cm, and would still exist now if a minute ago you had moved to left 2 cm. And so you thereby believe that *you*, the person existing right now, who came from sperm A in the actual world, would

exist as the resulting person if it had been sperm A_2 that had been created and fertilized ovum A.

And so, we can continue this, to A_3 , and A_4 , and beyond, until we have replaced all of the atoms in the original sperm A and have sperm $A_{100 \text{ trillion}}$. I'll notate this as A_a , for "all". So sperm A_a is a sperm that was created from the same process on the same plan (in the same configuration) and in the same location and at the same time and from the same parentage as sperm A, the sperm that created you, but of entirely different matter than sperm A. And yet, we still think it would be a sperm that came to produce you, if you follow the reasoning from sperm A_1 to sperm A_a , where each step, each single atom difference, still is a sperm that would have produced you.

Now, before we move on, let me be really clear about what I am asking you to imagine here, about how we arrived at sperm A_a . There's several ways this sort of sorites argument could be conducted. We *could* be imagining taking sperm A already created and then changing out one atom at a time and asking at each point whether it would still be a sperm that produced you. And this is also what already happens in your body every day, and what surely happened a little bit to your actual A gametes in actual reality before they joined. (I'll talk about the implications of *this* fact in depth in section 4.1.1.3.) But this is *not* what I'm asking you to imagine here. What I'm asking here is that, each time I call for one more difference in the atoms that went into the creation of the A sperm, you imagine that a sperm was *created from the beginning* from those one or more different atoms instead of the way the actual sperm A was created. In other words, at each step, reverse in time in your imagination and have a sperm created out of this slightly different set of matter. The difference between these two ways of conducting this thought experiment is subtle but important.

Having all that in mind, let me then point out what is powerful about sorites-type arguments. We are led to see that there can be no non-arbitrary cut-off point for when the change we expect to see actually happens. In this case, the change you might expect to see is that, at some point, the sperm will no longer be one that would bring you into existence. If, for example, I were to ask you cold to just imagine a sperm created out of entirely different matter than sperm A, the sperm that created you, even of the exact same configuration and at the same time and place, then your first thought might be to say that that sperm would produce a different person than you. It is not *the* gamete of the gamete-dependence claim that is required for you to come into existence. It is just a copy. But, if I then ask you about a sperm that was created of all the same matter as sperm A save for one atom difference, then your first thought might be to say that it would still have produced you. What the sorites argument shows is that these two beliefs are contradictory. If you believe that sperm A_a would not produce you but sperm A_1 would, then you have to believe that there is some cut-off point between sperm A_1 and sperm A_a where the change in that one atom causes the sperm to go from being one that would have produced you to one that would not have produced you. But it would be unavoidably arbitrary to believe that of one atom and not any of the others. To say that sperm A_{10} would still bring you into existence but sperm A_{11} would not would be an oddly arbitrary assertion. To say that sperm $A_{50 \text{ trillion}}$ would bring you into existence but sperm $A_{50 \text{ trillion} + 1}$ would not would also be an oddly arbitrary assertion. Even to say that sperm A_{a-1} would bring you into existence but sperm A_a would not is oddly arbitrary.

In fact, the only possibly non-arbitrary point would be to say that sperm A would bring you into existence, but sperm A_1 would not. Let's call this the A_1 -X view: the belief that if sperm A_1 had been created instead of sperm A, then you would not (X)

exist. It seems to not be arbitrary because it is the only time we are moving from something actual, and which actually did bring you into existence, sperm A, to something that is not actual, and which we therefore have no evidence for or against whether it would have brought you into existence, sperm A₁. If one wishes to block the sorites, so to speak, this would be one very tempting way to do it. But in fact even the appearance of non-arbitrariness in this case is deceptive, as I said above, and as will be explained in section 4.1.1.3.

While we're on the subject though, consider another cursory consideration of the plausibility of the A₁-X view. If A₁-X were true (if a change of only one atom would have caused you to not come into existence), then that means there were 100 trillion potential other people that would have come into existence between sperm A and sperm A_a had it fertilized ovum A, but did not, just in this scenario alone. Sometimes when discussing the gamete-dependence claim people talk about, somewhat in jest, all of the poor unfortunate people who never came into existence because the gametes that needed to join to bring them into existence never did, or were never even created. (Recall what Dawkins said: "We are going to die, and that makes us the lucky ones. Most people are never going to die because they are never going to be born.") Well, if we add A₁-X to this belief, multiply that luck by 100 trillion more. That is a lot of a poor unfortunate non-existent people, and the odds against you coming into existence just increased by an astronomical order of magnitude from what was already an unimaginably large number. (Ah, but it is even greater than that, because of course every different atom that could replace an atom in sperm A to create sperm A₁ would also produce a different person...so the exponent of that number is raised to 10⁸⁰?) Economy alone—really grasping the magnitude of a number such as 100 trillion (1000 times the number of people who have ever existed)—impels me to think that one atom difference in one of my gametes would not have prevented me from coming into existence, even without other convincing arguments.

Another point: you might be wondering what this process is that the matter goes through to produce a sperm (any sperm). There is, of course, a known answer to that. By now, biologists know every detail of how raw matter becomes a gamete. I have a passing familiarity with it, and could probably explain it clearly here if I did a little research. But actually, I think it does not matter for what we're doing here at this point. When I imagine the process that the matter goes through to become a sperm for this sorites argument, I'm basically just imagining all the matter as separate atoms going into one end of a black box, going through a process in the box, and coming out the other end of the box as a sperm. I think this is enough. It seems to me that any possible process would be amenable to the arguments I'm subjecting the process to here—even if it occurs in several discrete stages rather than all at once, as human gamete creation actually does, and even if those stages are quite distant from each other in space and time—so there is no need to worry about the specifics. In fact, it seems that the details would make the argument stronger if they affected it at all, so what I present here should be a weaker case than actuality. But for simplicity I'm going to stick with my schematic description; atoms (or molecules if you prefer) go in one side mostly unconnected to each other and come out the other as a gamete.

This is the first step in the gamete sorites. Let's look at some other considerations and objections to it before we take it to its conclusion.

4.1.1.2. The Incoherence of Being Partly One Person and Partly Another

There is a hidden premise to this argument, which I should clarify now: being "you" and being "someone else" is not something that admits of degrees. A gamete cannot fade from being one that produces you to one that does not produce you (one that produces someone else), one atom at a time. Either you exist, or you do not. There is no middle ground, there is no such thing as a gamete or zygote or person being, say, half you and half someone else.

This might be controversial, and it is certainly worthy of critical examination, which I invite. But I assert this because I frankly cannot think of any account that could be given for what it would mean for a gamete, say a gamete somewhere between sperm A and sperm A_a, to be half me and half someone else (or one that would bring half me into existence and half someone else into existence). Nor have I ever seen anyone else make such a claim or give such an account. Remember we are not talking about content here; this sperm A_a has qualitatively identical content to sperm A. We are talking just about pure existence, isolated from content. And what would it mean to *you* to only half exist, or 5% exist, in/as a human being that was qualitatively identical to you now? And the other half or 95% would have to be someone else. What would it mean to only half be a person in a counterfactual universe; a person, it must be said, who would think of him or herself as a simple, single whole person, just as you do yourself right now? How could this counterfactual person be half you? How could *you* be half him or her? How would he or she be related to the whole person you are now in this universe? What would the half you in this counterfactual universe be half *of* from the whole you in the present universe? How would his or her "I exist" relate to yours? Think about what it is that is obtaining right now at this moment, which you take to be 100% of the thing you want (100% of your personal existence) and is wholly satisfactory itself, is 100% of what you want to obtain, and then try to imagine it only half obtaining, or some other percent. Can you imagine anything at all then? Further, try next to imagine the thing you want that is obtaining at this moment only half obtaining, and also being wedded into a single whole with the thing a different counterfactual person wants that is only half obtaining for him or her. What would this be?

I mean really take some time to try to imagine this. Don't just read the questions and sentences and quickly move on. You should really consider this.

It is easy to imagine this for specific content, a specific DNA sequence for example, or for specific mental content. There is nothing mysterious or difficult about imagining the content in the brain of a person, whether you or someone else, being 99% of what the content of your brain is right now, or 50%, or 1%. Nor is there any conceptual difficulty in imagining this about DNA. But if this is what you are imagining, then you are imagining the wrong thing. We are not talking about content. The content in this case is identical from one end of the spectrum to the other, it is just the personal existence that would be fading from one to another.

Even if you felt your existence fading, as it were, due to a degenerative brain disease such as Alzheimer's, you would count this as your content fading (and changing), but your "I exist" would still be 100%. You would still exist. It would be the yes answer to a yes and no question. If this doesn't sound right to you, recall your very first memory. Mine was at what I think was age 2. I was in a basement playing with other kids, and I walked over grabbed the toy out of the hand of another kid. The kid protested (cried and/or got angry), and my mother heard the cries and came to the top of the stairs and scolded me, and I recall feeling bad about it. If I think about it really hard right now in fact, I still feel a little bad about it, because I remember it subjectively, from the inside, what it felt like to take that toy, and what it felt like when

I noticed the kid crying after my mother brought it to my attention. When I look back at that memory, though it is extremely fuzzy, I don't think of it as, that was me when I only existed about 10%. No, I think, I existed then. That was me existing. I had only a very small fraction of the content I have now, and thus my consciousness was very fuzzy and disjointed, and it doesn't feel to my present self like I was exercising free will, but was just acting animalistically. But I existed. To use the phrase from Chapter 3, the thing I want obtained back then. If I had had the language to describe it, I would have said "I exist!". Not, "I only 10% exist". Or, think instead of how you would have answered the question at age 10 or 15. Surely then you would have said "I exist" and meant that you exist fully, not as a fraction. And I think this is the way everyone thinks and speaks. We think we existed all the way back to our first memories. We always had 100% the thing we wanted. It was never a matter of degree, and it is inconceivable what it would mean to say that it is.

Consider again if I had this faded existence due to a degeneration of the physical matter of my brain. Though it is surely not the sort of thing that admits of a precise number, let's decide to say that the degenerated state has left my mind at 20% of what it was before the degeneration started, when I was healthy. If through some medical intervention, this brain were brought back up to the power and capability it had before the degeneration, I would not think that I still exist only 20%, and this other person now exists 80%. No, I would think that I still exist, and my content (or perhaps potential for it) is once again 100% what it was before.

There is no concept of degrees attached to existence. Whether a child or an adult, whether degenerated or healthy, we consider existence itself to be 100% or not all. Similarly to the above, if my currently healthy and "normal" brain were enhanced by some process, made ten times as large and/or ten times as "powerful", I would not before the process think I am only 10% of a person, or that I only exist 10%, nor would I in the resulting case think that I am only 10% of this resulting person, sharing with the 90% person who exists (or persons who exist) from the enhancement. No, I would say that I and only I now have 10 times more brain power than I did before, whatever 10 times means. I exist fully now, existed fully when I was a child, and would exist fully in a future 10x enhancement of my present capabilities.

Or consider this. Think of yourself in the present world, just as you are now. If "partly existing" were the result of this gamete sorites, then it could not be distinguished from what you assume is true now, that you are all you (the way I assume I am all me). And so, if it were the case that, say, a sperm A_{50 trillion} was only half you (or a quarter, if you prefer), then that would necessarily be true in all cases for all people who exist now and ever could exist, that every person, including you, are actually right now partly one person from one alternate universe and partly another from another alternate universe (or possibly the same one), as your A gametes fall on a spectrum between two other possible gametes (many more than that in fact, and possibly an infinite number). We could call these other possible gametes sperm A_{50 trillion} and sperm A_{-50 trillion}. One could take this as a fact of life, but it seems to me it would be meaningless to think this way, because what everyone means when they say "I exist" is "I exist as one whole person", and this is the primitive belief about the term "I exist", at bottom the true referent of its utterance. It also multiplies entities far beyond reason or necessity.

Or consider this. If the idea of a partial or blended existence is coherent, then you should be able to imagine a situation of fading from one existence to another while content remains constant. In other words, one existence fading out to zero while another fades in to "100%", within a single human being, while the content of that human being

remains constant. Imagine it happening to you right now. Over a period of about a minute, say, you fade out of existence, and someone else fades into existence, within your body (the body that starts out this continuum as yours), while nothing about the content of your mind or brain changes. Or at least, nothing more than would be usual over a period of a minute; perhaps you can imagine you are staring at a single object, a white wall or a tree, with constant sensory input for your other senses as well, so that your body is receiving little new information. What is there to imagine in this situation? At 30 seconds in, you would supposedly only half exist, and someone else would half exist together with you, with that same content, staring at that tree or telling that story. At the end of it, you have ceased to exist, just as you imagine you do when you die, while someone else has come into existence, still staring at that same wall, or one minute further into the same story, while the people you are telling it to have no idea of the transformation that just happened. I think there really is nothing to imagine here. The idea of a fading existence, isolated from changes in content, really is incoherent.

And it seems like nobody else can conceive of what a blended existence would be either. If it were conceivable, then it could already be, for example, the way we conceive of what would happen if a different sperm, even an identical one, fertilized ovum A. Rather than wondering whether you would have still existed in that situation, you could just say, “well, I would have half existed in that case.” Or, if you prefer, if you want to take it as a percentage of the total matter, then you could say “I would have been .00167% less the same person as I am now.” But almost nobody gives that answer. Almost everyone says, as we have seen, that had a different sperm “won” the race to ovum A (to use the colloquialism), then they would not have existed at all, full stop. And a few people say that they would have existed, full stop, no matter which sperm had fertilized that ovum. (Again, I don’t know who these people are, since Parfit did not provide a citation for this claim.) And I think this is because, without even reflecting on it, none of the people who answer in either of these ways can conceive of what it would mean in that case to only half exist as the resulting person either, and so the option doesn’t even occur to them. Either a sperm and ovum bring you into existence, or they don’t.

This is, incidentally, more evidence that people naturally think of content and their existence as separate, without consideration even of the types of painstaking analysis I’ve done, because, as I said, people have no trouble imagining the resulting person having only half their genes—the half from the ovum only, whether they are imagining it to be themselves or not themselves. (Much more actually, since humans already share 99.9% of our DNA, and thus so do human sperm, but this is the way people would naturally think about it.) There is no mystery about this, no philosophical question to it. But they don’t imagine this being *the* answer to what would have resulted if a different sperm had fused with their ovum. They imagine a further question, the question of whether they exist in that case. And the answer to this is yes or no.⁴⁷

⁴⁷ Those in the know will be wondering why I ignore what would have likely been Parfit’s answer: this is an empty question. Earlier drafts of this book included discussions of empty questions, but I have excised them for being a little too abstruse for newcomers to the idea and yet not essential enough to my purpose (although, see my further reading recommendations at the end of this book; Parfit is first). Nonetheless, I acknowledge that no discussion of partial existence under these circumstances would be complete without it, so the discussion of this section is incomplete. I can summarize my feeling about it though: I have the same problem with calling questions of my existence empty as I do with the claim that I might “partially exist” as some human being, or that some human being might be partially me and partially someone else. I can’t make any sense of what it means. Parfit strenuously insists that the desire to have a yes or no answer to such questions is an error, but thorough, clear and convincing though

Since I have never heard anyone assert that they would have been only partly another person in any counterfactual situation of their own origins, or even that they could conceive of what this would mean, what it would feel like, what the phenomenology of it would be, and since, as I said, I myself cannot imagine it, my attempt to argue against this idea is without a clear opponent, and so has not been shaped and polished yet by any back and forth. If there is anyone who does believe this, I would like to hear the reasons for believing it and the description of what it would mean.

4.1.1.3. The Hidden Arbitrariness of The A_1 -X View

The other possible belief about transforming sperm A into sperm A_a one atom at a time is that sperm A_1 would not produce you. Sperm A by definition would/did, but a sperm with one atom different than sperm A, sperm A_1 , would not. I've called this belief the A_1 -X view. As I said, this could seem like a safe argument to make, no matter how implausible, because it appears to avoid arbitrariness. And someone might want to make this argument because it blocks the sorites argument that forces us to believe that sperm A_a would have produced you if it had fertilized ovum A, thereby avoiding the paradoxes I will be discussing in this chapter, and avoiding my solutions to them. However, A_1 -X is not as easy to hold as it at first appears, and is not as unarbitrary as it seems. In fact, believing that sperm A would be you but not sperm A_1 is practically just as arbitrary as believing that sperm $A_{50 \text{ trillion}}$ would be you but not sperm $A_{50 \text{ trillion} + 1}$. I'll explain why. This is a fairly long section, and if this objection is not terribly important to you, it may be skipped. I pick up the thread of the gamete sorites in the next section.

Consider this fact: if in the past week or past month you had eaten nothing but steak, broccoli and baguettes for the entire time instead of what you actually did eat, you believe you would still exist right now, all other things being as equal as possible. Yet, if that is indeed what you had eaten, there would be some different atoms making up your body and brain right now than the ones that actually do. But you believe you would still exist right now, having a body made up of different atoms than the ones that make up your body now. That differently constituted body would still cause the thing you want to obtain, would still be the carrier of the thing you want, your existence.

This is the point: right now, *it does not matter what the specific atoms are that compose your body*. Any number of changes to the matter in your body, possibly an infinite number, could come to your human body, and you would still exist. *Right now*, changing out atoms of your body does not affect whether or not you exist, whether or not the thing you want obtains.

he is, I just cannot be satisfied by this. I feel it doesn't do justice to the nature of my original inquiry, as I described in Chapter 3.

Note how the fact that Parfit made the empty question argument bolsters my case for the incoherency of being partly one person and partly another though: neither Parfit nor anyone who responded to him (as far as I know) thought to claim that the result of such a partial transformation of the physical stuff of your body would be *partially* existing. That, if 30% of your brain were replaced with identical neurons (as in Parfit's example), then you would exist as 70% as the resulting person. And this is one of the most famous and debated works of philosophy of the past 50 years. This gives more credence to my belief that such a thing is incomprehensible. People don't think of it as an option for something to believe because they can't conceive of what it would mean. Partial existence is a meaningless expression. The adjective just doesn't apply to the referent of the subject.

Let's call this belief C-OK, for "change okay". Now let's go through a process that will be familiar to us from Chapter 1, which culminated in the body-tracing criteria. I'll be brief about it. If we go back in time, does C-OK still hold? For example, when you were 10, could the atoms of your body have been different and you still exist? How about when you were 5, or a newborn, or a fetus? We surely answer yes to all of these questions. When you were a fetus, atoms were constantly coming and going in and out of your body. Do you believe that if your mother had eaten differently when she was two months into her pregnancy with you, then you wouldn't exist right now? Of course you don't. Calling back to the gamete-dependence claim and the passages I quoted from Dawkins and others about the tremendous luck we can feel at even existing at all, nobody says good thing my mother ate what she did while I was gestating, otherwise I wouldn't exist. Nobody makes the mother's-diet-dependence claim, just as no one makes the not-moving-to-France-at-age-five dependence claim.

Everyone makes a big deal about the moment of joining of the gametes as the decisive moment when your coming into existence is sealed, so I assume we would all agree this matter-independence (C-OK) holds for the conceptus as well. What about the gametes themselves? Could the matter of sperm A and ovum A have been different than what it was and you still come into existence? The answer to this must be yes. Again, the atoms in sperm A and ovum A actually did change throughout their lifetimes before conception, just as they does in every living cell. Especially the ovum, it existed for on the order of several decades before it took part in the creation of you. Atoms came and went through that ovum, sometimes being part of it, sometimes not, during that time. Surely this situation is the same as it is for your body right now; surely C-OK obtained from the time of creation of the ovum up to the present. And so too for the sperm then.

So we look at the point of creation of the gametes. Let's switch back over to sperm A. If you believe the A₁-X view, then you believe that if even one atom had been different in the creation of sperm A, then you would not exist. The person who came from sperm A₁ would not be you.

So now consider an atom Y. Atom Y went into the creation of sperm A right from the beginning, and it remained in sperm A until it fertilized ovum A, and then became part of zygote A and then embryo A and then fetus A and then newborn baby A, and (let's say) is now still part of your body. Now consider atom Z, which is of the same substance as atom Y (carbon or hydrogen or sodium or iron or whatever; we can change it to molecules Y and Z if this makes more sense to you). If atom Z were to replace atom Y in your body right now, no problem, you would still exist. If atom Z were to have replaced atom Y in your body when you were a newborn, no problem, you would still exist right now. If it had replaced atom Y in the zygote stage, no problem, you would still exist right now. If it had replaced atom Y in sperm A prior to fertilization, no problem, you would still exist right now. Therefore, if it had replaced atom Y immediately after sperm A was created, you have to think no problem, you would still exist right now. *But* if you hold the A₁-X view, you think that if atom Z had replaced atom Y in the process immediately *before* sperm A was created, in other words, if it had been atom Z that went into the creation of sperm A in the first place rather than atom Y, then this is a problem, because you wouldn't exist right now.

After the creation of sperm A, you believe that *either* all of the atoms in sperm A could have remained part of sperm A, or like atoms from anywhere in the universe could have replaced some or all of the ones in sperm A, in any combination imaginable, so long as the structure of the sperm remains essentially the same, and it would have remained sperm A, the sperm to bring you into existence. This is the same as is the case

for your body right now. This is C-OK. Before the creation of the gametes, the A_1 -X view, only the atoms that did could have gone into the creation of sperm A in order for you to come into existence; not a single atom could have replaced the atoms that went into its creation. I'll call this idea C-NOTOK, for change not ok.

This invites the question: what is happening during that period of creation that is so special, so pivotal, as to make your existence go from being totally sensitive to the matter involved to not sensitive to it at all? What sort of event in the creation of a sperm could be the sort of thing that would cause this fact to change over from C-NOTOK to C-OK? If you remember the discussions of gamete identity from Chapter 2, the answer should be obvious, so it shouldn't be spoiling any drama just tell you: there is nothing that could possibly or even reasonably perform this function. No event, no physical structure, nothing.

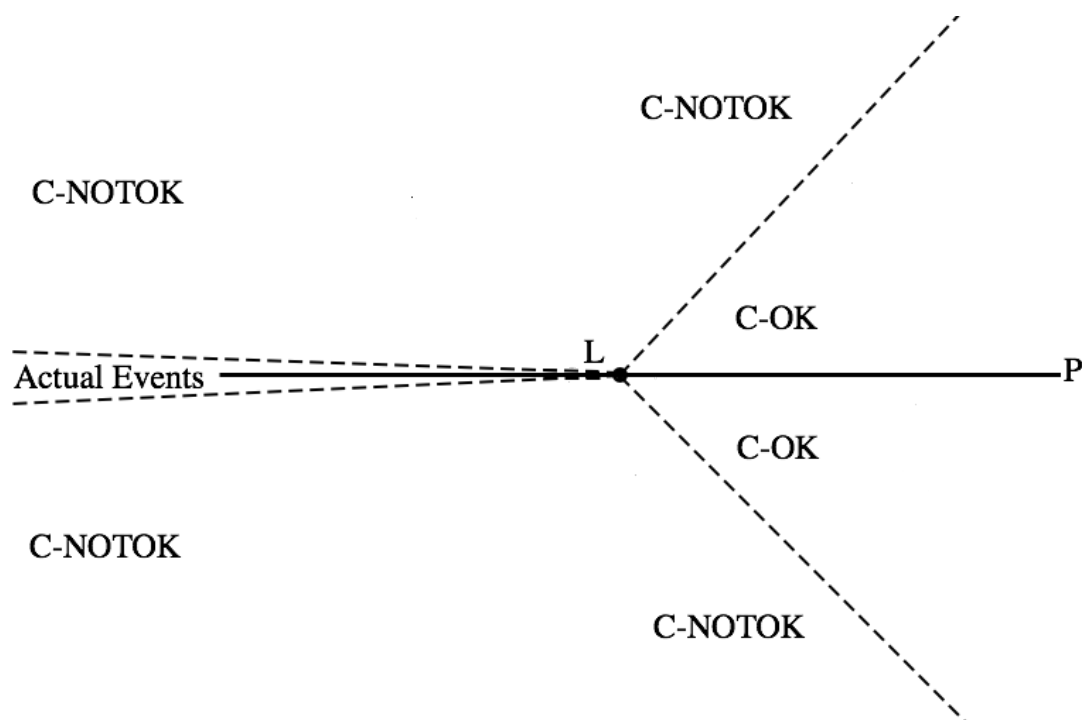
But let's look at it closely anyway, to really heighten the absurdity. Let's assume something that in most cases likely isn't true: that there is at least an unambiguous moment we can point to when atom Y "locks in" to the structure of sperm A, or more accurately, the structure in the process of becoming sperm A. This "locking-in time" I'll call time L. Again, we'll look at this very simply and schematically, without concerning ourselves with the actual details. The actual details are surely much more vague than what I'm going to present, and so would make things even harder for the A_1 -X view, so if we can show it to be absurd in the simplest and most generous telling, then this will be detrimental for all other versions as well.

So atom Y makes its way to the site of creation of sperm A. Really try to imagine it, flowing through your father's bloodstream, disembarking at the appropriate location, and just hanging around the site of creation of sperm A. At some point in time it goes from being a part of something else in your father's body, and becomes a part of sperm A in its process of creation. It is locked into the sperm-A-in-process of creation. If, at some point in time after this locking in time L, atom Z comes swooping in and replaces atom Y in that structure, and atom Y goes off and does something else unrelated to sperm A, then we all believe that sperm A will still be sperm A, will still bring you into existence if it fertilized ovum A. "At some point in time after" is at least something everyone must agree on, because it is true of your body right now, which is indeed a point in time after time L. But let's make it more precise: a point in time *just after* the locking in. Could be mere nanoseconds, or less. Some very short period of time after the locking in, whatever you wish it to be.

So atom Y locks into the structure of sperm A in progress, and then atom Z swoops in and replaces it mere nanoseconds later; atom Z remains in the sperm in progress and in the completed sperm, while atom Y goes off and does something else unrelated. And you come into existence when sperm A fertilizes ovum A.

Now consider the alternative situation: atom Z instead swoops in and replaces atom Y in the process mere nanoseconds *before* this locking in time, and atom Z is locked into place instead, while atom Y goes off somewhere else, never being part of your body. If the resulting sperm fertilizes ovum A, you will not come into existence. This will be sperm A_1 , and thus person A_1 , which will not be you, will not cause the thing you want to obtain. Unlike now, when atom Z replacing atom Y would make no difference to you existing, to the thing you want obtaining.

When I think of this situation, I imagine a diagram like this one:



The line marked “Actual Events” represents exactly what has happened in the past, up to the present P, in all the events relevant to your existence. Both “events” and “relevant to your existence” may or may not be precisely definable, but we have a rough idea of what they are, as a great many events across the world and probably everything in another galaxy would not or did not affect whether you came into existence or have remained in existence (taking into account that events in another galaxy would have had to take place many years in the past to causally impinge on events on earth), while it is also clear what kind of events certainly would have. “L” is time point L, the locking in of atom Y. Before time point L the line of actual events represents the location in the universe of all of the atoms that went into the creation of sperm A, and if we go back far enough the matter that went into the creation of the gametes that created your parents, and the matter representing their existence and location, etc. It need not be precisely defined, but that is the general idea. After time point L, the line of actual events represents the course through the universe of the structures of sperm A, zygote A, then person A (you), no matter what matter makes up those structures, because that is what is relevant to your existence then; not the specific matter, but the structures. The dashed line represents what I call a “fence” around actual events. Inside that fence is C-OK; variations on actual events that would still have resulted in you coming into existence, or would have kept you in existence if you already were. Outside that fence is C-NOTOK; variations on actual events that would have resulted in you not coming into existence, or would have caused you to cease to exist if you already did exist (such as death).

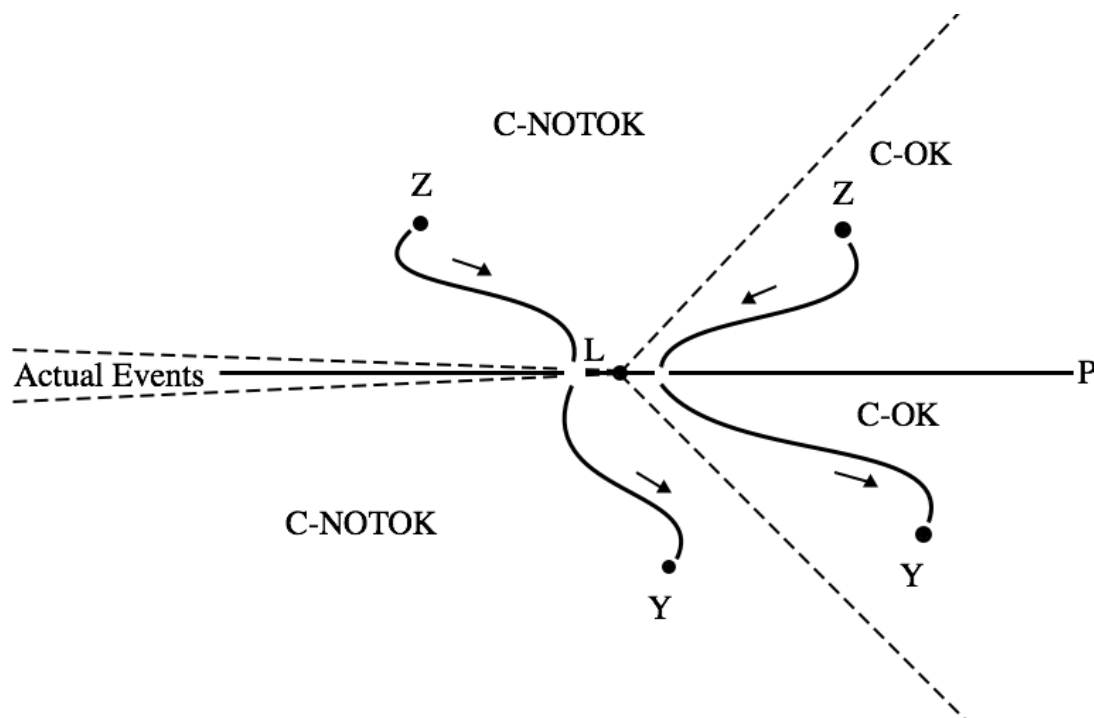
You’ll notice that the amount of allowable variation in events before time point L is much less than that after time point L. I’ve made the diagram like this to reflect actual beliefs: recall that Dawkins said that “the thread of historical events by which our existence hangs is wincingly tenuous” and Nagel said “there was very little chance of my being born given the situation that obtained an hour before I was conceived, let alone a million years before.” And Dawkins says earlier in this section “you...must

regard a particular instant, nine months before your birth, as the most decisive event in your personal fortunes. It is the moment when your consciousness suddenly becomes trillions of times more foreseeable than it was a split second before.” And then: “the instant at which a particular spermatozoon penetrated a particular egg was, in your private hindsight, a moment of dizzying singularity. It was then that the odds against your becoming a person dropped from astronomical to single figures.” Dawkins and Nagel were talking about conception, as people usually do when talking about odds, but anyone who holds the A_1 -X belief must believe that the same considerations apply to the creation of the gametes.

Both Dawkins’ and Nagel’s statements see wide agreement among people in general. Perhaps, upon reflection, a case could be made that it isn’t actually so that the range of possible events before the creation of gametes is much narrower than that after, but I won’t pursue that further. The important thing is that at time point L, no variation is allowable. All the matter that went into the creation of sperm A, and your father as a whole human, whatever matter aside from that of sperm A he contained, had to be in the state they were at that point in time and at that location, however it got there, in order for the creation of sperm A to be the creation of sperm A. Perhaps your father could have been somewhere else at that time than he actually was and he still would have created sperm A? No matter. The point is just that there were a huge number relevant facts that could not have been different at that point in time, and very few that could have.

After time point L, or some point in time after you feel it firmly established that you exist (zygote, fetus, baby, etc.), the size of the space inside that fence of allowable variations to actual events without affecting your existence quickly becomes much larger. At this point in time, most things in the world don’t affect whether you exist, and most things that happen directly to you even don’t affect whether you exist. In our normal way of thinking about it, there are many more stretches of time in possible worlds in which you exist after the time you come into existence, than there are stretches of time in possible worlds that would bring you into existence. It is an interesting question whether this actually holds in a rigorous assessment, but at least it is the way we tend to think of it (as Dawkins unambiguously asserts).

And now, when I imagine the situation I described about atom Y and atom Z, I imagine this diagram:



Here we see atom Z swooping in and knocking out atom Y at two different points in time. In one case, it knocks it out just before time point L, and atom Z goes on and becomes part of the sperm being created instead of atom Y. This results in sperm A_1 , and you not coming into existence. In the other case, atom Z knocks out atom Y just after time point L. In this case, sperm A remains sperm A, and as long as it goes through and fertilizes ovum A,⁴⁸ then you come into existence.

This means, among other thing, that sperm A and sperm A_1 could be identical in structure at all points in time subsequent to a moment after time L, containing all the same atoms in the same configuration. But we call them different objects simply because atom Z replaced atom Y before or after this point in time. If atom Z had replaced atom Y a second or day or week after time L, it would still be sperm A. But just before time L it is sperm A_1 .

So here's the crux of the matter: if you want to hold to the A_1 -X view, then everything I've just described is a belief you must own. Yet, the only reason I can imagine to hold the A_1 -X view is to avoid the arbitrariness of thinking that some single atom move between sperm A_1 to sperm A_a would have caused you to not exist. And so, to this I must ask, how much less arbitrary is what I've just described than that move? I believe it is barely any less arbitrary, if at all. Why should we think that this point in time L is so special? As with so many other things we discover when we examine gametes and our own existence closely, it would seem to be imputing something really magical to a very simple physical process or structure.

And so, better to just believe that the atoms that went into the creation of sperm A could have been different without affecting whether or not you would have come into existence, just as we believe that any atoms could have replaced the atoms that went into the creation of sperm A after its creation.

⁴⁸ I probably would have better drawn the dashed fence line after L as only slightly more pitched than the line before, until after conception, when it gets drastically more pitched. But I did not include conception in the diagram.

And remember too that this is just the simplest way of describing it, assuming that there is a clear locking-in point for atoms. In reality, with the actual complex details of gamete creation, it seems that it would get much worse for the A_1 -X view. Many parts of organic structures are quite fluid, and so it's not necessarily clear what a locking-in would be there. And the process itself in many or most cases would not admit of a clear locking in time. The atoms and molecules are there in the area of the creation of the gamete, performing different functions at different times, being moved about within the gamete, exchanged between separate structures within the gamete, and most important, exchanged back and forth between the gamete and the surrounding environment, in some cases multiple times. There is in fact never a clear boundary between an object and its environment at the atomic level. Everything has the vague borders of a cloud. And so, the fact that the creation of a gamete is not so simple or clear-cut as I've made it out to be only adds to this vagueness, and thereby adds to the arbitrariness of believing A_1 -X.

Further, it is clear that you cannot escape this by pushing the changeover from C-NOTOK to C-OK to an earlier or later time. Perhaps you would prefer the moment of "completion of sperm A". But this is just time point L going by a different name. It has the exact same consequences as time point L.

And the moment of conception is just as arbitrary or moreso, to say nothing of the additional complications. If you believe that only the atoms that composed sperm A and ovum A could have been the ones composing them at the moment of conception (and therefore only the initial atoms in zygote A could have been the ones composing it), what do you really believe? Do you believe that before that time sperm A and ovum A could have been composed of any atoms, as long as at that exact point in time the correct atoms composed them? Or do you believe that all of the atoms from the beginning and the changes to the atoms over time had to have been the same from the time of creation of the gametes to the time of conception? Any such beliefs we find down these trails only seem to be more and more untenable.

And this arbitrariness extends to all factors in our life that we believe do not affect whether we exist, such as the location we are in, or to an extent the configuration of the matter of our body. These factors can vary both in the creation of a gamete, and in the gamete after it exists. You could exist right now on a Polynesian island, if your parents had moved there when your mother was one-month pregnant with you. Could you exist right now if your parents had been on that Polynesian island for a month already when you were conceived? If some of the atoms making up the sperm your father created at that time came from that Polynesian island instead of from where you actually were conceived?

4.1.2. A Spatial Sorites And Compossibility

There's two ways to block a sorites argument: either claim vagueness in the concept at hand (in this case, personal existence) or deny the first move (in this case, going from sperm A to sperm A_1 for example). I think I've satisfactorily addressed both. So in my estimation this sorites has been blocked from being blocked, and we can return to the main thread of the argument.

We have sperm A_a , which is a sperm qualitatively identical to sperm A, the sperm that produced you, and was created in the same location at the same time as sperm A, but which was made of entirely different matter. Through the gametes sorites, changing out one atom at a time before creation, we've decided that sperm A_a would

have caused you to come into existence anyway (had it joined with ovum A), even though it is composed of different matter.

And now that we have this sperm A_a , all the matter that went into the production of the actual sperm A is free, available to be used for something. And in fact it could be used to produce another sperm. If all that matter were used to create a sperm on the same plan and from the same process as sperm A, would it be sperm A? We might wish to require that it be produced at the same time and location as sperm A. But as things stand at this point in the sorites, the production of sperm A_a still occupies the point in space and time where sperm A was created in the actual world. So let's move the production of sperm A_a out of the way, and to make the argument as convincing as possible, let's do so using the same sort of sorites argument that we just used on the atoms, rather than just giving it a single blunt shove, even though I think most people would find a blunt shove just as plausible.

If sperm A_a had been created one tiny increment to the side, perhaps a Planck length, would this tiny change in location of production have caused it to become a sperm that would not have produced you, or would it still have produced you in that case? I think we should be inclined to think that it would have, for all the reasons we've covered in regard to the atoms, but mostly just for the reason that we would probably think that anyway in the absence of philosophizing. This is, after all, the way we treat inanimate objects. Whether I build this Ikea chest of drawers in my living room or my kitchen, we have no trouble saying it is the same chest of drawers. Whether a craftsperson drags the log from which to cut the lumber to produce a desk here or there, it will still be the exact same desk if the wood is the same. Probably even whether the builders of the Empire State Building built it on that block or another, we would still call it the same building if it had been made of the exact same plan and with the exact same materials. And so too, I think, for location of creation of a gamete.

And so, if you believe that had sperm A been created one Planck length away from where it actually was created, then you would still have come into existence from that sperm, then by extension you must believe that if sperm A_a , which from the matter sorites you believe would have produced you, had been created one Planck length away from where it actually was created, then you would still have come into existence from that sperm. This sperm we'll call sperm $A_{a,1}$, where the "a" subscript still means "all atoms different" and the "1" subscript now means "one unit of space over", whatever that might mean. So from here, we can go to sperm $A_{a,2}$, sperm $A_{a,3}$, sperm $A_{a,6008264}$, etc., until we get to sperm $A_{a,t}$, where "t" means "totally different location". And this sperm $A_{a,t}$, we now must conclude, would still be a sperm that produced you were it to fertilize ovum A. It would be absurd to postulate an arbitrary cut-off point between the location of creation of sperm A_a and the location of creation of sperm $A_{a,t}$ where a change of one Planck length of distance (or whatever) in location in creation would have caused the difference between it being a sperm that created you and one that did not, whereas no other change of location in the entire process did.

What is this location denoted by the "t" subscript? To do this thought experiment in the tiniest steps and make it most plausible, it should be far enough away that we can conceive of it being causally isolated from the original location of creation of sperm A (and sperm A_a). This stipulation is not necessary, but it will be helpful to keep things simple. Fortunately, the actual facts provided by reality make this easy enough to do, obviating the need for an argument that merely being conceivable in principle would be sufficient (which I was prepared to provide). In humans, sperm are created in seminiferous tubules, one of which is 50–60 cm long. A sperm can be created

continuously anywhere along the length of one of these tubules. I should think that a separation of even 1 cm between the location of creation of sperm A and that of sperm $A_{a,t}$ would be more than sufficient to believe that the two could be causally isolated from each other during the stretch of time in which they are created (recall that, after they are created, our current belief is that they could interact all they want without changing the fact of "who" would come into existence if they fertilized ovum A). But you can separate them by up to 60 cm if you like. The total length of all the seminiferous tubules is 300 m, but since these are not continuous, it would take more work to make a convincing argument of the plausibility of a sorites (though I think such an argument would be successful), so we'll stick with the 60 cm for the time being.

With this process completed, we can get down to the question I want to ask. Sperm $A_{a,t}$ was created of different matter in a causally isolated location from the location of creation of sperm A, and through a step-by-step process of changing one tiny detail at a time about its origins, we have been led to believe that sperm $A_{a,t}$ would take part in producing you if it fertilized ovum A, just as every possible sperm between sperm $A_{a,t}$ and sperm A would have. But in this very same universe in which sperm $A_{a,t}$ exists, all of the matter from which sperm A was created in this actual universe we are living in now is free. There is no particular specification of what that matter needs to be doing or be involved in in the universe in which sperm $A_{a,t}$ exists. It could be on the moon, or somewhere else in your father's body. Or it could be put into the creation of a separate, numerically different sperm from sperm $A_{a,t}$, without changing a single thing about sperm $A_{a,t}$. And in fact, of course, it could be put into the creation of a sperm at the same location and at the same time and of the same plan and from the same process as sperm A; in other words, it could be used to create sperm A, in the same universe in which sperm $A_{a,t}$ was created; in other words, sperm A and sperm $A_{a,t}$ could co-exist. And this results in a seeming contradiction: two rival claimants to being the sperm that would produce you.⁴⁹

There is still, of course, only one ovum A. But it is perfectly clear that all of this argumentation also applies to the creation of ovum A, all those many years before these events, back when your mother was an embryo. Thus, we could also have an ovum A and an ovum $A_{a,t}$ in the same universe as each other and the same universe as the sperm A and sperm $A_{a,t}$. And so, setting aside the idea of cross fertilization here (for example, sperm $A_{a,t}$ fertilizing ovum A), which produces an intriguing question on our original beliefs in the gamete-dependence claim but which we will soon see to be irrelevant, we have a possible situation in which sperm A fertilizes ovum A, which we feel certain would produce you because that's what happened in reality, and sperm $A_{a,t}$ fertilizes ovum $A_{a,t}$, which we additionally believe strongly would produce you, because it is implausible that one tiny change in matter or location would cause a gamete to switch

⁴⁹ You might question whether it would still really be sperm A in this situation, being that there is a difference in this universe, the creation of sperm $A_{a,t}$, from the way things actually happened, i.e., a difference from universe A. But look at it from the perspective of sperm A. Start by considering the world exactly as it was when sperm A was actually created: no sorites, no sperm $A_{a,t}$; just the facts that actually did obtain in reality in our universe when the sperm that produced you, sperm A, was created. Here's a series of questions to consider: would it still be sperm A if, during its production, something microscopically different had happened on Alpha Centauri than what actually happened in universe A? Would it still be sperm A if something microscopically different had happened in your father's neighbor's house than what actually happened in universe A? How about something microscopically different in the hairs of your father's head? I think the answer to all of these should be yes. The important point is causal isolation. And so too then of something microscopically different happening, whatever it might be, 60 cm from the production of sperm A, including the production of a physically identical sperm. And, as I said, I think causal isolation can likely get much closer than that, but 60 cm will suffice.

from being one that would produce you to one that would produce someone else and not you, and even if that were the case, which tiny change would make that difference would be arbitrary anyway. So we have two candidates for who you would be in this single universe: person A, or person $A_{a,t}$.

This is a problem. You cannot be both of them. The term for this situation, when two things can exist at the same time in the same universe, is compossibility. Gametes A and gametes $A_{a,t}$ are compossible with each other, and therefore human being A and human being $A_{a,t}$ are compossible with each other. And so it is a problem that we think they should both be you. If they are there, in the same room, looking each other in the eye, you cannot be both of them. I'll call this the problem of compossibility.⁵⁰

It may seem an impossible problem to overcome. We may seem stuck permanently in a paradox. But I believe we already know how to answer this problem, using concepts we have had in our possession for many decades already. We deal with this in the same way we deal with the split-brain problem.

⁵⁰ Forbes (1980) discusses this thoroughly, but as in his commentary on Kripke I mentioned in a footnote in Chapter 2, Forbes topic is the identity of human bodies rather than personal identity/existence, although I must wonder if he doesn't subconsciously slip into thinking the conclusion to one applies to the other. I'm sure some of his readers did.

4.2. Dividing Consciousness

4.2.1. Split-Brains

The possibility of dividing a brain into two is one of the most worked-over problems in the philosophy of personal identity, of which the philosophy of personal existence in this book is a part. It was first introduced in the 1960s. It rests on a couple of facts and a couple of intuitions.

Let's talk about the facts first. As most people know, the brain is divided into two hemispheres or halves, a right half and a left half. Each hemisphere is composed of billions of neurons crammed closely together communicating with each other through synapses, a gap over which electrical or chemical signals pass. In contrast, the hemispheres are connected to each other not through synapses but through a net of fibers called the corpus callosum. Because of this connection between the hemispheres, we experience our consciousness as one whole single thing, a single self or single existence. However, experiments have shown that, if this net of fibers in the corpus callosum is cut, severing the connections between the two hemispheres of the brain, then something like two centers of consciousness can be produced in this one human being. (This is a procedure that is performed in cases of extreme epilepsy when other less extreme solutions have failed.) Though the person may continue to function generally like a single whole in day-to-day life, in some situations it can seem like there are two people "inside" there. For example, if you place a barrier between such a person's eyes, such as piece of cardboard perpendicular to their face, and then show each eye a different image, the person can only verbally report on the image the right eye is seeing, because the right eye is connected to the left brain hemisphere, where most people's speech control center is located. Yet the person's actions still indicate that they see the object in their left field of view. They just can't talk about it. Further, the person's body is still being controlled by both hemispheres. One man was reported to have grabbed his wife unkindly with his left hand, while his right hand came quickly to her aid and pulled his left hand off of her.

There is much discussion on how to interpret these results, about what we should say is actually going on subjectively inside the human being, and about the experience of being such a human being. All this is fascinating, but the splitting of consciousness in a single human being is not the direct point I want to make here, so I won't discuss this further. I bring it up to let you know that there is already empirical research on the independence or possible independence (under the right circumstances) of the two brain hemispheres, to ease you into my next claim.

The most important fact for our purposes is this: it has been found that a human being can survive and be conscious and function more or less normally with just one hemisphere of their brain. The other hemisphere may be inactive, or absent completely. In some cases, a person may be born with only one hemisphere functioning. In such cases, it may not even be noticeable; the brain is so plastic and adaptable that the one half may develop to perform the functions that both halves do in most people. Discovered cases of this are rare though. More is known about hemispherectomies, where one hemisphere of a brain is surgically removed. (As with corpus callosotomies, this is done to treat epilepsy when other options have failed.) Nothing is put in place of the removed hemisphere in the person's skull; it fills with cerebrospinal fluid within a few days.

A person who has had a hemisphere of their brain removed will likely exhibit some reduction to their cognitive abilities and functioning. In the terms I've introduced, this would be a reduction in the *content* of their minds or lives. The reduction to this content tends to not be nearly as drastic as you might think though. Most people who undergo this procedure live and function within the range of what we would consider normal for human beings, with mostly the same abilities and memories and everything else they had before the removal.

These are the facts. The question for our purposes then is, what about their personal existence? Does a person continue to exist after a hemisphere of their brain is removed? In other words, does the "person" inside continue to exist, the personal existence, or it as though the person they were before died and a new person came into being? It seems to me that this is barely a question. There is no reason to think it is not the same person. I only ask the question to be as careful as possible. But, as we know, a person goes through many changes in the content of their life, and we think that the person survives these changes. It is only on the death of the human being, and the consequent death of the *whole* brain, that the person ceases to exist. Half-brain survival is survival much like every other kind of survival with changes to content. If you had a hemispherectomy, you would think you existed before and after the procedure, and everyone who knew you would think the same.

So that is one intuition, barely debatable. There is another intuition we have about ourselves, slightly more debatable but not by much: if your brain—your whole brain as it is now—were taken out of your skull and transplanted into another body (let's say a body similar to your own but not identical to keep things simple), then you would survive this procedure, and would "go" to that new body. You would be that other human being. You would get a new body. You would exist in that new body. You would wake up from this surgery and look down at your new hands and look in the mirror at your new face. Our intuition is that our personal existence travels with our brain.

So now we can put this fact (a human can survive more or less normally with half a brain) and these two intuitions (you would continue to exist as/with half a brain, and you move to wherever your brain goes) together to get to the puzzle I want to present. Consider these three cases:

(Case 1) If one hemisphere of your brain dies, the right let's say, then you will continue to live and have a conscious existence based just on the functioning of the left hemisphere. If this left hemisphere is then transplanted into a new body (a second body) identical to your original body, you will continue to exist from that left hemisphere in that new body, just as if your whole brain had been transplanted into a new body.

But, what if:

(Case 2) Your whole brain is functioning, and it is removed from your body, but before it is transplanted into the new body, the two hemispheres are split from each other, and the right hemisphere is destroyed? The result is the same as in Case 1: just your left hemisphere is placed into a new body. It should not matter whether the right hemisphere died while still attached to your left hemisphere in your old body, or after it was detached outside your body. You should therefore believe as you did in Case 1, that you will exist in that new body, just off the functioning of your left hemisphere.

So now, what if:

(Case 3) Your whole brain is functioning, and it is removed from your body, and the two hemispheres are split from each other (the same as the previous case so far), but instead of the right hemisphere being destroyed, it is transplanted into *another* (a third) body identical to the one in which the left hemisphere was placed? From the point of view of your left hemisphere, what happens to the right hemisphere after splitting should not matter. So, if you become Lefty in Case 2, then you should also become Lefty in Case 3.

But here we have the problem, because this exact same story could be told from the perspective of Righty, and we would conclude that you should become Righty in Case 3. There are competing claims for who you will become in Case 3. Like the A gametes and the $A_{a,t}$ gametes, Lefty and Righty are compossible; they can exist in the same world.

So what actually happens? You should think about this in your own first person case. Do you wake up at all after the two-hemisphere transplant? And if you do, which person are you? There are differing opinions on this, and some very detailed reasoning given in support of the opinions. But I think the answer is quite simple. First, I do wake up. I do not cease to exist. The thing I want continues to obtain. If just Lefty is transplanted, then I wake up as Lefty. If just Righty is transplanted, then I wake up as Righty. But if neither hemisphere is destroyed, this is clearly not worse for my existence than if one or the other is destroyed. If both are transplanted, this clearly is not worse than if just one is. I do not cease to exist when both are transplanted if I did not cease to exist when just one or the other was. As Graeme Forbes (1980) says, if you believe that you would not be either person if both were transplanted into respectively new bodies but that you would be Righty if only the right hemisphere were transplanted and the left hemisphere destroyed, then, upon waking up as Righty in the latter situation, you could say, "Thank goodness the other half brain was destroyed, otherwise *I* wouldn't have existed". This seems to be a pretty untenable belief. Why not say the same thing if just your left hemisphere ceases functioning while your brain remains inside your own (current) head? "Thank goodness the left hemisphere of my brain just died, otherwise *I* would have ceased to exist." Our left hemispheres do not cease to exist every moment of our lives, yet we still feel we continue to exist, still what we want obtains moment to moment. The situation of a transplant should be no different.

And so, this is what I claim actually happens when both hemispheres are transplanted into respective new bodies (and this is the intuition on which everything else hinges): I experience waking up as one or the other, but there is no answer to the question beforehand of which I will wake up as, or afterward of why I became that one rather than the other one. There is no logical or metaphysical fact to be discovered; the lack of an answer is deep and fundamental and incontrovertible. There is no answer to the question of *which one I will be*, there is only an answer to the question of *who I am now*, both before and after the operation.

And it is not the case that I am one after the operation more than the other. Both people after the operation will have the same memory of going to sleep as Joe and waking up as the person they are, Righty or Lefty. Righty wakes up from the operation and thinks "I came from that body and moved into this one." Or, "The result of the transplant was that I became this person." Lefty thinks the same things: "I came from that body and moved into this one" and "The result of the transplant was that I became

this person”. Each thinks they just *are* Joe, and the fact that there is a rival claimant doesn’t affect that feeling (though it may cause them to reconceptualize it.)

In fact, the question of “who I am” is the wrong one to ask. (This point calls back to some of the things I discussed in Chapter 3.) It is not a question of identity, of which person my present self will be identical to. It is, as I said in Chapter 3, simply a question of whether you exist, whether the thing you want obtains, at different points in time. We simply ask the question of existence for different points in time. Did I exist then, before the operation? Yes. Do I exist now (does the thing I want obtain), after the operation? Yes. If you reframe the question this way, you see that these are all the facts you need to know.

As I said, this split-brain thought experiment is already well-known within philosophy. For those who know it well and are comfortable with it, I think I’ve made my point as well as I can, and am ready to move on. But I think it will be astonishing to many people who have never encountered it before, and possibly unbelievable. For most such people I think it will require a long time of meditating upon it for it to sink in and to become acceptable (it did for me), and possibly a lot of further study. Really living with it in your own first-person case is the key to understanding why there can be no answer to the question of which person you will become, both in the split-brain problem and in the other cases I will examine shortly, and this is essential to my overall conclusions.

In my own case, my first exposure to the split-brain problem (in Derek Parfit’s *Reasons and Persons*) was a shock. I felt compelled to believe it, but felt a lot of resistance because I didn’t want to believe it. I think my nascent philosophizing at the time hinged on the unstated premise that there was something like a soul and that it had an irreducible unity, was indivisible. So it took awhile to accept. It was not an easy thing to fold into my beliefs about myself, and I think it wouldn’t have been even if I hadn’t had any resistance to it. It wasn’t just a desire not to believe; it was trouble just conceptualizing it. It took many years for me to really become comfortable with it, but now I am.

I cannot give you all the time and resources you would need to reach this point, but I’d like to try to give you a little help in wrapping your mind around it, as it were, to see that it is possible, to conceptualize it in your own case, and to understand what I claim would happen if it were done to you.

One trick I’ve found I’ve been subconsciously using is to try to imagine a splitting of, not my brain per se, but just my consciousness, and it happening while I’m still awake. The splitting of consciousness can be imagined purely conceptually, without having to imagine a specific procedure such as brain surgery to produce it. I imagine I am looking straight ahead at any random thing, and seeing that thing as a unified single object. When the splitting begins, it starts with a sort of lateral double vision. I begin to see two instead of one, their outlines overlapping in my field of vision, just in the way we experience normal double vision. And then very quickly after that, the double image resolves into the right-hand side image one and I and the image begin to move to the right. After a certain distance is reached I can turn to my left and see, from the outside, another “me” having the same experience, and moving away in the direction of what was originally our left. It is easiest to imagine a whole qualitatively identical body for both of us, since there is no other available visual representation for seeing another “consciousness” from the outside, let alone recognizing it as your own (or, more accurately, having split from your own). But the body would just be a conceptual stand-in for consciousness itself here.

And so, as I see this other me, this Lefty, moving to our original left, I can simply know that that person had basically the same experience I just did. He and I were the same person, the same single unified consciousness a moment ago, the same single “I”, and he and I both (which was just I at that moment) experienced the “double-vision” effect, but he experienced it resolving into just the single left image and himself moving to the left. There was only one person, one “I” before the resolving, and after there were two. I could just as easily re-imagine the splitting from the beginning, and imagine instead myself going to the left instead of the right. It would be an equally correct way to imagine it, and equally correct description of what actually happened. It would be equally true. And so there is no answer to the question of whether I, before the split, would become Lefty or Righty. I became both. And there is no answer, even in principle, to the question of why I as Righty after the split became Righty instead of Lefty. There is no mystery about it. The split brain allows us to see that it is just a primitive fact about how consciousness and existence function.

This is just a schematic way to imagine splitting of consciousness. It is not meant to reflect the actual way it would happen, if it is possible at all (surely it is at least physically possible, even if far too complex to perform) and if it is possible for it to happen while a person is awake. For one, it seems likely that there would be no period of “double vision”. Probably you would just experience, in this schematic imagining, moving to the right or left. But I think imagining the double vision is useful stepping stone toward conceptualizing consciousness splitting.⁵¹

4.2.2. Identical Twins, Free Will and Self As The “Driver” Of The Body

4.2.2.1. Identical Twins

With this conceptual understanding of what it would mean, or would be like, to go from being one person to two, the next move is to point out that this concept can be applied not just to a person in midlife, but can be applied at any point in their life, all the way back to their origins. Here we leave behind brains, because there is not yet a brain at a person’s origin in gametes or a zygote, and just consider the splitting of an “I exist” or the potential for an “I exist” as a general concept. The easiest way into this is to start by considering a type of splitting that actually occurs in reality all the time and that we are forced to contend with whether we want to or not: monozygotic (identical) twins and multiples. I’ll focus just on twins to keep things simple. Unlike the gamete pairs A and A_{a,t}, this was already a mystery begging for an explanation to anyone who thought about it (as Dawkins and Jim Holt acknowledge in their quotes on the gamete-dependence claim in Chapters 1 and 2).

Consider first the situation for most of us, not being a monozygotic twin. (If you are a monozygotic twin, you can imagine that you aren’t, or that your zygote after the

⁵¹ This conceptualization reflects a prejudice we have for vision. When most of us think of consciousness we mostly think of being conscious of images. But many people are conscious without having access to images their brain has created from the light information collected by their eyes. Many people, in other words, are blind. There is good reason to believe that the blind construct images through other senses just as sighted people do with light (or at least that they are capable of it, though perhaps not all do). I’m thinking in particular of representations of three-dimensional space the use of through sound, as bats do with echo-location. (See This American Life Episode 544: Batman, Jan. 9, 2015.) But putting that aside, I think we can imagine a splitting of consciousness without any images in our mind, but rather just during the occurrence of for example a pure sound experience. Perhaps music, or even just a single tone. And this could be done with smell and taste too, and perhaps even touch.

split could have split again.) Sperm A fertilized ovum A, and zygote A was created and developed and became one person, person A, you. But now think, in your own case, what if zygote A had split and become two people? Would you exist right now? If so, which person would you be? Some people believe that they would not exist right now, but rather that two new people would. I think this is obviously wrong. It is a glib answer to the paradox and too great a sacrifice to make for something that seems so minor, multiplying potential existences beyond what we would intuitively believe just to dispense with a problem we find discomfiting when we think of it, much like the A_1 -X belief does. More to the point, it doesn't harmonize with how strongly people believe the gamete-dependence claim, that those gametes and those gametes alone definitely did contain the potential for their existence as long as they joined to each other. And now, considering the split-brain problem in our own first-person case gives us an easy way to conceptualize the right way to think about it. Had zygote A split, you would be one of the resulting people, but just as in the case of Righty and Lefty, there is no answer to the question of which person you would be. But, most importantly, you would not *not* exist in that case. A splitting zygote does not cause one person to cease to exist and two others to come into existence. It just splits what would have been one person into two people, just as the split-brain problem does.

If you've already accepted the results of the split-brain problem, then this conceptualization of a splitting zygote should be quite easy to take on board. What comes next might be more difficult.

Consider now a second situation, where you *are* a monozygotic twin. Even if you are not an identical twin, imagine that you are. You have an identical twin living in this world now, sitting right across from you in fact. The question you might ask yourself is, if zygote A had not split, would I exist and he/she not exist, or would he/she exist and I not exist, or would neither of us exist? The answer, I propose, is that neither of you would not exist in that case. You would both exist as person A.

This is likely to be much more difficult to accept than the first situation for several reasons. It seems to leave us with several people, or several wills, trying to operate one body. This makes us, our "I exists", fundamentally seem like passive entities locked inside a body, which is kind of horrifying, and we might wonder what sense we could make of justice and free will if this were true.

These supposed problems are not insurmountable though, because they follow from an incorrect foundational belief about existence and the self. Let's look at what this is.⁵²

4.2.2.2. Self As "Driver" of the Body

I have affirmed that believing that you exist is the correct belief. There is sense to be made of the idea of existence, independent of the specific content of a brain or life. Though this is true, there is a danger in taking this idea and drawing unsupported conclusions from it, things that don't necessarily follow.

One such wayward idea is that you therefore must have a self that is a non-physical thing. This is Descartes argument. He decided to search for the one thing he can know for certain, that it is impossible for him to doubt. He arrives at the fact that

⁵² "Self" is a new term in this book, one which I have deliberately avoided using it up until now, and I'll explain why in a footnote at the end of this section. Here I want you to consider the following with only your intuitive pre-analysis sense of what your "self" is, much like I did for "person" at the start of Chapter 1.

he exists, that he is a thinking thing: *cogito ergo sum*, I think therefore I am. He then observes what this existence, this thinking thing, consist in, and he concludes that it is an “unextended” object, meaning it takes up no space. From this he concludes that it must be a soul.

In Chapter 3, I affirmed Descartes’ contention that the one thing you cannot doubt is that you exist. However, the conclusion that you are therefore a soul does not follow inevitably. Descartes has had critics pointing this out from his time up until the present. But let me just point out that if there were a soul, in the Christian sense in which I learned it at least, it would cause problems for much of what I have discussed in these sections on consciousness splitting. In fact, confronting these arguments about consciousness splitting is one of the things that forced me to relinquish my belief in the soul. The arguments forced me to believe something I did not want to: that what feels to me like my own indivisible consciousness or self or existence could in fact be divided. My soul, on the other hand, would be inherently indivisible, if I were one, on my original belief that I was an individual created specially by God, a specific entity he knew and cared for. This belief about my soul is something I vaguely held onto even after I relinquished a particular and definite belief in the Christian God.

However, there are, of course, other notions of a soul in other religious and spiritual traditions that wouldn’t be so difficult to keep amid these revelations about the divisibility of consciousness, such as a universal soul or spirit. For this reason, the idea of the soul isn’t actually the essential problem in the cases under discussion, the claim that two people might have been one had things gone differently. The essential problem is *will*, the belief that the self is the driver of your actions. This is a belief you can hold whether you believe you are at bottom an incorporeal spiritual being like a soul or just a bundle of matter. The belief is that a person’s self, this fundamental locus of their being, the thing they are talking about when they say “I exist”, the thing that they in fact think they *are*, makes the decisions and tells their body what to do, such as “move my left arm” or “help that person who fell down” or “steal that bike”. In the modern world, where many people no longer have a particular commitment to the belief that they are a soul, this is the real wayward, unsupported idea that people vaguely and unconsciously think must follow from the fact that they exist.

Along with this belief that your personal existence is the locus of your will—a conjunction of the two is what I’m calling “the self”—often comes the belief that this thing, this personal existence or self, is the thing ultimately *responsible* for a person’s actions, and should be the subject of reward and punishment. This may be true for some people who don’t believe in a soul, but it is especially true for those who do believe in a soul. Believers in a soul often hold that reward and punishment come (or continue) into the afterlife for this soul. The soul or self goes to heaven or hell, or is reincarnated as a “higher” or “lower” being, and thereby experiences its just deserts. It is perceived in fact, often without explicit statement, that there *must* be such an entity for the notion of responsibility to make any sense at all (and again, this goes for soul or no soul). There can be no reward or punishment without some single entity that is ultimately responsible. When, for example, we find out that some physical feature of a brain might be construed to have some responsibility for a person’s actions, we often feel that this takes some of the responsibility off of this self or soul and places it on a merely physical feature that this self or soul perhaps had little or no control over, and this mitigates some people’s feeling of placing blame on the “person”, by which they mean the self. In other words, the person *is* the self or the soul; the rest is a mere human body.

We can see then how this belief in an essential self would be problematic for the idea that two people could have both existed as one person had things gone differently (had a zygote not split, in the example under examination). What sense can we make of justice or free will if two or more of us who exist now, two or more of these essential selves driving the actions of a body, making decisions and taking responsibility for them and hopefully getting their just deserts (good or bad) for them, could have been one person, could have, rather than being given each their own human body, been given just one? This is a problem even in the case of identical twins we are considering here, even though twins often share beliefs and have similar moral codes. We can imagine a worst-case scenario for example where my twin has done something that I find repugnant while I have taken pains (and made sacrifices) to live a good life. Should I conclude that, had we been one person, I could have possibly been “forced” into doing this thing, or dragged along as this other self occupying my body did it, or overruled my resistance? We might wonder what is the use of trying to live a good life, or what the term “trying” might even mean. And would I then have to accept being locked in this body receiving whatever punishment was meted out for this deed, even though I myself never would have done it if I’d had my own body? This is not a pleasant thought.

This is rather dramatic, but we need not consider such extreme cases in order to be confused or unsettled. It just seems like there would be two competing drivers, two competing wills, under the imagined case of an unsplit zygote in an alternate universe. We can simply imagine a left side trying to go one way and a right side trying to go another, each under control of a different one of the selves, for example. Or the two “selves” trying to move a single arm in different directions. This is what the scenario seems to demand.

Yet, this is not what happens in reality. We know this because every person is a non-split zygote. Even for twins who are the result of a split in a zygote, their resulting zygote could have split again. And so, if this was the correct way to look at it, then every existing person would have two, three, a hundred, in fact an infinite number of selves “inhabiting” their mind, as there is in principle no limit to how many times a zygote could split. But this isn’t what happens. Everyone experiences essentially one will, or at least one will at a time. Everyone has a single unified self.

The answer to this puzzle is just that self as driver and decision-maker of the body is not the correct belief. The correct belief is that though there is in a sense a self, because you do indeed exist, and this is a clear and distinct difference from not existing, this self does not control or drive anything. In my formulation I would say it just *is* personal existence.

What drives our actions is not this conceptually separated “I exist” that I’ve been talking about, but the actual content of our mind—memories, beliefs, desires, etc.—as physically embodied in our brains. Your brain drives your body. There is nothing else that does it.⁵³ And so, the person that results from unsplit zygote A will have one brain and one driver, even though two brains and two drivers would have been created if it had split, and even if the two existences created in that split are contained in that one existence created by the unsplit zygote.

This view makes the “self” or your personal existence seem like a passive entity locked inside a body, with no power, just observing. This makes existence itself like

⁵³ Strictly speaking, sometimes parts of your body drive your body without your brain’s input, but I’m being rhetorical here.

being a prisoner. This is, as I said, horrifying. But this is making too much of the self, as though it were an entity of separate creation from the brain and content. All there really is to us is the physical brain and its content. Our sense of personal existence or of being a self arises or emerges from this. Personal existence is a real phenomenon, and so we really do exist, because we experience that we do exist, and we believe this is different from the case of not existing, which we believe could occur even if the exact same content obtained in a person in the same time and place (the perfect doppelgänger thought experiment). But it is not an actual separate object. It is a separate concept we have. But the reality underlying it is just that it is an aspect of this brain and this content; so complex have they become, have the interactions among their parts become, that a self or consciousness or personal existence emerges from them. It is a real thing, but it is not a passive separate thing from the brain and content that are doing the actual work. It *is* those things too, or an aspect of them, an experience of them. So there is no passive entity under that just observing what the brain drags it around doing. There is no dragging. There is just a brain, and the brain is who we are. The self or personal existence is something we've discovered arising from that, an aspect of that, a concept we find useful to wield because it does some work—has some function in our conceptual universe—that just the idea of a brain and the content of that brain do not do on their own.

Does this feel like a cheat to you? Like I am skirting the issue? I can see your point. This reasoning isn't all as conceptually crystal clear or satisfying to me as other things I've explained in this book. But when I plumb the depths of my thinking to try to discover how I resolve these issues for myself, this is what I come up with. What matters here is that it is the brain, and the content of the brain, that makes the decisions. The self that we identify with that appears to be making the decisions is what has been called the “user illusion”, the illusion that there is a separate entity, a user, operating the body, rather than just the brain and all of its content.

I'll give you a classic example of a demonstration of the user illusion, the readiness potential.⁵⁴ It is an old example, coming from work published in 1964 and 1985, and well-known among those familiar with the field, but it is another of the handful of results or ideas I've encountered in my life that forced me, against my will, to completely reimagine what I took myself to be, so I'd like to share it for those who aren't familiar.

The readiness potential is the fact that any action we take is preceded by brain activity, meaning increased electrical activity in the brain as measured by electroencephalography, or EEG. This of course must be the case, but what is surprising is how long it takes. In 1964 it was measured to be almost a full second—0.8 seconds on average, but sometimes more, sometimes less. Consider what this means: pause for a moment to consciously perform an action, such as flexing a finger, the action in the original experiment. Did it *feel* like your brain was preparing to perform that action nearly a full second before you did it? Surely not. It feels like you move your finger precisely when you decide to, or maybe a tenth of a second before you move it at most. But that cannot be the case if your brain is preparing to perform the action almost a full second before you do it. Your brain actually decided to perform the action before your *self* did.

⁵⁴ Or Bereitschaftspotential in the original German of the researchers who found it, Hans Helmut Kornhuber and Lüder Deecke, which is often the term used in English as well.

Of course, there is bound to be a lag between when you decide to do something and when you do it. So we should really measure the time difference between the readiness potential and the decision, not the action. An experiment performed in 1979 (published in 1985) by Benjamin Libet attempted to do just this. He reported that the increased electrical activity associated with an action—flexing a finger again—happens 0.35 seconds before a person decides to take the action, on average. He was able to measure the moment of decision so precisely by having the subjects look at a spot on a screen that revolved like the second hand of a clock, but one time every 2.56 seconds rather than every 60 seconds. After the subject flexed their finger, he asked them to pinpoint where in the circle the spot was when they made the decision. Or more accurately, when they felt the “urge” to flex their finger, as Libet put it in the original instructions. This, coupled with an EEG and a measure of the time at which the finger was flexed, gave Libet three numbers: the start of the increased electrical activity, the reported time of decision, and the time of the action. These three numbers yielded the 0.35 seconds on average between electrical activity in the brain and reported time of action.

Some think these results are not definitive. One can dispute that a moment of decision or urge could be so precisely pinpointed. Further, it has been pointed out that the experimental constraints do not exactly match our everyday experience of making decisions; the subjects have no reason to move their finger at one time or another, whereas in everyday life almost all of our decisions are prompted by reasons. In experiments testing volitions with reasons behind them, the time lag seems to vanish.⁵⁵

Nonetheless, I find this all disquieting. It *seems* to be a fact that my brain can begin the neuronal firing required to perform an action well before I feel like I’ve decided to do it, under some circumstances at least. And this isn’t just for reflex responses like flinching when I see something come at me out of the corner of my eye. This is for decisions I calmly and consciously make that I am certain I am in control of. But I am not in control. My brain is.

This can be a disturbing thing to learn. It was for me. The solution to this—to continue living a happy life undisturbed by this—is to not identity yourself with just your self or personal existence. Identify yourself with your brain and the content of your life as well. Then it really is you that is making those decisions. It is all of you, brain, content and personal existence.⁵⁶

⁵⁵ My introduction to the readiness potential experiment and to Libet’s follow-up experiment was in Tor Nørretranders’ *The User Illusion*. It is quite old now, having been published in 1991, but Nørretranders is an energetic and conversational writer who nevertheless has tight arguments and thorough research, so I recommend it to anyone interested in the scientific and philosophical relationship between consciousness and the brain that is averse to the dry academic versions of these topics. If you want to follow up on more current research into this and the disputes with Libet’s results, the Stanford Encyclopedia of Philosophy’s article on Agency is a good start.

⁵⁶ The term “self,” like the term existence, doesn’t have a fixed meaning in our language, or the same meaning for everyone. Sometimes, like existence, it might mean a human body, other times just pure personal existence, other times still one or both of these things with content mixed in to some extent or another. There isn’t even a fixed meaning among philosophers or other members of the intelligentsia such as psychologists, as Galen Strawson found when he solicited comments on his paper called “The Self”:

I am most grateful to all those who commented on “The Self”. The result was a festival of misunderstanding, but misunderstanding is one of the great engines of progress. Few of the contributors to the symposium on ‘Models of the Self’ were interested in my project: some...were already highly sceptical about the value of talk about the self, others were committed to other projects centred on the word ‘self’ that made mine seem irrelevant at best and many worse things besides. Large differences in methodological and terminological habits gave rise to many occasions on which commentators thought they disagreed with me although they had in fact changed the subject.

4.2.2.3. Free Will

Perhaps our most visceral objection to this idea is what it does to the concept of free will. We already sometimes give people a pass when we find out that some problem or another in their brain caused them to do some act we condemn. It wasn't their fault; given the way their brain was at the time, they couldn't have done otherwise. But if we dig down deep enough, we begin to find that this excuse can be used for any action, and is in fact true for every action. If there is no self that is at bottom essentially that person, but only a brain and content, yet we still want to on occasion give people a pass if we feel they could not have acted otherwise given the circumstances, then the question becomes, where do we draw the line between brain content that makes the whole person responsible and brain content that does not, and why? The answer is that there is not an absolute rule we can discover and apply universally; we simply judge each situation based on the factors we know and weigh which are important to us. Ah, but isn't everyone making the judgment and weighing factors also subject to the same brain determinism? Could they learn and understand and weigh the factors, and then form a judgment, any different given the state of their brain at that time?

And so it goes, on infinite regress. I don't have the answer on what to make of free will. I'd like to have free will, and it seems like for all practical purposes that I do, but if I analyze it reductively I cannot see how it is possible that I do, or even what free will would mean. I find this bothersome, so I try not to think about it too much. I continue my life with a vague notion that, though I cannot find free will on reductive analysis, the fact that I experience myself as having it is enough.

The one thing I hold onto is that, if my freedom of will, freedom to make choices, comes from the content of my life, then my goal should be to attain as wide a variety of content as I can, in other words, as much information as I can and as many concepts as I can, to increase the number of real choices that that will has, and therefore its freedom. This is my conception of freedom, the best freedom I can find I have. And there is a magic multiplier concept that we can acquire that exponentially magnifies our potential for freedom: the concept of *knowing we can acquire more concepts*. If you take this one on board, your sense of freedom enters a whole new realm. And perhaps, like existence itself, the sense of freedom is all we really need.

But I know this is in some sense a cheat as well, another dodge of the real issue. Every purported solution seems to me to do this. What we want is to find freedom of the will at some fundamental level, not a redefinition of freedom so that it fits something we find we really do have. I like Daniel Dennett's conclusion in his books *Elbow Room* and *Freedom Evolves*, that we have all of the "freedom that is worth having," and in fact all the freedom it is conceivable to have. In other words, if we look closely at the concept of free will we wish we could have and mourn the loss of when we learn the real nature of the world, it is logically incoherent. It makes no sense. It couldn't exist,

The term "self" performs many functions then. Strawson adopted it for his paper and kept it for his book-length discussion of the subject, *Selves*; his concept share a lot with my concept of personal existence. One thing that distinguishes the term "self" from my "personal existence" in what the average person might mean by it though is that self contains much more of the idea of will than existence does. When we talk about our existence we need not think of will. But when we talk about our self, it is closer to our identity or what we take to be essential us, and responsible for actions. This is why I adopted it for this section.

any more than a round square could.⁵⁷ These conclusions make sense to me, and offer some comfort, but I confess I don't entirely understand how Dennett arrives at them, though I've tried on several occasions. So I am still stuck with being satisfied with a vague notion of my own freedom.

In the end then, it is probably just a fact that there is no free will as we usually conceptualize it. But if so, this isn't just a fact about my view of the material world, where in alternate realities what are two separate people in our world could have been "together" in one person, it is a fact about the world full stop. My view of splitting and fusing of personal existences doesn't change the facts of free will at all. So free will does not affect my willingness to accept the view I've described here. At most, it makes the already-existing problem of free will more stark, and gives us another reason to be disturbed by it. But it doesn't create any new problems.

4.2.2.4. Brain Hemispheres Revisted: Reintegration

Let me end by giving you a thought exercise to help you imagine yourself and another person becoming one, which will perhaps give you an additional tool to see how "self" and "will" or "free will" operate in a material world. Imagine that in the split brain problem, Righty and Lefty are allowed to each live their lives for, say, ten years after the operation, and then another procedure is performed, whereby each brain hemisphere is taken out of its respective body and they are rejoined and placed together in a single body. They were each separate agents making their own choices for ten years, had pretty well developed identities as individual people, and then they were joined again and once again become one person. At first we might think that there would be two distinct selves each battling the other for control of the new body. But since there weren't before the operation, ten years before this, then we should not think there would be after. It would just be what was once two selves once again becoming one, and two sets of somewhat different content blending into one, being experienced by a single personal existence.

Next, imagine something like this this happening to you. Imagine, for example, that you are one of those people that has been functioning with only one hemisphere of your brain, and that you were not aware of this. Whether you were born this way, or lost a hemisphere through an accident or disease, it doesn't matter. Just imagine discovering right now that for many years you have only had one brain hemisphere. Now imagine that you are told that, previously unbeknownst to you, you have a twin who has only the opposite hemisphere functioning to the one you have functioning, and who is also living a full and normal life. Your twin, it turns out, is pretty similar to you. And soon, your hemisphere and his or her hemisphere will be transplanted into the skull of another body and linked together through a corpus callosum, just as regular brains are. (I can't think of a good reason that this procedure would be performed that isn't unnecessarily gruesome, so just go with it.)

What would it be like to wake up after this operation? The similar but not identical brain content between the two of you is essential for getting a foothold into this thought experiment. The point is to focus on the combining of the two existences into one. The similar content makes it easier to imagine, and less disturbing. But the

⁵⁷ Dennett also argues that determinism, far from being the bugbear of free will, is required for us to have the sort of freedom we would want to have, and that even indeterminism (such as come with quantum mechanics) wouldn't give it to us.

two sets of content must be slightly different so that there is something to imagine being phenomenologically different—feeling different from the inside—when you wake up, so that you know something has changed, something has been added to your subjective experience.

Nonetheless, even with the similar sets of content, the combining of these two selves or existences can be a disturbing thought, as it seems like someone is dying in this combining, because it seems like there must be a loss, since before the operation there were two people, but after there is only one. But who died? Not you, certainly; your operating brain hemisphere is still fully functioning, and you know you still exist. But then, if not you, then not your twin either. Your twin will experience waking up in your body just as you do. But you will not do this separately, as two different entities. It will just be one person waking up and looking down at your body. You may have the thought, in your one single stream of consciousness, that there is another person in there watching (and maybe judging) your every move. But this is not the case. It is just you having that thought. I can tell this tale in the same way to you or your twin before the operation: I can say “it will just be you in there” to both of you beforehand, and I will be correct saying it to both of you.

Yet there is a loss: your recently discovered twin is now nowhere to be found. You cannot talk to him or her and kindle a relationship. So it does seem like you lost him or her. And in a way you really did. You may have gained some subjective content, but you lost a whole person. Yet there was no personal existence lost here. Again, I can tell this same story to your twin in the same way, and he or she would feel the same loss for you. He or she lost his or her twin, but your personal existence didn’t disappear.

So what would it be like? You would just experience waking up as a single person, with memories of two different people. But it wouldn’t necessarily be clear whether a memory was from one person or the other, unless there were an objective marker in your memory. Nor would it be clear whether you know a certain fact because this person or that person knew it, or both of you knew it. It is possible, perhaps even likely, that you would be in some ways a disturbed person—and it seems like this likelihood would increase with increased differences in the content of the original two people. But this disturbed person would still be a single consciousness.

It is all quite eerie, to be sure. It is another thought you can take with you to contemplate over time.

4.2.3. Compossibility and the Gamete Sorites: The Solution

It should be clear now what I believe about gametes A and $A_{a,t}$. Speaking in my own case, we already know that the A gametes will produce me if they are joined. They by definition did. But by impeccable reasoning we have concluded that gametes $A_{a,t}$ will also produce me if joined. What to do? I cannot be both people. The answer is the same as that for split-brains and monozygotic twins: I will be one of those two people, but there is no answer to the question of which one I will be. If the A gametes join and the $A_{a,t}$ gametes do not then I will be the A person. If the $A_{a,t}$ gametes join and the A gametes do not then I will be the $A_{a,t}$ person. And if both sets join, or if they cross-fertilize, I will be one of the two resulting people, but there is no answer to the question of which one I will be, just as in the case of monozygotic twins and split brains. And if we were living in a world right now where there had actually been a set of gametes $A_{a,t}$

that produced a person under the circumstances I've described, I would simply say, at this moment, that it has turned out that I exist as this person rather than that one, as the result of the A gametes rather than the $A_{a,t}$ gametes, and there is no answer, even in principle, to the question of why I am me rather than him. It has *turned out to me* that I exist as the result of the A gametes, just like it turned out *to me* that I became Righty when Righty and Lefty were created in the split-brain problem.

And we can see that the $A_{a,t}$ gametes are actually just one possible production method for the B gametes. In other words, what we called the B gametes in the perfect doppelgänger thought experiment could have been the $A_{a,t}$ gametes. In other words, we could substitute the $A_{a,t}$ gametes into the perfect doppelgänger thought experiment, and arrive at the conclusion that in fact what we thought was your perfect doppelgänger, person B, would not be your perfect doppelgänger at all, but would simply be you.

So we have arrived at a reason to believe, in a purely material universe, that each of us could have come into existence from a different set of gametes, in other words, could have been a different human body. This directly contravenes the gamete-dependence claim, and therefore what most people—including most philosophers and other members of the intellectual elite who think about these things, such as those I quoted in Chapters 1 and 2—believe about personal existence. It is therefore a groundbreaking conclusion.

It is still a limited conclusion though, having to do only with identical gametes created within the vicinity of the A gametes (which means, by your parents). There are still a great many possible origins for the B gametes I haven't yet argued for, and there is the question of non-identical gametes as well. But even in this limitedness, the conclusion so far is significant for another reason: this first step, finding *any* set of gametes other than the A gametes that we could find plausible reasons to believe would have produced you, was the largest barrier in the course of the whole argument. Nonetheless, we have much to add to it yet.

4.3. DNA and Other Parents

We've gotten over the biggest step, finding a completely numerically distinct *object* that we believe could have produced you. This was partly the biggest step because of the power of our intuitions, about tracing our existence by tracing a body through space and time, among other things, and also because, as we saw in Chapter 1, compossibility—when two people we think would be you can exist at the same time in the same world—is one of the most significant reasons we have to believe that only one particular set of gametes could have produced you. But we have found how to overcome the problem of compossibility, how to solve the problem of what to believe when we have two candidate physical beings that we believe both would be you in certain situation, such as monozygotic twins or split brains. Strictly speaking, we have only agreed so far that this step is necessary to take when identical gametes are produced. Having gotten over this biggest hurdle though, the numerical distinctness of the gametes, I could just take the rest for free, could just assume that all of the other criteria for you coming into existence I explained in Chapter 2, notably parentage and DNA, must not matter either. It certainly seems this way, and perhaps you need no argument at this point to be convinced. But I will argue for them carefully anyway, just to make sure. You may find that section 3 has diminishing returns as you move through it, giving more and more detailed arguments for things you care less and less about. I am trying to cover all of the bases here, but many will not need all of the bases covered. Feel free to skip ahead whenever you feel satisfied.

4.3.1. DNA

The next question is, could either of these sets of gametes that would have produced you have had any different DNA sequences than the DNA that they did have and still have produced you? In other words, could you have come into existence with different DNA, either slightly different or radically different? The typical immediate answer from most people is simply no. This belief is foundational. Since sometime after the discovery of DNA it has been taken as a pretty basic and straightforward scientific truth that DNA is the explanation for why you exist (or if not *the* then one of them, and in spite of the obvious trouble monozygotic twins causes). And so different DNA would produce a different person. But in Chapter 2 I showed how, although DNA does answer the question of why a particular human body with a certain configuration exists (or, on broader levels, why humanity or animals or life exists), it doesn't answer the question you are really asking when you ask "why do I exist?" Specifically: we can now see that DNA determines certain things about content, but says nothing about personal existence itself. And so, in light of all this, it seems reasonable to answer this question, could you have come into existence from different DNA, with "sure, why not?"

We might want something a little more tangible than that, though, especially considering how pervasive agreement with the conventional "no" answer is. So let me offer some arguments. I would suggest reading at least 3.1.1, as it offers the most interesting new idea. 3.1.2. and 3.1.3. begin to get more pedantic, with 3.1.3. being more interesting and useful than 3.1.2.

4.3.1.1. The First Argument: DNA is Information

As I explained in the section on DNA in Chapter 2, DNA is different from the other supposed physical criteria for your coming into existence, because it is just information. It is physically embodied information, to be sure, but all information is (must be), and the part of DNA that is important to us is not its physical structure, but the information it is, the instructions it has for making a particular type of physical body. But it is not an object itself. In contrast, parents and gametes are particular physical objects moving through space and time.

Physical objects can be copied, and the copies are just that: copies. They are qualitatively identical, but are not numerically identical; they do not achieve true total “identity” with the original object. No matter how much fidelity the copy has, it is still a different thing. They are separate objects. In contrast, a copy of information such as DNA *just is* that information. For information to be qualitatively identical *is* for it to be numerically identical. A copy of the information is the very same information. Richard Dawkins relies on this point in *The Blind Watchmaker* when he says,

DNA molecules themselves, as physical entities, are like dewdrops. Under the right conditions they come into existence at a great rate, but no one of them has existed for long, and all will be destroyed within a few months. They are not durable like rocks. But the *patterns* that they bear in their sequences are as durable as the hardest rocks. They have what it takes to exist for millions of years, and that is why they are still here today. (156)

This is what we mean when we identify a gene, or say it has existed for millions of years, or some such thing. The information has existed for millions of years, embodied in many different molecules, passed down generation to generation. It is like a song passed down through the generations, not an heirloom like watch or a vase.

Now, consider one of our prime motivations for believing in the gamete-dependence claim, which I mentioned in Chapter 1: we trace our existence through space and time by tracing a physical object through space and time, our human-body object. When we trace back far enough, we come to a baby, a fetus, an embryo, a zygote, and then a pair of gametes. The gametes are created from individual molecules, so they are the last physical objects in that backward chain.

The feature of DNA that is salient to us is not a physical object. It is not even really the content of a physical object. It is the *creator* of content of a physical object. It builds a physical object (a human body in our case) into a particular and unique *shape*, inside and out. That’s all it does. I use this term “shape” to refer to all aspects of the arrangement of the matter of a body, inside and out. This includes the total arrangement of matter of a brain, and so this subsumes even some features that we wouldn’t normally think of as having a shape, such as features of our psychology or personality, since these result directly from the internal “shape” of our brain (and body to some extent). Shape here really means the same as configuration.

But DNA is not the only influence on that shape, of our body or brain. Environment has a huge influence. It influences the shape as it is being built (is every bit as essential as DNA to the body and brain being built at all in fact), and influences the shape as that body makes its way through the world. We’ve already in fact spent a lot of time considering environment as a factor in shaping a human body and brain.

We already believe that what we conceive of as our existence is independent of the content created by your environment. If your parents had moved you to a distance country when you were a child, you would exist there, with very different content. Your existence is content-independent when it comes to content created by your environment. Therefore, you believe your existence is shape-independent. You could exist with many different body and brain shapes.

So the question is, why should your existence not also be content-independent or shape-independent when it comes to DNA? Your existence depends just on your brain, and your existence can obtain in many different shapes of that brain due to environment. Why could it not obtain if the cause of a difference in shape were due to DNA instead of to environment?

Consider this in terms of the actual shape of your body, and specifically the internal shape of your brain; the location and configuration and functioning of all your neurons. Your brain has a particular internal shape right now due to all the content it contains—memories, beliefs, desires, fears, etc.—accumulated over the years from interaction with your environment. Now imagine your brain if you had been raised on an isolated Polynesian island since birth and were there right now. You would exist, but the internal shape of your brain would be quite different. In fact, though your outer body shape would be different in a lot of respects as well, the internal shape of your brain would by far be the most drastic difference. But it would still be *you*; you would exist; the thing you want would obtain in that case due to the existence of your body, different though the shape would be.

What I am asking you to imagine with DNA is exactly the same thing. Different DNA in an alternate universe would also create a brain with a different internal shape. But since in principle you have no trouble imagining that a differently shaped brain (and body) could be you in an alternate universe if the only cause of that different shape were environmental, then you should have no trouble at least imagining in principle that a different shaped brain (and body) could be you in an alternate universe if the cause of that different shape were DNA. The outcome is the same: a differently shaped brain than the one you have in the present moment. The only difference is the cause.

This is in principle. And imagining this in principle should make us wonder why we have for so long thought that DNA was essential to our existence. That DNA made you *you*, that you essentially *are* your DNA blueprint. We've known it was just information all along, just content, and we've known all along that a particular set of content doesn't carry your existence through the world. Your existence, the thing you want, persists through changing content every moment. So why do we think content was important at origins?

Perhaps this convinces you in principle. Perhaps you can now as easily imagine being qualitatively different through having different DNA as easily as you have always imagined being qualitatively different due to having been in a different environment. But what about in practice? We need a way, like the gamete sorites, to see that a particular gamete with different DNA would all but *have to have* been you, had things gone differently.

4.3.1.2. The Second Argument: DNA Molecule As Object

I've pointed out that our intuition tells us that what carries our persisting existence through space and time is the tracing of a particular body through space and time, all the way back to gametes, whatever shape that body might take at different times. We've already swapped out individual atoms from these gametes without changing the structure and examined what we believe, but now let's make changes to the actual structure or "shape" and see what we believe. To do this, we'll set aside DNA as information for a moment, and just consider it as a physical structure in the nucleus of a gamete as a physical object, like any other physical structure of a cell.

I would like to focus on the ovum, because what I am going to do relies on our intuition about tracing our body through time and space, and ova are the bulk of the body of a zygote. And for the first step of this argument, I want to find another physical structure—an organelle—inside the ovum that is not DNA. I'll choose a lysosome, a vesicle that contains enzymes to break down biomolecules. They are the waste disposal system of a cell. The function doesn't actually matter for our purposes though.

So let's think about a lysosome in the nucleus of an ovum. We'll call one of the lysosomes that was in the actual ovum A that created you in our universe lysosome A. Now consider a lysosome B, any lysosome that isn't lysosome A and is not structurally identical to lysosome A. Imagine that ovum A is created, same matter, time, place, plan, etc. as in our universe, but instead of lysosome A being put in this ovum, lysosome B is. In other words, the entire architecture of ovum A is built, including the follicle cells, the membrane, and the cytoplasm, and then lysosome B is put into it instead of lysosome A. This is schematic, and probably does not match how an ovum is actually made. Alternately then, we could say that ovum A is built *around* lysosome B instead of lysosome A. Either way is fine, and I'll switch back and forth. In reality, the lysosomes are of course probably created in concert with the rest of the ovum, but these schematic renderings make the situation clearer.

I think a great many people would have the intuition that in some important sense the "same" ovum as ovum A could have been built around a somewhat different lysosome, or that a somewhat different lysosome could have been placed into the "same" ovum. In other words, that the existence of the entire structure of the ovum except the lysosome is enough to count it as an object that your body today could be traced back to, whether your body today was in the exact state it is in right now, or if it was in an alternate state today due to a different biography (an alternate world). It's like anything you are building. If you are building a car, say a blue 1968 Corvette, and have two different engines, say a 427 and a 350, the way you would think about it is that you could put either engine in *that* car. We have already pointed out that this is just a convention of language, and doesn't represent anything deeper about sameness, but still, that's the way we think of it. Tracing your body through time and space is about our intuition of what objects are and are not you, so we are just testing our intuition here. What is it possible for you to believe, or easy for you to believe, would still be your body, or the "seed" of your body, in an alternate situation?

So if you bought this Corvette in 1968 from the factory, and drove it until 1982, you could say, "I'm glad I got the 427 put into *this* car, rather than the 350. *This* car is way more boss with the 427 than it would have been with the 350." You can imagine them rolling out the car from the factory without an engine and saying, well Ms. Watanabe, here's your car, now which engine do you want us to put into it? In other words, you could trace the body (meaning the entirety of the physical structure, not just the outside portion) of this car from 1982 back to its origin in 1968 in the factory, and you could imagine an alternate scenario in which they had put a 350 into it, and then

traced it back forward into the present and consider it to have been *this* car all along, just with a different engine. We only get in Ship of Theseus type trouble when we start imagining swapping out many different parts. But in this simple case, this one part causes us no trouble. So too then with a lysosome of ovum A.

It's a short leap then to do this with DNA as well, taking it as just another physical structure of the ovum, with no regard to its eventual function. DNA is created early on in the formation of a gamete, by a process of homologous recombination in prophase I of meiosis I. This is where random portions of the two sets of alleles of each "gene" (actually nucleotides) in the DNA of the parent creating the gamete randomly switch sides ("crossing over") and then each separate strand of DNA goes its separate way to create a gamete on its own. This is why every gamete your parents create has a different DNA structure (and although it is in principle possible for them to create two identical gametes, the odds are extremely long).

So early on we have the set of DNA, ready to be "put into" the gamete. (We'll use "put into" just as a schematic way of looking at it, knowing that in reality it is more complicated.) And so, at minimum, we can easily believe that the crossing over of *the very strand of DNA* (the same physical object) that went into ovum A in our universe, went differently, and then one of the two resulting strands of DNA with a different nucleotide sequence than yours in the present universe was then put into ovum A, the very same ovum in every way as the ovum A of our universe. (I say "one of the two" instead of "the same" because if crossing over occurs to around 50% of the nucleotides there is no sense to be made of identifying the "same" strand in two alternate universes.)

What matters here is that the body of the ovum is the same in both cases, our universe and the alternate universe. And it *really is* the same, as surely as in the case of the blue Corvette. All we have is just some differences in the matter of the DNA that was put into the body. The DNA is just a slightly different object, a very small object compared to the whole of the structure of the ovum, *added* to the body of the ovum, just like the lysosome was. Just like getting a new heart would be now to you. And so we should have no trouble, on the method of tracing a body backward through time and space, considering this the *same* ovum.

If you are stickler, of course, we could use the sorites to demonstrate that in principle the specific atoms and the shape of a lysosome could change to the point of being a completely different lysosome, and show that this would force us to believe that no amount of change could affect whether the ovum still brought you into existence. Having established so firmly that an entirely different lysosome could have been in the ovum that brought you into existence, we could then transfer this conclusion to the DNA molecule as a physical object, ignoring its eventual function and information content, and assume the same thing. (A DNA sorites is more complicated, as I will explain in the next section.) And so it's easy to imagine the same ovum, the same body we are tracing to all the way back from the present, having been given a different DNA molecule.

What happens then? After fertilization, the resulting combined DNA molecule goes to work building a body upward from that original seed of a body. But the information of the DNA molecule builds a very different body shape for it. It is, on the body tracing criteria, the same body, it's just built into a different shape. Exactly the way we already agree that the environment could have built it, the same body, *you*, into a different shape. And so, we should believe that the resulting person in either case

would be you, exactly the same way we believe the person would be you in the case of alternate universe differences that were due only to environment.⁵⁸

4.3.1.3. The Third Argument: A DNA Sorites

So that's two arguments. Let's start over and look at a different one, a DNA sorites, ignoring for the moment the previous arguments.

With the gamete sorites so far, we didn't change any content when we changed the matter and moved its location. With DNA, the very thing we want to change is content. And so we have to use units of that content in our sorites; we can't just take it atom for atom. DNA as content functions at several different levels of discrete units that could be changed, so it will help to get the facts about these discrete units straight first so as to make the argument credible.

⁵⁸ I could have put the following quote in a lot of places, but I just recently discovered it and I like it here. It seems especially striking after the above analysis of what DNA is to see just how unreflectively DNA essentialism is believed and casually thrown around by even the most rigorous thinkers searching for the most basic examples. Joseph Melia, in his excellent introduction to modality, is here justifying belief in absolute necessity, contrasting it with contingent necessity:

Reflection suggests that we do have a notion of absolute necessity. True, with the physical laws fixed, it is not physically possible for anything to travel faster than the speed of light. But we do not think the physical laws themselves are absolutely necessary. True, with the biological facts fixed, it is not biologically possible for me to have had different genes. But the biological laws themselves are contingent. True, with the laws of arithmetic fixed, it is not possible for $2 + 2$ to be anything but 4. But the laws of arithmetic themselves aren't contingent. $2 + 2$ has to be 4.: it absolutely couldn't be any other number. The laws of arithmetic have to be for that they do: they couldn't be any other way. True, with the laws of logic fixed, it follows that there are no true contradictions. But the laws of logic themselves are not contingent: the laws themselves (absolutely) could not be any other way. (Melia 2003 p. 17)

Melia isn't writing about physics or math or logic or biology. These are just examples to illustrate his point. He could have chosen anything, but he was presumably going for the lowest hanging fruit. So what strikes me is how well selected and uncontroversial the examples other than genes are. Light being the top speed of the universe has been vetted and tested from all sides for over 100 years. And it is completely clear what the claim means that something could not travel faster than the speed of light. And the examples of absolute necessity even moreso. They have not only a complete and immediate intuitive acceptance—the hypothesis that $2 + 2$ might have equaled something besides 4 seems the sort of hypothesis only a philosophical grandstander might tender—but also a rich history of defense in philosophy (because, in the end, everything in philosophy must be defended, no matter how obvious it seems). And then he throws into this mix the connection of genes to existence, a concept which, when we examine it as we have, we see has no basic intuitive appeal—you actually have to do extra work even on an immediate gut level to make the connection between the two, it doesn't just come for free (this is true even if the extra work you are doing is invisible to you)—and also which has had little philosophical examination to produce any explicit justification anyway. The confidence must come not from the same place as the other examples, but just from universal agreement and lack of notice.

Unless of course Melia is talking about human-body objects. But I very much doubt it, since he used the word “me”. If he meant this and was being careful, he would have said “it is not biologically possible for a different set of DNA to produce an identical human being.” And anyway, in a world where the notion of a soul makes intuitive sense, even if it is unsupportable on examination, the assumption that by “me” you just mean a human-body object doesn't come for free either.

I say all this not to pick on Melia. The quote is powerful because of how he is otherwise a well-respected and uncontroversially straightforward and clear thinker, and it could be added to the collection of quotes from Chapter 1 and 2 from other respected thinkers. And I feel I should add, for good measure, *Modality* really is an exceptional introduction to the topic. So clear and well organized, it really tied together and contextualized many things I've been struggling to understand over the past several years, in a way that other sources purporting to do that frustratingly failed at. I am now a Melia fan.

The smallest discrete unit of information (content) in DNA is a nucleotide molecule⁵⁹; these are the A, C, T and G molecules (known as nucleobases) that make up the informational portion of a strand of DNA. The next level up of discrete units are codons, also called triplets, which consist of three nucleotides in a particular sequence, CTG or AAA for example. Each codon is the code for creating one specific amino acid, or is a stop signal, and all 64 possible codons code for something. Amino acids are the constituent parts of whole protein molecules, and protein comprises almost the entirety of the structure of your body (by mass, your body is mostly water, but the water doesn't form the structure).

The next level up of discrete units in DNA are genes. These are composed of a sequence of codon, and consequently a sequence of nucleotides, as there is actually no difference in the gap between codons and the gap between the nucleotides of a codon. Each codon codes for one amino acid or a stop signal, and so each gene codes for one whole protein molecule, built from the amino acids that the codons in the gene coded for. So one of the main functions of DNA is to provide the instructions for making the proteins that make your body. The length of a gene varies widely; one gene can be between a few thousand to over two million nucleotides long (and thus up to a little less than a million codons long). An apt and often used analogy is the relationship between letters, words, and sentences. Nucleotides would be letters, codons would be three-letter words, and genes would be sentences composed of these three letter words. The entire DNA molecule, or chromosome, would then on this analogy be a book, and a whole genome, all of the chromosomes of an organism together, a multi-volume set. The human genome has 23 volumes.

So from this we can judge it acceptable to use as the unit of our sorites a nucleotide, one single A, C, T or G. (They are actually paired up with each other in DNA, but in practice we can treat them each as single units.) No matter what the codon (three letter word), it will code for something, so any change in any one of the three letters of a codon will still result in a codon that codes for something. The new codon could code for the same amino acid (some amino acids have more than one codon that codes for them), or (more likely) it could code for a different amino, or it could code for a stop signal, in other words a signal saying "this protein is done, starting with the next codon we'll be making a new protein" (this is the basic idea, though the reality is more complicated). This change in a single nucleotide is called single-nucleotide polymorphism, or SNP, an abbreviation I will use occasionally below.

There is also a lot of DNA that, as far as we know right now, doesn't appear to do anything—is biochemically inactive. In other words, though it consists of codons that would code for some amino acid or a stop signal if they were put to use, they are never put to use. At present scientists think at least 80% of human DNA is biochemically active, meaning we don't know what 20% does, and all or some of that may do nothing. Such stretches of DNA could be changed willy-nilly without making any difference to the resulting organism.

It should be clear from this that in some cases even a change to even a single nucleotide, a single letter, of biochemically active DNA would be disastrous for the resulting organism. A single nucleotide swap (changing an A to a T for example) could

⁵⁹ This is surely well known by almost everyone reading this, but to be clear and precise, both an entire DNA molecule can be counted as one molecule, and each nucleotide in a DNA molecule can also be counted as one molecule. Amino acids are also counted as one molecule, and proteins, which are composed of amino acids, are also counted as one molecule.

in principle cause an organism to change from being an organism that will grow into a full adult human being that lives a long and full life, to being an unviable organism that will not grow at all past the first few moments after conception. Or some shortened life span in between immediate death and a long full life, or some other type of health problem. So, when we change a single nucleotide and ask whether the resulting person would still be you, we cannot make the changes in any possible way, because some changes will for practical purposes be nobody, will produce a zygote that would never produce a human with a brain to *be* somebody. We have to limit ourselves to changes that would still result in a viable organism, and preferably an organism that would still live a long life, long enough at least to be conscious, and ideally though not necessarily, to have the types of philosophical thoughts I've been discussing in this essay.

The smallest possible step we could take in an argument would be a change in a single nucleotide in *non*-biochemically active DNA. If sperm A were to have come into existence with one different nucleotide of its non-biochemically active DNA (assuming there really is such DNA), the resulting person would have been phenotypically identical to you in every way (phenotype meaning the actual characteristics of the resulting body, like hair color, facial shape, inclinations of the brain, etc.) Would you be that person? Is "sure, why not?" a good enough answer for you? I think that's the best we can get here, but I think it's pretty strong anyway. If you think DNA matters to whether or not you would exist, you should ask yourself whether it matters because of differences in the body it produces, or whether differences in the DNA matter in themselves.

I include this smallest step because it might be significant to some people. Some people might have a knee-jerk intuition that this type of change to DNA, with no change in the resulting body, would still cause them to come into existence, but if they were instead asked out of nowhere whether a DNA change that resulted in a different phenotype, some different characteristic in the resulting body, would still cause them to come into existence, might have a knee-jerk intuition that it wouldn't. So for some people it might be significant to note that in principle they can imagine their gametes having come into existence with different DNA and themselves still existing as the resulting person, if there truly is non-biochemically active DNA. And if there is 20% of it, then by a sorites they would believe that an entire 1/5 of their DNA could in principle have been different and they would still exist as that person. That is significant portion, more than one would imagine could be different if one didn't think about it. This therefore might open the door for someone to entertain the possibility that their biochemically active DNA could have been different as well.

But to me it makes no difference whether the change is biochemically active or not. I believe the same in either case. So let's consider some biochemically active DNA instead. Let's start with the classic example, eye color. The eye color of a resulting person can be changed by a change in just a single nucleotide in a single gene, called OCA2. Such a change would be slight, and to account for all the possible eye colors that exist in humans, and the drastic differences in eye color we easily observe (between blue and brown for example) we have to consider more SNPs in this gene, OCA2, and also some SNPs in other genes. But as our first minimal change, let's just ask this question: if sperm A had had one different nucleobase (A, C, T or G) in the relevant

location in its OCA2,⁶⁰ would it still have produced you? In other words, could you have had a (slightly) different eye color? Or would this have resulted in a different person coming into existence, very similar to you but with a slightly different eye color, and you not existing?

How does the answer of “sure, why not?” sound here? Once again, I think it’s the best we can do here, but given the fact that we’ve already decided that a whole different set of gametes could have produced you, and that we can’t name a single thing that links DNA to your existence, I think it is a very strong answer, in my judgment stronger than the alternative, stronger than the “no” answer. Much stronger.

It’s not as strong as the “yes” we gave to the similar questions in the matter and spatial soriteses though. The leap is bigger and more significant than just a single atom, both in physical fact and conceptually. And unlike with the matter sorites, there is no essential arbitrariness, either obvious or hidden, in thinking any change to a single nucleotide in your DNA would have resulted in not you but someone else coming into existence. This is because your DNA does not change throughout your life, unlike the matter and configuration of your body. I think you could decide just to answer “no” to this question and not be inviting the type of philosophical difficulty into your life that follows you around staring you in the face and not letting you rest.

But I do feel quite strongly about it, that the answer is surely “yes”, because the change is still so small, even if bigger than a single atom, and because of all of the other reasons we’ve encountered in this essay. I could have been born with a different eye color. Had one nucleotide been different to the OCA2 gene of my sperm or ovum A (whichever was relevant to it)—in other words, had the crossing over event of the creation of that half of my DNA gone just one nucleotide different—I would exist right now as this person, maybe having led essentially the same life, with differently colored eyes. I know my parents had in their two genomes the required allelic variations, because my full brother does have (very) differently colored eyes.

So I let this variation into the field of possibilities for things that could have been me, and I think you should too, for things that could have been you. And we’ve done this type of thing enough now that we can see where this is going, so I’ll skip ahead to the end: if we do this, if we allow even a single biochemically active nucleotide to change and still bring you into existence, then this opens the door to all manner of variations in your DNA. In other words, you should believe that you (*you* yourself) could have been a genetically very different person, and therefore very different in appearance and mental character.

4.3.1.4. DNA Conclusions

Taking these three arguments together with the matter and spatial sorites from section 1, we have moved our conclusion forward to this: you should believe that you could have come into existence from a different set of gametes with a different set of DNA. In other words, from a completely different set of gametes than the A gametes. In other words, any set of gametes that you believe could have produced you if they had had the same DNA as the A gametes, could have produced you if they had had different DNA. In an alternate universe, you could have not only been a different person

⁶⁰ We would thus strictly have to call it a different sperm as a physical object, as we did with sperm A₁, but I will dispense with that notation and just stick with “sperm A” through changes, and hope you will understand why this does not beg my question.

who was genetically identical to you, but you could have been a completely different person, full stop. Numerically different. Qualitatively different.

This is, I hope, quite shocking. It is radically different from what most materialists have thought permissible to believe in the past.

Note that I said only *a* different set of gametes. I didn't say *any* different set of gametes. I've only argued for gametes produced by your parents, for example. And only some of them. I never addressed the different seminiferous tubules in your father, for example. And I haven't mentioned time, because it produces complications which I don't want to address until Chapter 5. So we'll keep time and space vague for the moment.

With this, we should say, any other gametes that your parents produced around the time and near the location of the production of the A gametes could have also produced you. But this gets us to an important new point in itself: since your parents actually did produce a whole bunch of different gametes that met these conditions, this makes the split-brain exercise we did for gametes A and $A_{a,t}$, whereby we decided you would be one of the two but there was no answer to the question of which, no longer just an imaginative exercise for a very improbable case, but the truth of reality as it actually happened. Whatever other gametes your parents produced that met those conditions, you could have been one of them, no matter what the DNA, and there is no answer to the question, even in principle, of which one you would be had more than one set united and become a person. And after the fact, there would be no answer to the question of why you are *this* one rather than *that* one (your brother or sister). Just as in the split brain and monozygotic twins cases.

But surely, once we've gotten to other gametes produced by your parents at a nearby time and location, it is silly to limit ourselves to these factors. Just establishing that *some* numerically and qualitatively different set of gametes could have brought you into existence immediately gets us to all other gametes. The point of the sorites is just to show that some factor that we thought mattered doesn't actually matter at all. We thought the matter or location of creation or DNA of a gamete could dictate whether or not a gamete could bring you into existence. But now we see that it does not, because we have counterexamples. Once we have even one counterexample, the criteria falls away, and we get all manner of variation in matter and location and DNA for free. If you now do indeed believe there is some group of gametes numerically and qualitatively different than the A gametes that could have brought you into existence, then I think you'd be hard-pressed to find a reason why all different gametes shouldn't also count under the same conclusion. I think the burden of proof shifts: give me a reason why *this* difference (parentage, for example) should be excluded.

For example, if a difference could not be reached by a sorites, would that be a good reason to exclude that difference from possibilities that could have brought you into existence? We have such a difference: sex. An X chromosome in a sperm creates a female, and a Y chromosome in a sperm creates a male. (All ova carry X chromosomes to combine with either of these, so that XX is female and XY is male.) The X chromosome is 156 million base pairs long (1805 genes), and the Y chromosome is 57 million base pairs long (458 genes), or about 1/3 the length of the X chromosome. There is no intermediate between these two, in actual human beings. There is no genetic intermediate between male and female (though there are phenotypic intermediates). There is no sorites that can be done between male and female.

Should we then believe that you could have been a genetically different person, but only one of the same genetic sex you are now? This seems like an extravagant and unnecessary belief.

Remember that the sorites process is never actually performed. There is never any switching out of atoms or genes one at a time, or “rerunning of history” with slight variations. It is just the case that two gametes are created independently of each other, and we believe that either could have brought you into existence. The sorites convinces us of this, but once we are convinced, the sorites disappears. We no longer think of it, it is not something that has to be done to make a gamete be one that produces you. It just convinces us that one could. And once we have one, that is all the work there is to it. Getting to one different gamete convinces us that the factors we thought were important aren’t important after all. And we can then apply that conclusion to all variations on those differences. The sorites is just a form of permission for believing what otherwise might seem incredible.

I doubt there is really anyone who has accepted the sorites arguments up until now but stops short at the leap from one genetic sex to another. But let me really drive the point home, with a sorites of sorites, so to speak. In other words, a smaller DNA leap than genetic sex.

The DNA sorites relies on the assumption that every possible genome of a viable organism of the same sex was reachable one step at a time from your genome, where every genome in between was also a viable organism, like when you change the word “STILL” to “PLATE” one letter at a time with each word being a real English word:

STILL
STALL
STALE
STATE
SLATE
PLATE

It seems that this is likely true for the human genome, but perhaps it is not. Perhaps, in order to get from you to certain other people of your same genetic sex one nucleotide at a time, there is inevitably *one* sequence that does not produce a viable human being. If this were the case, would it matter? You’d have to convince me that it does. If it were true, this would be a contingent fact. Just pure happenstance. And it could change, if humanity evolved. The gap could disappear. And the fact of this gap would have nothing whatsoever to do with either of a set of sperm on either side of this “gap” in the sorites. Again, the sorites is never actually performed. These two sperm just come into existence independently of each other. Would you really want to believe that, if they could be connected through some elaborate invention of our minds, the sorites, that they could both be candidates to be you, but if not, then only one could? And so, if you accept that two sperm of the same sex unconnectable by a sorites (if there were such sperm) could have produced you, then there is no reason not to accept that a sperm of a different sex could have produced you.

And so this all applies to the criteria of parentage as well. I believe I could have come into existence from different parents, and the reasons I just gave are the reasons I believe this. I don’t need an additional argument for parentage at this point. I don’t need a sorites of parentage.

But one can be done, actually. And I'll show you how to do it, even though I think it doesn't much matter. I'll do this because I want to squeeze every last drop of usefulness out of the sorites. Also, because parentage is one of the three main generally accepted criteria of coming into existence that we established in Part I, and so perhaps some people have a lingering sense that parentage does matter, independently of all other considerations.

I warn you though, this section really *is* tedious. Mercifully, it is also short. At least, much shorter than I could have made it.

4.3.2. Total Spatial Sorites: Other Parents

"[Y]ou can change anything to anything by easy stages through some connecting series of possible worlds." –W.V.O. Quine

I'll start with a simpler exercise before I get to different parents: the seminiferous tubule. So far in the spatial sorites, we have only reached a sperm produced in the same tubule as the A sperm, and maybe a similar case for ovum A. We could not do a sorites to a different tubule so easily. Our trouble is that, though the total length of all the seminiferous tubules is 300m, they are discontinuous, each being about 60cm. So strictly speaking a spatial sorites cannot be done "around the bend" so to speak from one tubule to another. And there is another, even greater gap I haven't yet brought up: men, of course, have two completely separate gonads.⁶¹

First, tubules within a single gonad. We can do a sorites transforming one tubule into another, at least within a single gonad. As in, "if tubule X had been just one increment in this direction, and/or been composed of just one different atom, would it still be the 'same' tubule, in other words, have been a tubule that could have produced a sperm that could have produced you?" Eventually, we get to a point where tubule X in this alternate universe is in every way identical to some other tubule in our own universe, say tubule Y, and so a) what started out as tubule X *is* tubule Y for all intents and purposes and b) now the original tubule X can exist right beside it in its original position in our own universe. And at every step from tubule X to tubule Y, one of our sorites sperm could have been produced that we have concluded would have produced you, while the original tubule X would still be a tubule that could have produced a sperm that could have produced you.

I told you it was tedious. It's a small question, whether a sperm from a whole different seminiferous tubule could have produced you, and only arises because of contingent facts about the actual method of production of sperm (and maybe ova). But demonstrating this tubule sorites helps us with the leap to different parents.

First, remember that you held the parents criteria mainly because you unreflectively assumed that only your parents could have produced your sequence of DNA. But we now know that this isn't strictly true. Other, genetically different parents could have produced the DNA sequences of each of the gametes that produced you, though the odds are astoundingly long. And your DNA sequence could have been produced artificially in a gamete. So the main reason for taking parents as a criteria is already out the window. And now we know that DNA is no longer a criteria anyway. So even the reason that parentage was a reason is out the window too. But let me sketch the idea of you how to do a parentage sorites anyway.

⁶¹ In this book, I not only present theories, but also teach many new fascinating facts.

Consider two men of the same age sitting next to each other. They have to be men, because we want them both to be producing gametes right now, and women produce all their ova when they are fetuses, and so could not be sitting, though they could be next to each other if they were sisters, but we don't want to talk about sisters, we want to talk about completely unrelated people. Anyway.

It should be easy to see how, for a single moment frozen in time, a spatial, matter, and configuration sorites could be done between man A and man B to transform one into the other. We'll just transform A into B, and assume the original B disappears somewhere along the line. And we're just doing this to the body; we will not then reflect on whether this new person B *would be* person A "inside", but just go from one body to the other via a sorites.

Encompassed within this sorites of the whole person, will be a sorites of any sperm that man A was creating. This sperm sorites will then be just like the sorites I laboriously performed in section 1 above, only over a much longer distance. And so, if man A was your father and was at that moment producing sperm A, a sperm that produced you, then the man B he "becomes" will at that moment still be producing a sperm that would produce you.

Perhaps this is too easy for you? Don't the histories of these two men matter? Isn't that what makes the parentage intuition powerful, that the identity of the man who was your father depended on his origin, not just on the fact that someone with his exact configuration was occupying that space and time? It matters that the man we called man A at the end of the sorites got there in the same way your father did, and that man B did not. After all, on belief in the gamete-dependence claim, we found that we could not definitively answer the question of whether you would exist if one of your parents had been a perfect doppelgänger. So this sorites begs that question, if you're not already convinced that the gamete-dependence claim is wrong.

True. But it's a first step to conceiving the whole thing. We can also do a sorites of time, throughout all the history of this universe and alternative histories of this universe. Consider all the "moments" that have happened since, say a few weeks before you were conceived. I put "moments" in quotes because there may be no precise meaning to a single moment. But we can imagine what it means to say, stop time right now and just consider this moment. At this moment, all the matter in the universe is in one configuration. But let's go easier on ourselves, and just consider all the matter on earth. It is in one configuration at this moment. And the previous moment, it was in a slightly different configuration, and the moment before that... etc. all the way back to a few weeks before your conception. I'll call these "moment slices", the configuration of all the matter on earth at a particular moment. Each moment slice has two adjacent moment slices in the time we are experiencing.

Each moment slice also has adjacent moment slices in space: two slices of the *same* time, but of different possibilities for what could be obtaining at this very time. If you don't believe in the multiverse (particularly the quantum multiverse), then these moment slices adjacent to this moment slice in space aren't actual, but are only possible. If you believe in the multiverse, they are actual also. But I'll stick with the assumption that most people hold, that they are not actual. Even with these moment slices being only possible, this still defines a four-dimensional conceptual space (three dimensions of space and one of time) of a vast number of moment slices each surrounded by a vast number of moment slices only a single sorites step away. And in this way, you could follow a sorites of your father through time and space, both actual and possible, as he gets created into any different person at any time, and thereby remains, one small

change at a time, a man who could bring you into existence, on belief that parentage matters.

There is an apparent gap in this four-dimensional sorites. In order to honor the origin and history of the human beings, we appear to have to trace your father back to before he started sperm production, in order to go forward as a different human being. In this case, rather than asking “is a particular sperm he is producing a sperm that could have produced you?”, we have to ask, “is that human being still a human being that could eventually produce you?” If you follow the sorites, it will be. Since we already have the conclusion under our belts that you could have come from a numerically and qualitatively different sperm from your actual father, then a supposed potential to generate you within him appears to be the only remaining factor he has making *those* sperm special. And so we should see this potential then carry over into any other man he can be connected to by a sorites, which is to say, all men.

This is the method at least. I won’t walk you through all the details, because, as I said, I don’t find this total spatial sorites particularly interesting or important. I would believe in coming into existence from other parents even without it. I just wanted to show how the method can be done.

One might wonder, if we had the conceptual space of the total spatial sorites available to us all along, why we bothered with all the other stuff. It is because the total spatial sorites is a bit glib, and I think most people wouldn’t take it very seriously on its own. Quine meant his statement I quoted at the start of the last section as an insult.⁶² A sorites or other such argument of small increments can be a sort of joke if we don’t have independent reasons to believe its conclusions.

But we do have many independent reasons. We have all the incredible beliefs and enigmas that follow from belief in the gamete-dependence claim in Chapter 2. So the conclusion from the sorites becomes appealing. And we discover that a very simple sorites, like the ones for space and matter on the gametes, is easy to believe. Once we have this, all else falls away.

4.3. Conclusions

To sum up then, this is our new, previously incredible belief: There are compelling reasons to believe I could have come into existence as any number of different human beings, both numerically and qualitatively different, and from any source, and this is a much better belief than the alternative, the widely held gamete-dependence claim, that I could not have come into existence as anyone but this human body which came from that one particular set of gametes. Our new belief is better than the gamete-dependence claim because the gamete-dependence claim forces to us to make an arbitrary choice between objects that could and could not be me when the objects themselves are on a continuum with no reason to choose one break point over another, and it offers no reasons for believing it other than the brute fact that I exist as this person now. But we need good reasons to believe things could not have been otherwise. Simply that we know they are that way now is not enough. I don’t think we have such good reasons. The problem of compossibility was thought to be a good reason to believe I could not have been a numerically different human being, but we can see now that it can be overcome through the conceptualization of splitting consciousnesses

⁶² It was in a paper showing why transworld re-identification of an object is not as simple as identification of objects at different times in our own world. But since Quine is talking about objects, even when talking about human beings, as most transworld theorists do, it is no insult to my use of it.

and therefore splitting existences that the split-brain problem provides a crutch toward understanding. And so compossibility is not a problem after all, and so it is not a reason to not believe what we are otherwise compelled to believe, that I could have come into existence as any number of human beings from any source.

This leads inevitably to a new belief about existence: Open Individualism, or materialist reincarnation, which I will explore further in Chapter 5. Briefly, the argument proceeds like this:

1) If I could have been some other human being, then I necessarily would have been one no matter which human beings had come into existence. What grounds could we come up with at this point for saying I would be some human being in some circumstances but not others? What could those circumstances be?

2) There is no reason to limit ourselves to the present. If I necessarily would have been some human being no matter which human being existed right now, then it is necessary that I would be some human being at any time human beings existed.

3) There is also no reason to limit ourselves to human beings. I would necessarily be a center of consciousness—a conscious life form or artificial intelligence—any time any exist.

4) This means that when I die—when the human body I am now dies—I automatically become someone else. This is materialist reincarnation. There are no souls or spirits involved. This is just the nature of consciousness and what we think of as personal existence in a material world.

5) Another term for this is Open Existence or Open Individualism. There is one self. You not only will become someone else when you die, you are in fact all people—all centers of consciousness—already. All the people who exist now, and who ever did or will exist. I find it hard to wrap my mind around this viewpoint, but I can see that it follows inevitably from the other beliefs. My conceptualization of my existence tends to revert to materialist reincarnation, a single-timeline path through space and time where I experience existing as all centers of consciousness in succession. This is not the most accurate description of reality, but it is the closest description to reality that I can readily grasp.

This book is still in draft. Likely there will be two more chapters, a Chapter 5 exploring the issues that arise from believing in Open Existence, and a Part II and Chapter 6 about finding meaning in a material world when one believes in Open Existence.