LIVING BODIES

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Contents

Chapter 1

Evidence and Knowledge

1.1. What the book is about

This book is an attempt to give you facts what your life is all about, as far as they can be known scientifically. There will be a lot a book like this can't know about your life, because, as we will see, there is a lot about your life that you can't find out about, because you freely choose to make it what it is. Still, to what extent is there a "you" that you can't do anything about, and to what extent is this "you" flexible, so that you can make it what you want? That is one of the questions we will try to find an answer for.

Second, when I say that the book is about the scientific aspect of your life, I do not mean that what it is going to do is tell you what biology and psychology says about yourself. These are sciences that deal with life, and in fact we will be using a good deal of what they say in our investigation. But they are not the only science that deals with life. Philosophy is a science also, as rigorous a science as physics or biology.

This particular branch of the science of philosophy was originated by Aristotle and called "psychology" (from *psyché*, meaning "soul"), and is sometimes now called "philosophical

psychology" to distinguish it from the experimental science now called "psychology." It used to be also called "philosophy of man," but now this term has yielded to "philosophy of human nature." But in fact, the discipline does not deal simply with human beings, but with all living things, and in particular living bodies, as the title of the book indicates. But aren't all living things living bodies? No, as it turns out. In fact, one of the conclusions we will come to is that your mind will continue to exist after you die; you will live, but no longer as a living body.

But how can I call what this book does "scientific" if it speaks about a life after death? Isn't that religion or something and not science? No. There is as good, scientific, objective evidence that there is a life after death as there is that there once were dinosaurs or that radios emit real radiation.

So even though there are living things that aren't bodies, and even though, as the philosophical investigation of life advanced through the ages after Aristotle, the life of God and that of angels were included within its scope, this book will still confine itself to embodied life, and not do more than mention God and try to show how God can be called "life" based on the definition we come up with from our investigation of observable living things. Since there is no evidence apart from Revelation that there are such things as angels, then philosophically it is pure speculation to talk of them—and so they and their life (if any) are beyond the scope of any philosophical discipline, let alone this book.

1.1.1. Difference from biology and psychology

What we are after is what makes living bodies different from inanimate (non-living) ones, and based on this difference, what the reality of a living body is, and hence what life is. Biologists often say that life can't be defined; and they are right, within the discipline of biology. The

reason is that biology investigates the parts of the living body and their function in keeping the body alive, and it is not really part of biology as it is at present constituted to investigate what the living acts imply with respect to the distinctiveness of the living body as such.

Biology investigates living beings from the point of view of how they maintain themselves; philosophy investigates them from the point of view of how their properties reveal the nature of the living body as living.

Philosophy, therefore, can arrive at a definition of life, while this is not something biology can do, because of its orientation. When a biologist defines life, he does so as a philosopher; and his definition is more or less good depending on how good he is as a philosopher, no matter what his knowledge as a biologist may be. Biologists talking about what life is are like skilled drivers talking about how a car works. A really good driver probably has to have some notion of how a car works, but he isn't the person to listen to if you want to know something about auto mechanics.

Where this philosophical discipline differs from psychology is more or less the same. Psychology studies human or animal behavior—behavior caused by consciousness—and considers how consciousness directs the behavior. That is, basically, psychology as a science is concerned with stimuli that get into the brain, and the response that comes out of it. The philosophy of consciousness investigates animal and human behavior insofar as it indicates what consciousness is. Like the biologist, the psychologist is not concerned as such with what consciousness is, but with how it works; the philosopher is concerned with how it works but insofar as this reveals what it is.

Psychology studies conscious behavior from the point of view of

how the mind works; philosophy studies conscious behavior from the point of view of what it reveals about what the mind is.

Obviously, these three areas of knowledge, philosophy, biology, and psychology, are complementary, not antagonistic. The philosopher can draw a great deal from what is known in biology and psychology; and the biologist and psychologist can profit from knowing what the philosopher discovers. After all, it's probably easier to find out how something works if you know more clearly what it is that is doing the working.

1.1.2. Plan of the book

Before we can actually begin to investigate living bodies from the point of view of the science of philosophy, there are several preliminaries we have to go through.

The first thing we will have to do is overcome two different kinds of prejudice: the prejudice of the ordinary person connected with anyone's talking about "facts" in reference to his own life, and the prejudice of the scientific community toward anyone who wants to claim that philosophy is a science that is just as objective as his own discipline. So what we will first take a look at is what *objective knowledge* is and what makes knowledge *scientific*.

But even with that out of the way, we won't be able to get into the investigation proper until we give some conclusions from another branch of philosophy, the Philosophy of Nature, about what *bodies* are, and what the properties of *inanimate bodies* are as such. It is a little difficult to see how you could distinguish living from inanimate bodies unless you knew about inanimate bodies.

Mainly, this chapter about bodies will be a look at what energy is and how it behaves. We will discover that energy is measurable, and we need to know what it is about things that allows them to be susceptible to measurement. This is all the more true because there are some scientists (who are not very good philosophers) who think

that measurability is a characteristic of things insofar as they are real; and we will see that this is not true.

This investigation into energy will also be important for our purposes, because we will see that living things do not behave the way you would expect energy to behave.

Then we will begin investigating the properties that all living bodies have—the *vegetative* ones of nutrition, growth, reproduction, and repair—to see if we can find out how living bodies are distinctive. We will discover that living bodies are energy that seems a peculiar sort of energy, and the higher one goes in the scale of life, the more the energy escapes from what makes energy energy. But even at this lowest level, we will be able to come up with a scientific definition of life and of the "soul."

Next we will go on to properties that only some living beings have—properties involving *sense consciousness,* or conscious reactions to energy—and try to see what this means with respect to what consciousness is, what its relation to energy is, and what this implies about the life of the animal.

After that, we will look at the act that, so far as is known, is exhibited only by human beings—that of *thinking*—and try to see first, whether thinking is just a complex kind of sensation, or whether it is a distinctively different act that only (as far as we know) human beings possess among the animals.

This will lead us into asking the question of why we think; that is, what "survival value" it has for us as organisms, and we will outline how thinking gives the human being access to the objective facts about the world, instead of merely reacting to it (even reacting consciously). This investigation will allow us to come up with a definition of *truth* and error, as well as a definition of *goodness* and badness; we will see how they are different, but how and why they are related.

1.1.2. Plan of the book

The fact that we can make mental constructs and use them for evaluation, which we learned about in the distinction between truth and goodness, will lead to how we use this ability to construct possible worlds as a vehicle for changing ourselves and our world and creating it unto our own image and likeness, as it were. And such an activity is *choosing*.

Since thinking also involves choosing, and choosing implies self-determination, we will then see what human consciousness means with respect to ourselves as *persons* and our relations with other persons.

1.2. The disease of the age

As I said in just above, the first thing we have to do is clear away obstacles to the scientific philosophical investigation of your life; and the first of these is the general attitude people have toward facts.

● The Disease of the Present Age ●
The notion that "everyone has a right to his own opinion."

"Well, what's wrong with *that*?" you say. "What are you, prejudiced or something?" If this is what you are thinking, then you are infected with the disease.

What's wrong with it first of all is that as stated it's meaningless. A *right* is something that can be violated; it says, "You must not try to stop me from doing X." But how could I prevent you from having an opinion? There is no way I could get into your head to erase it. I might be able to prevent you from expressing it, but not from holding it. The best I can do is try to persuade you that you are mistaken; but if you want to hold onto it in spite of the facts, then there is nothing I can do. In this sense, to say "I have a right to my opinion," means in practice no more than, "I have an opinion."

But obviously people mean more than this by the phrase; and here is where it becomes a disease. It implies that we ought to *respect* other people's opinions; and what that means is that if I dare to tell you, "That's a false opinion; you have to correct it," then I am somehow being disrespectful to *you,* because, according to the disease, you have just as much right to your opinion as I do to mine. The person, then, who says, "I'm right and you're wrong," is held to be arrogant, intolerant, and closed-minded.

And this reaction to people who presume to claim to be objectively right (the "intolerant") can sometimes have tangible effects. For instance, the other day the editor of *The Way Things Ought To Be,* the book by conservative talk-show host Rush Limbaugh, went into a bookstore and found all the copies of the book on the shelf with their back cover facing out. She turned the books around with the front cover in front, and then five men came over and turned the books back the way they were. When the editor asked why they were doing this, they said, "We're performing a service to mankind!" to which she answered, "Oh? Censorship is a service to mankind now?" Of course, they thought that Rush Limbaugh was intolerant, and therefore not to be tolerated.

And that's one of the reasons why we have a disease here. Intolerance must not be tolerated. Why? Because everyone has a right to his own opinion, and *therefore* those who claim the opposite *must not be allowed to hold that opinion.*

• Note: I am not trying to make out a case that it is a good thing to be intolerant. I am saying that "tolerance" *as now misconceived* is a disease.

But of course, most of the time people who are "tolerant" don't actually try to suppress what they consider to be intolerance; they simply don't listen to it. "All right," they say. "You think you're right. Go ahead and believe that; you have a right to your opinion.

But so do I." They would not try to take Rush Limbaugh off the air, but they are eloquent about how angry he makes them, not because he disagrees with them but because he disagrees and then says that he's right and they are wrong. He's so closed-minded.

So "tolerance" transmogrifies itself into a peculiar form of "open-mindedness," which is just as sick as the "tolerance" itself is.

● Modern-day open-mindedness ●

Since "everyone has a right to his own opinion," therefore *I* have a right to *my* opinion, and so *do not try to convince me that I am mistaken.*

Again, this is a disease because what it is is the opposite of what it says. It is actually *closed*-mindedness masquerading as open-mindedness. A person infected with it thinks he is open-minded, because he will allow anyone to hold any opinion he wishes; but he is actually closed-minded because he expects *everyone* to be as "tolerant" as he is—which means that he wants no attack of his own opinions.

Nowadays, we "dialogue," we don't discuss. People who discuss (a) try to correct the other person's mistakes, and (b) try to correct their own based on the information the other person gives them. But "dialogue" means that I let you talk, and you give me equal time. I don't pay any attention to what you are *saying,* but to "where you are coming from," and I make noises about how interesting and sincere your opinion is, and then I give my opinion just as if you hadn't spoken. The two of us walk away from the dialogue with exactly the same opinions we had before we started, but with the satisfied glow of having "shared our views."

And this form of the disease kills education. Obviously, you can't learn anything unless you are willing to let someone else change your mind and correct your mistakes. But the "right to your own

opinion" implies that it is *immoral* for someone to correct your mistakes, because then he's violating your integrity, showing you disrespect, and all the rest of it; you have a *right* to your opinion, dammit, and here he is trying to make you give it up and adopt *his* opinion! Who is *he* to say that he's right and you're wrong?

You got trouble, my friends, right here in River City, with a capital T, and it stands for "Tolerance."

1.2.1. The source of the infection

To understand this disease better, first we have to see how we got it, because only then can we find a cure for it.

The disease is peculiarly American in its origin. Since many of the original settlers came to America to escape religious persecution, then when we formed a single nation, we wanted to do something to prevent the country from being torn apart by religious wars; and so we refused to establish a national church, and also gave everyone the right to free speech. No religious group was allowed to suppress any other religious group. So far so good; nothing diseased about this.

The problem is that it is very difficult to *internalize* this non-interference with others' religions without at the same time subscribing to either of two views: (a) that there is nothing factual about any of them, and so none can be called "false" any more than, "Twas brillig and the slithy toves did gyre and gimble in the wabe" is a false statement (it's gibberish)—or (b) any one of them is as true as any other, so that there is no way to single out one as the "real truth."

But once you adopt either of these views, there is no reason to apply it only to religious matters. Why should only religious people, for instance, be exempt from fighting in a war on conscientious grounds, since many atheists also object to killing people? What is so special about the religious basis of sincerely held opinions that only

these opinions should be exempt from interference?

And the result is that, if you are tolerant of various religions either because they are not factual or because no one can say which one is really true, then you are almost bound to extend this tolerance to *any* sincerely-held opinion, however silly; and this gives us the disease we have today.

But really, now, think for a moment. Suppose someone sincerely believes that the world is flat. Does that mean either that no one can know whether the world really is flat or not, or that the world really *is* flat for him, while it's really round for everyone else? Why *shouldn't* you "interfere with his opinion" and try to show him where he's wrong? Or suppose he thinks that he's perfectly safe in having unprotected sex as long as he takes a shower afterward. Does that mean that *in fact* he'll escape infection because he thinks he will? Does that mean he has a "right to his opinion" and shouldn't be told that he's mistaken? You can only sustain this "tolerance" if you think that there are no "real facts" and that anybody's idea of things is as good as anybody else's, because no one's ideas are worth a damn. But then what about the idea that "no one's ideas are worth a damn." Obviously, *that* idea isn't worth a damn either; and so we're back to the disease.

And this is true even in religious matters. Muslims, for instance, believe that Jesus did not really die on the cross, and Christians believe that he did. Now either he did or he didn't. Hence, you can't hold that *both* the Muslim and the Christian are correct without saying that Jesus both did and did not die on the cross—and that way lies madness. And therefore, if you are going to be "tolerant" in the sense of accepting both as equally valid, you can only do it by saying that neither has any claim to factuality. That is, they can't both be right and be talking about what actually happened; and therefore, if there is such a thing as "religious truth," it doesn't have

anything to do with factuality.

The only way, then, to put all religious beliefs on an equal footing is to hold that none of them are really true. So the original non-interference with religion, which was intended to preserve religion from attack, ends up by destroying all religions. This is the religious version of the disease. I will let you hold whatever religious views you want, not because I don't want to see us killing each other, but because your religion is just an emotional quirk you have that is as meaningless as your taste in music.

Well, what is the way out of the dilemma? Must we become like the Serbs and the Muslims in the ruins of Yugoslavia, now killing each other because the other group is the "infidel"? God forbid!

No, but supposing that you have discovered what the facts really are, whether in religious matters or in any other area, it is possible to recognize this, and also to recognize that other people might not have access to the same information, and so might be sincerely mistaken. You don't have to feel guilty and say, "Who am I to claim that I am right and he is wrong?" It isn't who you are, it's what facts you know.

Secondly, it is also possible to realize that people can blind themselves to facts for various reasons; and when people *refuse* to listen to information you have, you do not have to force them to listen, and can leave them in their ignorance. For instance, I have information that condoms in practice fail about one time in six; so if you have sex twenty times using a condom every time, you have over a 95% chance that your condom will have failed at least once. I tell this to students, and they say, "I don't believe it." I show them how the probability works, and they still say, "That's not true." At that point, I say, "Okay, it's your life."

I'm not admitting that their belief is as good as my knowledge, or that one opinion is as good as another; I'm simply saying that I've

done my duty when I have presented evidence to a person. If that person doesn't want to accept it, then that's his problem.

But for those who are infected with the contemporary disease, there is still more:

● The Fatal Consequence ●

Those who hold that "everyone has a right to his own opinion" think that they can *make* something a fact simply by *declaring* it to be a fact.

That is, people think that simply believing that something is a fact makes it a fact "for them," even if it's not a fact for anyone else. In other words, facts become things you *choose* to be true, not things you have to *find out*. So anyone who tries to tell them that what they believe is not a fact is violating their freedom of choice.

Why do I call this a "fatal consequence"? Consider the boy who thinks he won't get AIDS if he takes a shower, or the one who thinks sex is safe with a condom. You die from this attitude. Yet the disease is epidemic in this form, and we are doing all sorts of things in order to produce certain effects—when *in fact* what we are doing produces the exact opposite effect. We distribute condoms to kids to reduce pregnancies, when it has been demonstrated again and again that giving condoms to kids increases pregnancies. We increase taxes on the wealthy to stimulate the economy, and (as they always do) the rich move their money into tax shelters which (a) reduces revenue, and (b) slows the economy. We hold bake sales to reduce the federal deficit. A man mutilates himself and says he has "changed his sex," and we call him a woman. A woman pulls apart the child inside her and declares she has "terminated a pregnancy" by removing a "blob of tissue," and you are regarded as a kook if you suggest that she killed her kid. We tax a married couple $ 4500 more than their tax

would be if they simply lived together and wonder about the breakdown of the family. I could go on and on.

Why do we do such foolish things? It can only be because of the disease. Whenever you confront someone like this with the facts, he says, "But that's only because we haven't done enough of it," and continues to make things worse, because he *wants* the results he intends without the unintended side-effect, and because he is "sincere," then you are being intolerant if you point out to him that what he is doing won't work. You aren't "compassionate."

● WARNING! ●

There are no "facts for" someone. A fact is a fact is a fact.

1.2.2. The cure That's a brief look at the disease of our age, then, and something of how much in danger we are unless we can find a cure. But is there one? I said that, *supposing* we actually know what the facts are, we can still be tolerant and not try to kill or silence others without at the same time getting into the silly position of saying, "They're just as right as I am."

But the problem is, *can* we actually know what the facts really are? Can we be sure, and if so, how? Maybe these people are right; maybe nobody can find what the real truth is.

The disease, you see, is still doing its dirty work.

We can't spend too much time on this, but I think I need to give you some confidence that there are at least some things that can be known with absolute certainty, and there are things that don't depend on your point of view, but are true for everyone and at all times and in all places. Armed with this confidence, we can then begin looking for evidence, so that we can distinguish knowledge from mere opinion. This will enable us to show basically why science gets us knowledge, and that in turn will show us how we can acquire

knowledge philosophically.

If you are wondering whether there is anything at all that can be known for sure without the slightest possibility of being mistaken, consider this:

● An Absolutely Certain Fact ●

There is something

Suppose you doubt whether this is true or not. There's the doubt, and that's something. Suppose you deny that there is something. There's the denial—and that's something. Suppose you question it; there's the question. Suppose you refuse to consider it; there's the refusal. It is *not possible* for you to be mistaken that there is something, because even the mistake would be something.

● DEFINITION: A fact is *self-evident* when its denial affirms it.

It is called "self"-evident, of course, because it is evidence for itself; your attempt to believe it false proves it to be true. Statements that are self-evident are absolutely certain, because it is not only the case that they aren't false, it is impossible for them to be false.

Not everything declared to be "self-evident," of course, *is* self-evident. For instance, it is possible to deny "All men are created equal" without somehow affirming it. (Jefferson notwithstanding, this particular "self-evident" proposition is not only not self-evident, it's not even true.)

But since I *have* shown you a self-evident fact, then there's another fact that's evident through this one:

● Corollary I ●

1.2.2. The cure

The human mind is not only capable of reaching truth, it is capable of attaining absolute certainty.

The reason is, of course, if we couldn't reach absolute certainty, then we couldn't know with absolute certainty that there is something—and we do know this.

To clarify things, we now need to give you some technical definitions:

● **DEFINITIONS:** ***Certainty*** **is a condition in which a person knows that he is not mistaken.** ***Subjective*** **certainty is a conviction of being mistaken without sufficient evidence to back it up.** ***Objective*** **certainty is based on the facts. Certainty is** ***absolute*** **when one has evidence that it is impossible in this case to be mistaken. Certainty is** ***relative*** **when (a) it is theoretically possible to be mistaken, but (b) one** ***has no evidence*** **that one actually is mistaken.**

Doubt **is the knowledge that one is or might be mistaken.** ***Subjective*** **doubt is the fear, without evidence, that one is mistaken.** ***Objective*** **doubt occurs when one has evidence on both sides of an issue.**

A person has ***knowledge*** **when he is objectively certain. A person has an** ***opinion*** **when (a) there is objective doubt, but (b) the evidence on one side is stronger than the evidence on the other.**

So the first phase of the therapy has been taken. It *is* possible to know at least in some cases what the facts really are; our minds are capable of reaching the truth in such a way that it's impossible for us to be mistaken. This has nothing to do with your choice, notice, because you can choose to deny that there is something, but there's

still the choice, and that's something. No choice of yours can make "there is something" be false *even for you,* because you can't escape being aware that you are making the choice, and hence being aware that there is something.

The second phase of the cure occurs when we look again at "there is something" and ask whether its truth depends on your point of view. Obviously not, because, no matter what point of view you or anyone else takes, there's at least the point of view, and that's something. Hence, there is *no* point of view from which "there is something" can be false. It is *absolutely* true: true for everyone, and true in all times and all places (because no matter what time or place, there's at least the time or place, and that's something).

So not only do we know something with absolute certainty, we know that it's not just a "fact for" us, but is a fact for everyone.

● Corollary II ●

Our minds are capable of reaching objective facts, which are facts for everyone.

Let me now state another self-evident fact which is also absolutely true and known with absolute certainty. This particular fact is called a "principle," because it is the source of all our knowledge. It is the fundamental law of human knowledge.

● The Principle of Contradiction ●

What is true is not false in the respect in which it is true. What is is what it is and is not what it isn't.

These are two formulations of the same principle, one the "logical" one (because it deals with truth) and the other the "ontological" one (because it deals with reality). But they say the same thing.

1.2.2. The cure

This is shown to be self-evident because if you want to deny it, you have to do so on the basis of thinking that your denial is true *and not false*. Obviously, if your denial is false, then you haven't really denied the Principle; but if your denial is true and not false, then this means that you recognize that what is true is not false in the respect in which it is true. But that's what the Principle says.

Let me give another clarifying definition:

• DEFINITION: A *contradiction* is a statement that is both true and false.

Obviously, *statements* can contradict themselves (e.g. "I am not now writing the words I am now writing.") but *facts* can't. That is, I can't in fact not be writing what I am writing, because if I'm not writing it, then I ain't writing it.

Notice that some things that at first blush look like contradictions aren't: for example, "I am not now writing what I am writing," if I understand "now" to mean in the one case the moment where I am pausing to think of how to phrase the sentence, and in the other the whole period during which I am engaged in this occupation. In that case, the statement is not false *in the respect in which* it is true, but is false in one respect and true in the other.

In any case, another way of stating the Principle of Contradiction is "There are no real contradictions."

Now we can define a term we have been using up to this point:

• DEFINITION: The *evidence* for something is some known fact which would be contradicted by the falseness of what it is evidence for.

For instance, your evidence for me (the writer of these words

you are reading) is (a) that you see the words, and know that they are facts, and (b) you know that pages don't spontaneously grow words, and so they wouldn't be there unless some writer had put them there. So the words would be a contradiction without the writer. Hence, since there are no contradictions, the writer must exist or at least have existed.

And this leads us to science.

1.3. Science Scientists are fond of saying that they don't waste time in speculations, and simply confine themselves to the observable data. But no one ever observed an electron or radio waves, the chemical bond, a gene, the unconscious mind, or thousands of other things the scientists talk about—and no one ever will, because these objects are in principle unobservable. They tend to say that philosophy is pure speculation, and so one philosophical theory is as good as another, while science, confining itself to "the facts" and to observable data, and asking the question "how" rather than "why," gets at whatever knowledge we can hope to have about things.

But this isn't quite what is going on. Here is what science is:

● **DEFINITION: *Science* is the systematic attempt to know facts that are not directly in evidence.**

Science is not simply a mass of observations; it *uses* these observations either (1) to discover *laws,* which are invariant modes of acting, so that future events (which obviously are not directly in evidence) can be predicted, or (2) to learn *the structure behind* what is acting in the observed way—the structure which accounts for its behavior.

Thus, for example, the Law of Falling Bodies says that objects dropped from above the earth all fall to the ground at the rate of 32

feet per second per second, regardless of their weight, if you eliminate factors like air resistance. Thus, you know that this ten pound weight will fall at that rate of acceleration if you drop it. Newton's Theory of Universal Gravitation says that what accounts for this is that there is a definite (but unobservable) force attracting bodies to each other, whose quantity happens to be such that the acceleration is always the same.[1]

Now while it is true that there are systems of philosophy that don't deserve to be called any more than "pure speculation" in that pejorative sense scientists use, there are other systems that are just as scientific as any scientific theory—and, for that matter, there are supposedly scientific "descriptions" that for sheer speculativeness would put the wildest philosophy to shame. Once when I was an editorial assistant for *Sky and Telescope* magazine (a semi-popular astronomical journal) I had to review an article in, as I recall, *Science,* that busied itself with "describing" what the constitution of any extra-terrestrial intelligent life form would have to be—and the conclusion was that he would have to look just like us.

What is the difference between speculative meanderings and scientific knowledge?

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[1]Actually, if you want to be technical about it, it has since been discovered that the force Newton thought existed doesn't actually exist. What is now held to account for falling bodies is a warping of space-time in the presence of massive objects.

● **DEFINITION:** ***Speculation*** **is finding a possible explanation for an apparently contradictory set of facts.**

The bad sense of "speculation" is simply dreaming up a state of affairs that is not internally contradictory, like what extraterrestrial beings are like. The idea is that, since what contradicts itself is impossible, then it is assumed that if something does not contradict itself, it is therefore possible; and if it's possible, then, well, it just *might* exist, after all. Who can tell?

But this comes very close to the disease we just got cured of. The fact that you can't prove something *doesn't* exist is no evidence that it *does* exist. On the basis of this kind of speculation, you have no reason for saying that what you are talking about exists at all. It is this kind of speculation which is a waste of time.

But the kind of speculation I defined just above is actually the second and third steps in a scientific investigation (the first is finding the set of facts that don't make sense by themselves—or that need explaining). The second step is the construction of a possible explanation, (the speculation) and the third is seeing if (a) this explanation is internally consistent—doesn't contradict itself—and (b) if it actually does make sense out of the facts you discovered.

But if you stop there, you are still engaged in speculation and not science. The reason is that there are an infinity of possible internally consistent explanations for any given set of puzzling facts—and of course only one of these possible explanations is the one that actually exists and does the explaining. Science is not interested in what *might* be the case, but with what (so far as can be known) *is* the case.

It's not our task here to go into a detailed investigation of science. I just want to give you enough information so that you can see how it works, and why it is able to give us facts that we don't

directly observe.

● DEFINITION: An *effect* is a set of facts that need an explanation. It is a set of facts which, taken by themselves, contradict each other. (I.e. the effect is a situation that "doesn't make sense" by itself.)

Obviously, then, effects can't exist by themselves (because then they'd be contradictions, and there aren't any contradictions. You put coins in your pocket in the morning and reach in to get them at noon, and they're not there; but coins don't walk out of pockets. But they can't be both there and not there; and so there's got to be an explanation: *somehow,* they got removed from your pocket.

● DEFINITION: An *explanation* is a possible state of affairs which, if true, would render the effect not a contradiction (i.e. would "make sense out of" the effect).

Here's where speculation comes in. You try to figure out how the coins could have got out of your pocket.

● DEFINITION: A *cause* is an explanation that is also a fact. (I.e. it is the true explanation: the fact that actually does make sense out of the effect.)

An explanation, then, is a *possible* cause. Speculation leaves us with possible causes; science goes the step farther and tries to discover which of the possible causes is the real one.

● DEFINITION: A *theory* is an internally consistent explanation of an effect which "fits the facts" to be explained.

That is, it leaves none of the originally observed facts still a contradiction. For instance, if you find a hole in your pocket, you have an explanation of how the coins got out: they fell through the hole. But if the hole is dime-sized and you had quarters in your pocket, the quarters would still be there—and so this explanation doesn't work. Both scientific theories and speculative theories are theories. But science tries to prove its theories.

Not to make a long story here, science does this basically by making predictions from the proposed explanations, once they have been discovered to be internally consistent and to "fit the facts" they are supposed to explain.

● DEFINITION: A *prediction* is a state of affairs that logically follows from the explanation in question; it *must be a fact* if the explanation is the true one.

Suppose we take Galileo's observation that all bodies fall, due to gravity, at the same rate of acceleration. But we find that in fact a ball of cotton does not really accelerate as fast as a ball of lead when you drop them. We then construct the theory that it is air resistance, not gravity, which explains the difference.

A prediction from this theory would be that in an air-free condition, both lead and cotton would fall at the same rate. If air resistance explains why they normally don't, this prediction would have to be a fact.

Science then tests these predictions to find out if they are facts; and it eliminates those theories that turn out not to be "verified." Thus, when Neil Armstrong dropped a hammer and a feather on the moon (where there is no air), both hit the ground at the same time—which verifies the theory.

Notice that the verification of this theory automatically falsifies the theory that heavy bodies fall faster than light ones because they

are heavier.

If, of course, the theory predicts something that is not actually a fact, then this explanation cannot be the cause (because *if* it is a fact, the prediction, by the logic of the situation *must also* be a fact). Hence, the theory is discarded and a new theory developed that does not have this difficulty. Thus, for instance, Newton's Theory of Universal Gravitation predicted that the orbit of Mercury would be slightly different from what it was actually observed to be early in this century when we developed very sophisticated instruments. It was that failure which made the theory yield to Einstein's General Relativity Theory.

Sometimes the predictions can pretty well eliminate other theories; sometimes they can only indicate which theory is more likely to be the true one. But the point is that science has more reason to be considered factual than pure speculation, however internally consistent the speculation might be.

Scientific facts, then, are not self-evident, but evident *through* the observations they are explanations of. But since the observed data contradict themselves when taken by themselves, we know that there must be *some* explanation; and any reasonable person will accept as factual a scientific theory unless *evidence* presents itself that the theory is false. The fact that it *could* be false doesn't mean that you don't have knowledge and even certainty, as we saw above.

HISTORICAL SKETCH

Philosophy tends to get into a period of disease like our own when brilliant thinkers devise internally consistent views of the world, but the different views contradict each other. The first two great philosophers to do this were **Heraclitus** (c. 530 B. C.) and **Parmenides** (c. 500).

Protagoras, (c. 450 B. C.) was the first relativist; he held that "the human being is the criterion for everything," or in other words, it all depends on your point of view. He was rather soundly refuted by **Plato** (c.

425), who developed a coherent theory that combined Heraclitus and Parmenides; but he had a student, **Aristotle** (c. 350), who contradicted his view with another brilliant theory.

This led to the **Skeptics,** prevalent about the time of Jesus, who held that it was not possible to reach certainty. They were refuted by **St. Augustine** (c. 400 A. D.), and Christian philosophy reigned through the Middle Ages.

But with **Galileo,** in the 1500's, new observations came to light which seemed to refute the philosophical base of Christian thought, and **Michel Montaigne** (c. 1575) reintroduced a kind of skeptical relativism, on the grounds that no one really knew anything, and so you might as well be a Christian. This was refuted by **René Descartes,** (c. 1600) who started philosophy off on a new direction by his discovering “I think, therefore I am” in his attempt to doubt everything doubtable. He thought he could use mathematical method and deduce the truth about the world from his original, absolutely certain insight.

Several other people developed internally consistent theories, however, and the theories again contradicted each other; and **David Hume** (c. 1750) once again developed a skeptical view that we can’t really know anything except what we observed; predictions are just hopes that what happened in the past will happen again. However, **Immanuel Kant** (c. 1800) showed how Hume’s objections against science’s truth could be answered; and science at least seemed on solid ground, even though there were philosophical spinoffs from Kant that again developed contradictory theories.

Finally, science itself, at the turn of this century, discovered that things that it had held to be unassailable truths, like the Theory of Gravitation, were false; and quantum mechanics seemed to indicate that the very act of observing something changed what you were observing. And this is the source of our present unease about truth.

SUMMARY OF INTRODUCTION

This book deals with embodied life. Its science is different from biology in that biology studies how living beings live, and philosophy what their properties reveal about their nature as living; it differs from psychology in that psychology studies behavior to see how the mind works and philosophy studies behavior to see what the mind is.

Serious investigation is hampered by the disease of the present age, whose

symptom is the statement, “Everyone has a right to his own opinion.” This can’t, strictly speaking, be a right, because there is no way to prevent a person from having an opinion if he wants to, and so the “right” cannot be violated. But it supposes that anyone who claims that another person is objectively wrong is showing disrespect for the other person, and is intolerant.

But people who have this kind of “tolerance” are not really open-minded, because what they really want is not to have anyone else challenge their opinions; and this kills discussion and learning.

The disease arises from religious tolerance; instead of not fighting over religious truth, the corrupt version of “tolerance” refuses to recognize that the truth can be discovered; and it is not long before this attitude carries over to any sincerely held opinion. Its fatal consequence is that people think they can make something a fact simply by declaring it to be a fact. When put into practice, this attitude has disastrous consequences. The reason is that a fact is a fact; there are no “facts for” a given person.

The cure comes in recognizing that we can know at least something with absolute certainty: that there is something. The attempt to deny this proves it to be true. And we can also know that there are things which are true for everyone, and do not depend on one’s point of view: from any point of view, “There is something” cannot be false. We also know the Principle of Contradiction: that what is true is not false in the respect in which it is true. These two propositions are self-evident.

The evidence for something is some known fact which is contradicted by the falseness of what it is evidence for. Science is the systematic attempt to know facts that are not directly in evidence, by observing effects: sets of facts that would be a contradiction unless something unobserved is a fact. The cause is the unobserved fact that saves the observed situation from being a contradiction; and an explanation is a possible cause.

Speculation tries to find the explanation of observed effects; this explanation must be consistent (not self-contradictory) and leave no facts unexplained. Science goes beyond mere speculation by predicting what else must be true if the explanation is the cause, and then checking to see if that prediction actually is a fact. If not, the theory cannot be true, and the explanation does not actually get at the cause of the effect. It is then discarded and another theory is developed.

Exercises and questions for discussion

1. It would seem that, if we’ve ever thought we knew something for certain and later found out we were mistaken, we can never be sure that this won’t happen again. So no matter what we think we know, we can’t really say we know it with absolute certainty. How would you answer this?

2. How can philosophy pretend to get at what the facts are if it doesn’t take measurements? That shows that it’s just sloppy thinking, and so can’t compare to science, which is exact.

3. If you've proved something to a person, can he still disagree with you? Could he disagree with you and be right?

4. If you are going to discuss something with a person, how do you start? You can't just make an assertion that he will simply deny. How do you get into a position where you'll make progress?

5. What do you say to people who claim that since the Theory of Evolution, for instance, is "just a theory," they don't have to believe it?

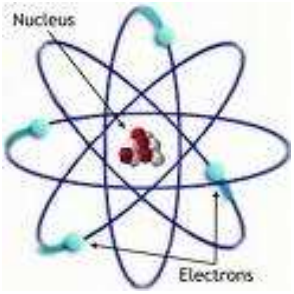
6. Do religions tell us what is factual? If so, how could we know which one is true (if any) and which one false?

1.3. Science

Chapter 2

Bodies

2.1. Energy If, as we said in Chapter 1, we are going to talk about embodied life, or living bodies, then we have to know what a body is first, before we go on to the distinctive characteristics of a body as living.



The study of what a body is and what characteristics it has as such is extremely complex, and could easily take several volumes to do justice to. Here we can do no more than skim briefly over a vast area of philosophy, and instead of presenting evidence and discussing contrary positions, we will just give the conclusions that seem most reasonable, based on the examinations that have gone on through the centuries.

● WARNING! ●

This chapter is going to consist mainly of definitions of terms

you will need to know throughout the book. *Memorize* them now, or you will be lost in later chapters.

Take this warning to heart. Many of the terms will be familiar ones: body, existence, activity, energy, process, purpose, and so on. But we are doing a scientific investigation here, and the terms have a very precise and technical significance. And even through the technical meaning may be somewhat similar to their ordinary use, if you don't have the technical sense in mind as you read later chapters, the ordinary meaning may seriously mislead you.

Let us begin by a definition of our main topic, and then try to make its parts clear:

● DEFINITION: A *body* is a real object consisting of various forms of energy tightly held together by a another form of energy.

In other words, a body is made up of energy, and so our first task will be to see what the reality of energy is.

2.1.1. Existence or activity

In physics, energy is called "the capacityfor doing work," and "work" is defined as "motion over a distance." This is a good example of the different orientations of philosophy and the empirical sciences. Physics is interested in discovering *how much* energy is used up in doing some work (i.e. in measuring it), and so is not concerned with what it is that does the work except as "the whatever-it-is that does work." In philosophy, we try to find out what it is that is being referred to by this indirect definition.

Even this road is a long and twisting one, and to make a long story short, it turns out that what physics is talking about is *any sort*

of reality, provided that the reality in question is measurable.

So as a preliminary definition, we can say that energy is measurable reality.

Note, by the way, that it is a *pure dogma* of physical science, unsupported by any evidence, that every reality is measurable. As a matter of fact, we will discover evidence that certain undoubted realities cannot be measurable (or they would contradict themselves). This dogma is false.

But then what is reality?

It might be thought at first blush that anything we can talk about, or especially anything we can be conscious of, is a reality; but obviously this is not true. We can imagine and dream; and the objects of our dreams and imaginings are not real (at least as we imagine them).

But then if we notice the difference between imagining and experiencing what is real, we observe that in imagining, we are producing the images by ourselves (we are acting spontaneously, without responding to any information coming into us), and in experiencing the real world, we recognize that we are *reacting* to something.

Thus, if we say that something is real or exists, we say so on the basis of the fact that we are reacting to it directly or indirectly; and so it is either acting on us, or acting on something that is acting on us (which action on us is an effect, arguing to the existence—activity—of the cause). Anything that wasn't acting in any way couldn't be providing any information for us to know it, and so could not be known as real or existing.

From this we can say the following:

- **DEFINITION: *Existence* is activity. To be is to do.**

Now this is "activity" in its broadest possible sense: doing anything at all. Even "being passive" is a kind of activity, since it is really *reacting* to some other activity. You don't have to do something *to* something else to be active or exist either; thinking is an activity, for example. The act of thinking is an "existence" of you (an activity), even though it stays inside you.

• **Note** that *existence does not depend on your knowledge of it*; your knowledge of it depends on it. A thing can exist without acting on *you* (or anything else). In this case, you won't know that it exists, even though it does exist. But you can't know that something exists unless it is acting on you, either directly or indirectly.

Now activity is not simple; it turns out that all activities except one (the one called God) are limited or finite activities.

• **DEFINITION: *Absolutely unlimited* activity (i.e. activity that is neither of a certain type nor of a definite amount, but is infinite both in form and quantity) is called *God*.**

There is only one possible such "pure activity," because if there were two different ones, then what made one differ from the other would be a limitation: a form of activity.

• **DEFINITION: The *form* of activity (or existence) is the limitation of activity to being only one *kind* of activity.**

That is, it is *the fact that* the act in question is nothing more than the particular type of activity in question (e.g., thinking, seeing, heat, electricity).

• **Note** that the form of activity *is not something added to the activity* (because this form of activity is *less* than what it would be if it were just activity). Hence, the form is not a reality in itself at all. How could it be? If it were a reality, it would have to be an activity, and

then activity would be limited by itself. So the form is simply a way of considering an act that is not all there is to activity.

• **DEFINITION:** ***Spiritual activity*** **is activity which is either absolutely unlimited (God) or limited only in form and not further limited in quantity.**

Spiritual activity is *infinite* ***with respect to quantity,*** but not necessarily absolutely infinite (or unlimited). The thought that "there is something," for instance, does not have any degree to it; it is not measurable. But it is clearly different from the thought that you are reading this page. Each is a different form of activity, but neither is greater or less than the other. We will establish later that thinking is in fact a spiritual activity and is not measurable.

• **DEFINITION: The** ***quantity*** **of a form of activity is the limitation of a given form of activity to being** ***only a certain amount*** **of this form of existence.**

That is, the quantity is the fact that there is only this much of the form of activity in question (e.g., the temperature of heat, the charge of an electrical field).

The quantity of an activity makes that form of activity measurable.

• **Note** several facts here: 1. The quantity, like the form, *is not something in itself*; it is merely a limit. In fact, the quantity is the limit of the limit called the "form," and so in itself it is doubly nonexistent. Think of the temperature of heat. It is clearly not something that you *add* to heat to make only this much of it; it is just that the heat "stops," as it were, at this degree.

2. *It is not necessary* for existence (or activity) to have *either* of these

limitations. Things can be real without being measurable, and even without being a specific kind of thing.

3. *If a given activity has quantity, it is then measurable*, because numbers can be applied to it. Spiritual activities are not measurable.

2.1.2. What energy is

I said in introducing this chapter that energy is any sort of reality that is measurable. Well, reality is what exists, and existence is activity; and we now know that quantity is the aspect of some activities which allows them to be measured; and so it follows that:

● **DEFINITION:** ***Energy*** **is any form of activity** ***which is limited in quantity.***

● **Note** that energy is *not the quantity* (the limitation). The quantity is the energy's amount or degree; the energy is the *act* which is limited to this degree. But to be called "energy" activity *has to have a quantity.* There's nothing mysterious about this; it's just that we don't call spiritual acts "energy," because we reserve "energy" for acts that are measurable.

Energy is a "catch-all" name. There is not some special thing called "energy"; energy refers to *any* activity, provided the activity is measurable (is limited quantitatively). Thus, heat is energy, light is energy, mass is energy, electricity is energy. All these are *forms* of energy (because they are forms of [measurable] activity).

In other words, *energy is* ***non-spiritual*** *activity.*

Thinking, as we will see, is not a form of energy. It is like energy in that it is a form of activity; but it is unlike energy in that it has no quantity and therefore cannot be measured. "How much" thinking is going on is a meaningless question.

The reason energy is called "the capacity for doing work" is, of

course, that you can't move something (or do something analogous) without being active, whatever form the activity happens to take. And energy, being limited quantitatively, is *used up* by doing work, and so you can measure how much energy did the work by measuring the work done.

Spiritual acts, by the way, are not "used up" by doing things, and so the "work" done by them does not indicate "how much" of them there is. When a choice of yours pushes around some electrical impulses in your brain, this does not take some activity away from the choice-act; the choice-act, being only a *kind* of activity without a quantity *cannot* lose "some" of itself; it either is or it isn't; it admits of no degrees by which it could be "less."

HISTORICAL SKETCH

Plato (c. 400 B.C.) was the first philosopher to notice the spiritual as not bound by the "conditions of space and time" (which we have learned in the centuries since means measurability); and he spoke of "Aspects" (later translated "forms") which were the "realities" of the observable things we see. He thought that the "form" of something like light was a spiritual thing which had individual "lights" sharing in it more or less imperfectly.

Aristotle (Plato's pupil, c. 350 B.C.) discovered that what Plato called "form" was really "activity," (for which he invented the word that we took over as "energy"); but he thought the acts were acts of some "stuff" or "matter" things were "made of." The act made the matter a *kind* of something, and the matter made the act an individual; he thought of the form as limiting the matter, and the matter in a different sense as limiting the form.

Plotinus (c. A.D. 250) noticed that the forms were limitations, but not of matter; matter was the limitation of form. The form was a limitation of something that could not really be named, but which he referred to as The One, and thought of as God. With Plotinus, however, the notion of activity was more or less lost; reality was a kind of static something-or- other.

St. Thomas Aquinas (c. 1250) got back the Aristotelian notion of "activity" or "activeness", and was the one who saw that God was pure, unlimited Activity, that the "form" was nothing but a limitation of activity and "matter" was a limitation of "form." He called limitation "potency" for

reasons we don't have to go into. St. Thomas also saw a connection between "matter" and "quantity."

The whole of this investigation was stopped, however, shortly after the Renaissance, when **René Descartes** (c. 1625) began approaching "reality" from the point of view of consciousness. No one, right up to the twentieth century, paid any significant attention to the distinction between imagining (creating acts of consciousness) and perceiving (having reactive acts); and so "reality" philosophically wallowed in the morass of "the object of consciousness," and philosophers spoke of "the real world" as if it were just a fancy type of imaginary world.

It is only now that we have got round the problems of knowledge initiated by Descartes and "rediscovered" what any five-year-old knows, that there really is a real world out there, that we can resume a scientific approach to the study of reality.

During the Renaissance, **Galileo** (c. 1600) started the empirical sciences moving ahead by stressing measurement (which he thought got around problems of knowledge), and so discoveries were made about energy, and all sorts of "forms" were found to have their own quantities.

These advances, however, went along independently of the progress—there was progress—in philosophical investigations; and it is only now that we can begin to fit the two together again. Interestingly enough, however, science is now, in the deeper levels of physics, running up against the problem of knowledge which it avoided for four hundred years. There are certain experiments which seem to indicate that if you decide to measure the act one way, it is one kind of thing (and is in two places at once), whereas if you decide to measure it a different way, it is a different kind of thing (and in only one of the two places it is in). Physics now needs the results of the philosophy of knowledge, just as philosophy needs the results of the sciences, before both can catch up to where each should be.

2.2. Bodies We saw at the beginning of this chapter that bodies are bundles of energy, united by a special form of energy. So now we can say that bodies are bundles of different forms of activity, each of which has its own quantity; and all these forms of energy are held together by a form of activity which has its own quantity.

Bodies are special cases of *systems*. Any system is various forms of

energy (or sub-bundles of subsystems of various forms of energy) held together by a unifying energy.

If you refer back to the definition of "body" earlier, you will see that this means that a body is a tightly unified system. What then is the difference between the two?

- A body is a system which is so tightly unified that *it behaves (acts) more like a single unit* than a number of interconnected objects.

There is something mysterious here. Even though the body *is* many activities, they are interconnected in such a way that it *acts like* one reality (activity) in some sense. Thus, if you hit someone with your hand, it is *you,* first and foremost, that did this act. A body exists primarily as one act, secondarily as many acts.

This one-and-not-one aspect is due to the body's finiteness; but it is not our point here to investigate this further, so let us go on.

In general, the dividing-line between a system and a body is somewhat arbitrarily drawn. If the object in question has properties that are different from the properties of the individual parts, then we tend to call it a single body; if it doesn't do anything much that can't be explained by a simple sum of the parts, then we call it a system.

The extremes are pretty obvious. The solar system is a system, even though it is held together by the sun's gravitational field. An animal is a body, even though it has many different organs. In the case of the solar system, the planets are pretty largely independent of one another; in the animal, the parts exist for their function in the animal as a whole.

But is a stick a body or a system of bodies (the molecules of the wood)? Here we are in a borderline case, and it depends on how you want to look at it. In ordinary usage, we think of the stick as one thing; but when you break it in two, nothing much has happened to it—whereas if you "break" a molecule in two, you get two entirely different substances.

But the problem of when something "deserves" to be called a body instead of a system is not something we have to worry about. What we are concerned with is what a body is (or what makes a body a body, if you will). And it seems that a body, as opposed to a system, is just a system whose *unification* is what is most significant about it.

This unification, of course, is brought about by some form of energy, as I said. It is this unifying energy which gives the distinctive *structure* to the body, whose form makes it the *kind* of body which it is, and whose quantity gives the body its *fundamental energy level as a whole*.

• DEFINITION: The *unifying energy* of the body is the energy connecting the parts, making them behave together as a distinctive unit.

This unifying energy it is basically the interaction of the parts as they "act together as one." It is simply the *energy unifying* the body; the energy connecting the parts; it is how the body is held together, so to speak. In an atom, for instance, the unifying energy is the internal electrical field connecting the electrons and the nucleus.

Since this unifying activity is in fact a form of *energy,* then obviously it has a form and a quantity. The form of the unifying energy is the *way* the parts are interacting; its quantity is the *degree* of that interaction of the parts.

• **Note** that it is the *form* of the *unifying energy* of a body that makes the body the particular *kind of body* that it is. Bodies do not differ in kind by reason of the parts that make them up, but by reason of how those parts are arranged or "structured" (in other words, what they are doing to each other). A human being differs from a lion, say, not in the chemicals that make up his body (the parts), but in the fact

that these parts have different internal relationships as they make up the organs which in turn make up the body. And these "internal relationships" are nothing but the particular form of unifying energy. *The structure of a body is something dynamic, not static; it is the way the parts are behaving toward each other.*

● Practical consequence 1 ●

A body is a *human* body, not because it has certain parts, but because the parts are interacting in a human way. *Any* body with this type of interaction among the parts is a human body, whether it "looks" human or not.

Thus, Black people are human, though they look different from White people, because (as can be seen from the fact that Blacks and Whites can marry and have children with the characteristics of both) their bodies are organized in the same way. It is also clear that the bodies of *fetuses* are organized in the same way as the same body is organized after birth; why else does the body have organs (such as eyes or hands) that make no sense to his life inside the uterus? Hence, *human fetuses and even human embryos are in fact human beings.*[1]

● **Note** secondly that, since the unifying energy's job is to knit the parts together into a unit, *the unifying energy is not directly observable from outside the body.* You have to argue to the fact that it is there because of the observable behavior of the body. Hence, no one will

[1]Note that a fetus or embryo is not *part* of the mother, because it does not function for the benefit of the mother as an organism; and so it is not integrated into the unit which is the mother's body, but is a parasite living inside it, much as a tapeworm or a tick is not a part of the host organism.

ever get an instrument which will be able to *measure* whether Jews or Japanese or fetuses are human, because if such an instrument were introduced into the body to detect the unifying energy, the unifying energy would detect *it* and refuse to interact with it; it would just be another body inside the body in question, and would be rejected as a part of the body.

But this doesn't mean we can't know what kind of unifying energy a body has; its observable activities will reveal it.

● **Note** thirdly that the *quantity* of the unifying energy accounts for the *differences* in bodies of the same type. That is, you and I differ as humans in that your unifying energy (which is the same *kind* as mine) has a different degree from mine; our bodies exist at different energy-*levels*.

● **Note** fourthly that the *quantity* of the unifying energy *determines the energy-level of the body as a whole*. Just as the form of the unifying energy determines the kind of body, so its quantity determines the basic amount of energy that is in the body as a whole.

● Practical Consequence 2 ●

Since "equal" is a quantitative term, it follows from what was said above that *no two human beings are created equal.*

We are all (qualitatively) *the same* (human); but each of us is *more or less* human than our neighbor. This is obvious. We will see shortly that the body reveals itself in its behavior; and some of us can do a great many human acts and do them very energetically, and others of us can only do a few. No two of us exist at exactly the same *energy-level* of humanity.

Before you get nervous at this, let me note that *human rights depend on the form of the unifying energy, not its quantity*. You have

a right to life and liberty because you are a human being, not because you are a well-developed human being. And if you should be knocked out and be unconscious and not able to exercise any of your human behavior except breathing and heartbeat and so on, you would still be a human being, and would still possess all your human rights.

In that sense, each of us is "just as much a human being" as any other human being. But in the strict sense, a child is not as *much* of a human being as he is when he is an adult, and his body has reached its proper energy-level; and even when an adult, he may very well be not as great a human being as someone more genetically gifted.

THEOLOGICAL NOTE

Since the form of the unifying energy) makes the body the kind of body which it is, then this would allow us to interpret something that Catholics believe in the following way: When the priest, in the person of Jesus, says of bread, "This is my body," and of wine, "This is my blood," then Jesus himself (by his divine power) takes over the function of uniting the elements of the bread, (probably mimicking the unifying energy). Hence, the "bread" is not really bread any more, because its unifying energy is not its own but Jesus' activity—and so it really is Jesus.

Since there is only one Jesus, then if he does this to many pieces of bread, then they are all one and the same body (because they are united by one and the same "unifying activity"—Jesus' act), and are not "many Jesuses" any more than the many cells of a normal body are many bodies.

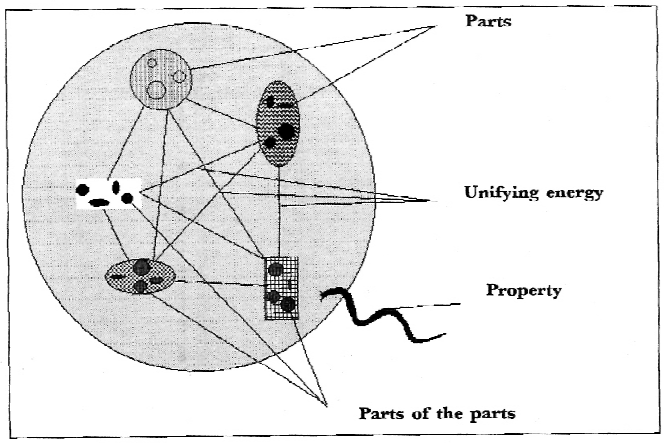
Of course, there is no evidence apart from Revelation that Jesus does this. The point is that it is not unthinkable that if he is divine, he *could* do it, and if he *does* do it, then the bread really ceases to be bread, even though all the elements and properties are there, and is really Jesus.

●DEFINITION: *Parts* are the subunits of a body, each of which has its own form of organization; but the parts are all subordinate to and under the dominance of the energy unifying the body as a whole (i.e., the unifying energy).

In a system, the "parts" are the primary aspect; but then they are called "elements of the system" rather than "parts."

2.2.2. Properties and nature Since a body is many parts cooperating, as it were, to form a complex unity, it would not be surprising to find that the unit itself acts in complex ways.

● DEFINITION: *Properties* are the way a body acts because it has both (a) a certain unifying energy and (b) a definite set of



A Body

2.2.2. Properties and nature

parts.

● **DEFINITION: The *nature* of a body is the body looked on as the "power" to perform the acts which are its properties.**

Thus, for instance, it is the "nature" of hydrogen to combine with oxygen to form water, or to have a certain spectrum when excited, or to be a gas at room temperature, to be colorless, to have a certain mass, etc. That is, it is because the hydrogen molecule consists of two hydrogen atoms (the parts, having their own internal structure—their own "sub"-unifying energy) united by a covalent bond (the unifying energy of the molecule as such) that it acts in certain ways in response to various forms of energy.

Properties, then, are basically distinctive energies of a body, which it performs (all energies are acts, remember) in various circumstances; properties reveal what is acting, and this is why it is useful to speak of the "nature" of things as revealed by their acts.

● **Note** that *properties are not parts.* The *hardness* of a piece of wood, its *size, shape, color,* are in fact **behaviors** of the wood in response to energy around it; its *parts* are the atoms that make it up.

All of what we think of as "characteristics" of something are in fact **acts** it performs; behaviors of it. These are its properties. The act you are now performing as you read this (your reading) is a *property of you as this individual.* It is an act which reveals what you are—your individual nature (something which can do this because of the way these parts are organized).

We usually restrict the term "behavior" to properties of animals, because these properties are controlled by the consciousness of the animal. Still, it is useful to call all properties "behaviors," since this stresses the idea that the property is not something static, but what

the body is *doing*.

HISTORICAL SKETCH

Aristotle (350 B.C.) initiated the study of what we are talking about. He spoke of the "reality" of something as opposed to its "accompaniments," and these words were mistranslated into Latin as "substance" and "accidents." The "reality" corresponds either to what I have called the "unifying energy" or to the body as a whole, and the "accompaniments" are what I called the "properties." He referred to the "reality" (the "substance") as the "primary activity" and the "accompaniments" as "secondary acts." He also defined "nature" almost exactly as I have done just above.

In the Middle Ages, "accidents" were defined as "that which exists in another," meaning that they were the existence (the act) *of* something (the "substance") rather than realities in their own right—as color is always the color *of* some body. The "substance" was then defined as "that which exists in itself," meaning that it wasn't an act of something else.

There was a good deal of confusion about whether the "substance" was the whole object or the unifying activity of the object, because the word was used in both senses. The "substantial form" was the form of unifying activity and also the form of the thing as a whole (which, of course, it is in my system also—but in those days, it was not clearly seen that they were not the same in concept). It looked as if the "substance" united the "accidents," when in fact it unites the parts. In my terminology, there was confusion between the parts and the whole and the body and its properties. (This was added to by the fact that the atomic theory of bodies was not developed, and they were considered to consist of a continuous mass of stuff.)

Descartes (1625), who approached reality through thought, probably did more damage to the investigation of reality by his misunderstanding of "substance" than anyone else has ever done before or since. He took the definition, and instead of trying to discover what effect it was intended to explain, he simply said "substance is what exists in itself (or is independent)" and concluded that if you had two "clear and distinct ideas," (i.e. concepts that were, among other things, independent of each other), then they referred to two different "substances." Since "thought" was different from "extension" (spreading out in space), then it followed that a mind was a different *substance* from a body; and therefore the human

being was not one thing, but two—or rather, a human being is a mind, but with the peculiarity of being inside this other object called a body. So we "have" bodies the way we "have" clothes.

Baruch Spinoza (1650), who came shortly after Descartes, took his notion of "substance" as "independent" and said that, since we all depend on God, there is really only one "substance," and we are all "modes" (modifications) of Him. (You can see how far away from the original notion of how the parts of a multiple unit are unified we have come.)

Gottfried von Leibniz (1670), about a century before the founding of our nation, interpreted "substance-independent" as meaning that there are many "substances," but they are all "independent" of each other; and each "substance" actively produces all of the events of its life from within it, without either acting on or being acted on from anything outside—except that the "substance of substances" (God) picks out the set of "substances" that fit together, so that as John performs the act of speaking-to-Frank (without actually acting on him), Frank happens to be performing the act of listening-to-John (sort of like a dream, without actually being acted on by John's voice). This "preestablished harmony" makes everything work out just as if substances acted on each other.

By this time, people with any common sense were saying that all of this speculation was a colossal waste of time, however brilliant the theories were as exercises of ingenuity. And so **John Locke** (1675) in England thought we ought to forget about the notion of "substance" altogether, since after all we never see "substances," but only assume that they exist because the properties seem to go around together.

And this was brought to its logical absurdity by **David Hume** (d. 1776), who held that for all we know, we aren't any more than just a series of impressions strung together. We assume that we have minds and bodies; but after all, we never saw either of these "substances," and so we might just be the "properties" called "ideas"; and we just get into the habit of calling this set "George Blair."

From then till now, all but the unsophisticated people have been locked into (or should I say Locked into) their own consciousness, and consider that to talk of a "real self" that is doing the thinking and the running and so on is to be "naive."

And all because the effect that "substance" was trying to explain got lost sight of.

In any case, the term "substance" became preempted by chemistry, where it means something still different from all that we have seen. A

"substance" in chemistry corresponds to what I would call a "kind of body." That is, it is any body with a given form of organization. Thus, all instances of sulfur are the same (chemical) substance; though each is a distinct body.

For this reason, I do not use the term "substance." It is a mistranslation of the Greek to begin with, and it has been so abused that it is useless as a word any more.

2.3. Changes

One of the most obvious characteristics of bodies is that they change. All the sciences, in fact, deal with changes; but again their orientation is in discovering how the particular type of change they are interested in takes place, while we are concerned with what change implies about the nature of the changing body.

● DEFINITION: A *change* is an act whereby one and the same body becomes different from itself.

If this sounds mysterious, it is. If there is total sameness, then obviously no change has taken place. But if the product of the "change" is *totally, in every sense* different from what existed before it, then there is no sense in which what came before "turned into" or "became" what resulted. That is, when the magician puts the handkerchief into the hat and pulls out a rabbit, we know that a replacement has occurred, and the handkerchief didn't really change into a rabbit. Similarly, if some object were annihilated (so that nothing was left) and some other object created (not out of any part of it), then the first just disappeared; it didn't "become" or "change" into the second.

Hence, change has to involve *both* sameness and difference.

2.3.1. Equilibrium and instability

Once more we have to make a very long story short here. In order to account for how it is

2.3.1. Equilibrium and instability

possible for changes to occur, we have to note that there are two possible conditions a body can be in:

● **DEFINITION: *Equilibrium* is the condition in which the *total energy* of the body is compatible with its unifying energy.**

That is, the body's unifying energy has a definite amount. Since it holds the body together, then this implies a certain amount of energy in the parts. When the sum of the parts' energy is the right amount, then the body is in its natural condition.
● **Note** that, since equilibrium is the natural state of a body, *a body in equilibrium will continue to exist in this way unless something from outside interferes with it.*

● **DEFINITION: *Instability* is the condition of a body in which the *total energy* of the body is *incompatible* with its unifying energy.**

If a body's parts have too much or too little energy, then the unifying energy cannot unify it (or cannot unify it properly). Hence, the body is in an unnatural condition.
● **Note** that *a body cannot exist in an unstable condition. It must get rid of the instability.*

For example, let us say you add heat to a piece of wood. This puts it into an unstable condition, and so it can't exist as it did before. The reason is that the instability is an internally contradictory condition, and contradictions can't exist.

Hence, *as soon as* the body is unstable, something must happen. Now, depending on the degree of the instability (and various other things, which we can't go into), the wood can do one of two things: it can somehow get rid of the excess energy (by producing a property

it didn't have before), or it can restructure itself or acquire a unifying energy (a different type of interaction of the parts) that can handle the new energy-level.

● **DEFINITION: An *accidental change* removes an instability by keeping the same unifying energy and getting rid of excess energy (or acquiring energy to make up the deficit).**

Thus, when wood gets hot, the molecules move faster, hitting each other and getting rid of their excess energy; and the outside molecules, of course, hit the air, and so dissipate the excess energy out of the wood itself. When the wood reaches the temperature of its surroundings, then it is in equilibrium again and stops emitting heat.[1]
● **Note** that the result of an accidental change is *the same type of body,* but *different properties.* It is the same type of body because it has the same form of unifying energy. It has new properties because of the activity it is performing in getting back to its equilibrium condition.

● **DEFINITION: A *substantial change* removes an instability by restructuring the body with a new type of unifying energy.**

● **Note** that the result of a substantial change, then, is a *new kind of body,* since the type of body depends on the form of the unifying energy. The result may in fact be *several* bodies, since the body could not hold itself together at the energy-level it had when unstable.

Thus, if you heat the wood and it just gives off heat, this is an

[1]There are complications here, because "thermal equilibrium" is not perfect equilibrium; but let it serve as an illustration.

accidental change. If you heat it enough, however, the parts can no longer "stick together" in a "woody" way, and the thing catches fire and burns, resulting in carbon dioxide, water vapor, and ashes, and so on. This, of course, is a substantial change.

● **Note** that an interaction of several bodies can be in some respects an accidental change and in other respects a substantial one. When you eat an egg, for instance, *you* undergo an accidental change (because you acquire energy and parts to replace what you lost—and are still yourself), while the *egg* undergoes a substantial change (because its form of unifying energy has disappeared once the parts become parts of your body).

From the historical sketch, dealing with bodies, you can see where these terms came from. They don't have quite the problem that "substance" and "accident" themselves have, so I have kept the traditional terms.

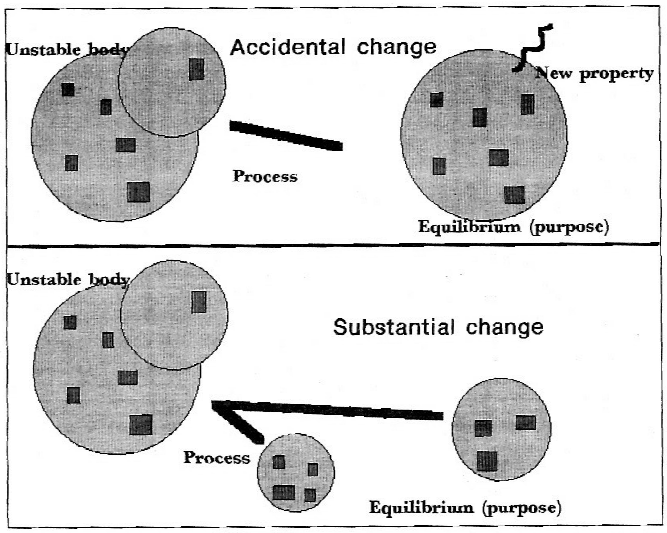
● **Note** that *changes always go from instability to equilibrium*. To get something *into* an unstable condition, it has to be forced from outside.

2.3.1.1. Purpose The reason for what I said just above is, of course, that instability is an unnatural, self-contradictory condition of a body and equilibrium is its natural condition; hence, any unstable body is going to be headed toward some equilibrium or other.

● **DEFINITION: The *purpose* of any change is the equilibrium at the end of the change**.

That is, purpose is not "to get to" the end, but is the end itself. It is in fact equilibrium; but it the equilibrium that ends some change. "To get to" equilibrium defines the *direction* of the change,

not its purpose; the purpose is where it is going to end up.



Changes

• NOTE WELL •

The purpose is *simply* the end of the change, nothing more.

This does *not* mean that the unstable body "knows" and "desires" a particular equilibrium; it is just that a given instability (discrepancy between unifying energy and total energy) is apt to imply a given equilibrium as the "shortest way" to get out of in-

stability. This *predictable future state* is what I mean by a "purpose" here; and I am not trying to attribute desires to inanimate objects.

Actually, as we will see much later, human purposes are analogous to these "natural purposes," rather than the other way around. By desiring something or imagining a future state, we can *create* an instability within our bodies, which then has the purpose of being in that state (just as any body in an unstable condition does). The difference between natural and human purpose, then, is how the instability got there, and not in what happens once it's there.

● **Note** that ***only changes*** *have purposes.* Equilibrium has no purpose; it just is. If anything, equilibrium *is* a purpose; it doesn't *have* one.

Be aware of this. The purpose of something is its "meaning" *only* for something which is incomplete in itself and is "headed somewhere." If it is all that it can be, then it contains its meaning within it. *A being's* ***existence*** *is its ultimate "meaningfulness."*

But then what about the act of changing?

● **DEFINITION:** ***Process*** **is the act of changing; it is the property which is the change itself.**

Acts in equilibrium (ones that stay the same) are called "acts" or "forms of energy," not processes. Process is the act of becoming different. Thus, color is a form of energy, growth is a process; mass is a form of energy, movement is a process; electricity is a form of energy, decay is a process.

Processes have *direction* (toward their purpose), and forms of energy do not. Science calls processes "vector quantities" (by which it means acts with quantity and direction) and forms of energy "scalar quantities" (acts that have quantity but no direction).

HISTORICAL SKETCH

Heraclitus (c. 500 B.C.) was the first "process philosopher"; he thought all activity was process, and that change is the only "real" reality, driven by what he called "fire," which, as he meant it, is not too far away from what we have called "energy."

Parmenides (c. 500 B.C.), who lived more or less at the same time, however, saw that "nothing" or "non-reality" is not a something that has the property of "not existing"; negative statements are only the equivalent of "it is false to say that..." But he then drew the logical conclusion of this that change is impossible. What would something turn into? What it isn't. But "isn't" isn't something it can turn into; hence "It turned into what it isn't" is another way of saying, "It is false to say it turned into something." (He also held that difference among realities is impossible, because the respect in which they differ can't be reality [which they have in common] so must be non-reality [which is another way of saying "it is false to say there is a difference"].)

Plato (400 B.C.) solved the dilemma of Heraclitus and Parmenides by holding that the spiritual world of Forms was a world in absolute equilibrium, and is the "world of reality," and the world that we perceive (which only shares in reality) is the Heraclitean world of change.

Aristotle (350 B. C.), who held that forms are activities of "matter," explained change by talking about "instability" in the following terms: something is "in potency" to be something else, he said, when its matter (for some reason) "lacks" or "needs" a different form from the one it had. At this point, its "end" is outside it, and it changes until it "has its end in itself," (which is practically speaking what I called "equilibrium" above). He was the one who noticed the natural purpose I defined above.

With the middle ages and **St. Thomas Aquinas** (1250), the theory of activity went beyond form to activity itself, of which form was a limitation, with matter as a limitation of form. Instability (being "in potency") then amounted to a discrepancy between an act and its limitation; and the new insight led to the assumption that purely spiritual beings could change accidentally, but not substantially, because they had no matter.

This, however, is a fallacy, because the "substance" can't be unstable, since there are no parts and unifying energy in a purely spiritual

being.

But there were more serious problems. Because of the Theological orientation of the Middle Ages, the "purposiveness" inherent in instability's "seeking" equilibrium was tied to the supposed "purpose" God had in creating the universe in the first place—which was assumed to be a good purpose—and so it was held that "everything has a purpose," (even equilibrium) and that "everything seeks God," and "everything naturally acts for the good" and that "the universe and every thing in it is all following a preconceived plan leading up to God's glory and its perfection."

In other words, so much was read into the predictable tendencies of things, giving inanimate objects quasi-mystical "desires" that longed for fulfillment of some Divine plan that only Theologians could comprehend, that when science came into its own during the Renaissance, it not surprisingly dropped "teleology" (studying purposes) altogether, and only talked (it thought) about changes in terms of the energy that caused them to begin.

But this has been a handicap to science, because of course changes have predictable results—and science has always been using these. For instance, a mixture of hydrogen gas and oxygen can be in equilibrium as a mixture of gases; but if you introduce energy *of any form* (heat, an electrical spark, sudden compression, etc.) the result is the same: water. Obviously, the result is because of the structure of the hydrogen-oxygen mixture, not because of the energy introduced. Hence, the instability is what determines the result—and therefore, Aristotle was right in talking about natural purposes.

Once again, therefore, with the working through of the philosophical problems allowing us to get back to a rational view of reality, we can let philosophy help science get away from the difficulties it got itself into in its attempt to break away from the absurdities that philosophy had got itself into.

What has been said in this chapter is true of all bodies, whether living or inanimate. In the next chapter we will get into differences between the two kinds, and try to see what is distinctive about the nature of living bodies as living.

SUMMARY OF CHAPTER 2

A body is an object made up of forms of energy tightly united by its unifying energy. Energy is any existence (or activity) which is limited in form (the kind of act) and quantity (the amount of the kind of act). Spiritual existence is either God (absolutely unlimited activity) or activity which is limited only in form.

Bodies have parts, which generally are subunits with an energy unifying them; but all parts of the body are united by the unifying energy of the body as a whole, which has a form, which makes the body the kind of body which it is, and a quantity, which makes the body the individual example of this kind of body, existing at its own energy level.

A given body, with given parts interacting in a given way and to a given degree, will behave distinctively in response to the energy falling on it; these behaviors are called properties, and they reveal the nature of the body (the distinctiveness as the "ability" to perform the acts in question).

A body's unifying energy "needs" a certain total energy in the body as a whole in order to hold the body together. When the body has this energy, the body is in equilibrium, and when it exists at a different energy level, the body is unstable, and cannot exist. The body then either adjusts the energy-level (accidental change) or restructures itself with a new unifying energy (substantial change) and becomes a new kind of body. The equilibrium at the end of the change is the change's purpose. Only changes have purpose; equilibrium just is. The act of getting from instability to the purpose is called a process.

Exercises and questions for discussion

1. But can't our dreams be the real world and what we call "waking life" the unreal one?
2. A body is many activities, and so many realities. But the book says that it is "really" one reality. How can it be both?
3. What is the difference between a human being and a human corpse? How can you tell?
4. If properties reveal the nature, then is everything that looks like a human being a human being, and everything that doesn't look like a human being not a human being?
5. Does everything have a purpose?

2.3.1.1. Purpose

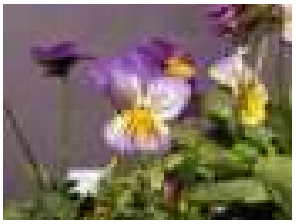
Chapter 3

Properties of Living Bodies

3.1. Life vs. the inanimate

Our object at this point is to find out the nature of life in general; and so we will be investigating the lowest forms of life, to find the properties that all living things have, even those that are "least" alive.

● **DEFINITION: *Vegetative life* is the type of life all living bodies possess; it is characterized by the properties of nutrition, growth, reproduction, and repair of injuries.**



Do not confuse "vegetative life" with "plant life." Plants engage in photosynthesis (as part of nutrition), but a living being can nourish itself without photosynthesis (animals breathe oxygen, for instance, to perform more or less the same function). Bacteria and other protistae are neither plants nor animals, really; the attempt to classify them as one or the other becomes at times quite arbitrary.

So what we are talking about here is really a *level* of life rather than a definite *class* of living things; *all* living bodies live with (at

least) vegetative life—and live only vegetative lives during parts of their lives (as when animals sleep).

●**Note** that We can say that *vegetative life is the* ***lowest form*** *of life* because all living bodies can do what "pure" vegetative beings can do, but vegetative beings do not have the *additional* properties that conscious beings have.

That is, since properties reveal the nature, then when some being X can do all that Y can do and some things that Y cannot do, then X is by nature less limited than Y—or is a "higher form of being" than Y.

3.1.1. Nature of the inanimate

Let us now point out some characteristics of inanimate (i.e. non-living) bodies that we will try to show are not manifested by living ones.

These are all, as it happens, ways of considering the second law of thermodynamics, which says that "the entropy of the universe always increases," and which means, once the mystery is taken out of the language and the mathematics, that when a physical system acts, energy gets lost out of it; or that the tendency of physical systems is to go from more organized to less organized states.

Another way of stating this is that the natural state of an inanimate body is to have "locked up" within it the *smallest* amount of energy that is compatible with the particular unifying energy (configuration of the system). And this in turn seems to imply that inanimate unifying energies are such that they can't increase in degree and stay the same kind of energy; and so if there is extra energy in the system, it can't be absorbed into the unifying energy, and must somehow be got rid of.

If we put this into the philosophical description of bodies that we developed in the previous chapter, four characteristics of inanimate bodies emerge:

3.1.1. Nature of the inanimate

● Characteristics of inanimate bodies ●

1. An inanimate body's equilibrium is its *lowest* energy-level.

That is, the inanimate body is in its natural state when it has within it the least total energy it can have.

2. The purpose of any change in inanimate bodies is determined by the *amount* of excess energy in the body.

That is, when an inanimate body is unstable, it is always because it has *too much* energy; and depending on how much this excess is, it will change so as to reach the most readily available lowest-energy state.

3. Inanimate bodies are displaying *all* of the properties they are able to display in the condition they are in.

That is, if the body is in equilibrium, it is at its lowest-energy state, and so it can have no energy "locked up" within it that it can display at some other time. If it is at a higher-energy state, it is engaged in a process of getting to its lowest-energy state as quickly as possible; and so it is displaying the properties of the process.

4. Inanimate bodies *cannot defend themselves* against outside energy which they are capable of absorbing.

The reason is that the inanimate body has no excess energy locked up within it enabling it to put up a shield against some attack. Hence, if there is energy that can get into it, it will absorb the energy, and so become unstable.

Scientists use a term to refer to this natural lowest-energy condition of inanimate bodies; and so let us take over this expression and define it in a philosophical context:

3.1.1. Nature of the inanimate

● **DEFINITION:** ***Ground-state equilibrium*** **is an equilibrium at the lowest energy-level compatible with the particular form of unifying energy.**

What the second law of thermodynamics says, then, is that the *direction of a natural change in an inanimate body is always toward* ***less*** *energy within the system*; inanimate changes (unless energy keeps being pumped into them) go from higher energy states to lower ones, implying that the equilibrium which is inanimate purpose (the "ground state") is the lowest energy state.

This is why, of course, "perpetual motion" machines are not possible, even in principle: if they are in equilibrium (at their ground state), they will do no work; if they do work, they must be unstable, and will tend to lose energy to get to the ground state, at which point they will stop. To keep them going, they must be "plugged in" to some outside energy source which *forces* them into an unnatural (unstable) condition.

The second point explains why inanimate changes are very predictable. If you know (particularly if you measure carefully) what scientists call the "initial conditions," you know the future state. The reason is that you know how much energy the body (or system) has to lose; and with a few experiments, you can find out what the closest available ground-state is of this unstable system. And since the system will always take the shortest route to the closest available ground-state, you know what is going to happen.

The third point also indicates what makes the sciences of physics and chemistry "exact" sciences. It is not that physicists and chemists know that much more than other scientists, or that somehow they have hit upon the "really true" scientific method. It is that *inanimate bodies cannot act spontaneously.* A spontaneous act is one which is not triggered by some outside stimulus. All acts of inanimate bodies

(beyond the minimum set that express their ground-state equilibrium) are a response to excess energy introduced from outside.

And, of course, the fourth point, which is connected to this one, establishes that when outside energy *is* introduced into the object, then the inanimate body can't just absorb it without doing anything, because it is then unstable, and must get rid of it. Hence, *everything about an inanimate body is in principle predictable.*

I might remark here that quantum mechanics does not seem to bear this out; because introducing energy into very small bodies such as atoms does not allow you to predict what their future equilibrium will be, since there are several equally available future ground states to be the purpose of a given instability—and therefore, it is a matter of chance which one a given atom will wind up in.

But this does not destroy the point made here, since if, say, there are five possible purposes for a given atomic instability and the atoms are put into that instability, you know (a) that none of the atoms will wind up in anything but one of these five states, and (b) that a fifth of them will wind up in each of the states, since there is nothing to select among the states. Thus we can say that *when more than one equally weighted purpose exists for a given instability, the object's behavior is not individually but* ***statistically*** *predictable.*

But this is a book about living bodies, and we can't pursue this further.

Let me just illustrate what happens in an inanimate body by supposing you have a room with walls that are painted blue. You will notice that when the light is not turned on, the walls of your room are black—i.e. not doing the property called "color." It isn't that they are colored but you can't see it; it's that color is their response to light. So their ground-state equilibrium does not involve displaying the property called "color."

What happens when you turn the light on is that when the light

energy hits the molecules of paint, they absorb most of the wave lengths of the light that is hitting them; and they reach equilibrium by vibrating (turning the energy into heat). But they "reflect" certain wave lengths in this way: the wave lengths that are compatible with the molecules (the blue ones), put some electrons into an "excited" (unstable) "orbit." The molecule can't exist at the excited energy level, and the electron falls back down to its ground state, radiating out the blue light again. The blue light radiated out is, of course, the blue color you see when you look at the wall in the light.

And since the light is constantly falling on the wall, knocking molecules constantly out of equilibrium, they constantly radiate out this wave length as they get back into equilibrium, only to be knocked back into instability the next moment—and that is why the color seems "static" to us, and why it disappears when we turn the light off. Then the poor molecules can take a rest and stay in their ground states.

3.2. Nutrition Now let us look at living bodies and see what the properties of nutrition, growth, reproduction, and repair imply with respect to their natures. The act of nutrition is quite different from merely absorbing energy.

● DEFINITION: *Nutrition* is the act of taking foreign bodies or parts of foreign bodies into the system, breaking up these bodies, and using both the energy and the parts to replenish the living body's supply of energy and parts.

● BEWARE! ●

"Nutrition" is *not* the food absorbed; it is the *act* of taking in food and using it.

Immediately we have a striking difference from inanimate bodies. They absorb energy, not other bodies, and in fact tend, by and large, to resist getting other bodies inside them. When they do "absorb" other bodies (such as with quicksand or paper soaking up water), we find that these "bodies" are really *systems,* and the "other body" slips in between the bodies that make up the system; or if the other body is absorbed into it, (as when a sodium atom "absorbs" a chlorine atom) the result is a substantial change of both the "absorber" and the "absorbee," and something different from both (e.g. table salt in the case above) results.

But living bodies take in all kinds of things, and only change accidentally while doing it—though the things they take in change substantially, of course. Nevertheless, (of course) all of the living body's acts, including that of nutrition, give up energy from the system to the environment.

That is, living systems do not seem to have "repealed" the second law of thermodynamics. But still, there is something funny going on. The act of nutrition *in itself* gives up energy as it breaks up the food; but the breakup of the food *produces more energy than the living system used in breaking it up;* and therefore, *there is a net gain in energy by the assimilation of the food.*

Living bodies need energy to be able to break up the food; and they get this in various ways. Plants use the energy of sunlight falling on them as the "trigger"; animals use respiration of oxygen.

If we put these two facts together, we find (a) that the living being has a natural tendency toward its ground state or lowest energy-level (death and decay); but (b) it is constantly fighting this tendency by means of nutrition.

Evidence for (a) is first, that every act tends to give up energy, which means that the living body is in an unstable condition, and is losing its energy; and second, that parts wear out and make it

impossible for the living body to stay alive.

Evidence for (b) is the act of nutrition itself. This act, common to all living bodies, replaces energy lost and even replaces parts that are lost or worn out. In fact, in the lower forms of life, as in starfish, for instance, cutting off a leg will result in the starfish's regenerating the whole lost leg—and the leg's regenerating the whole lost starfish!

An interesting fact to note also is that nutrition is not going on all the time; it is "triggered" by certain mechanisms *within the body itself* indicating a drop in energy below some critical level (in us it is mainly a drop in the blood-sugar level), and it stops at a certain point when the organism is "full." Even plants that absorb food through the roots do not keep absorbing it. Osmosis is so constructed that when there is no "need" for more, no more can get in.

3.2.1. Biological equilibrium

This last item of evidence indicates that there is a certain energy level that the body seeks to *maintain* through nutrition. That is, once the organism has matured and is not growing any more, nutrition still goes on; but now it has as its function *keeping the organism in its mature condition as long as possible*. Food that would bring it above this "optimum" energy level is (in the long run) rejected; food is sought when it falls below this level.

● **DEFINITION: *Biological equilibrium* is the *above-ground-state* energy level which a living being tries to maintain through nutrition.**

● **Note** that the operative word here is *"above-ground-state*." This is an *equilibrium,* because it is a definite energy-level that the living body "wants" to stay at. It can't just stay there, however, precisely because the energy-level it wants to maintain is *too high* for its

ground state, and *as a body* it is unstable, and is tending downward to the ground state. Therefore, biological equilibrium must be *actively maintained* by the living body, because of its counter-tendency as a body.

● Conclusion 1 ●

Living bodies have two different equilibria: the ground-state equilibrium they have as bodies, and the biological equilibrium they have as living.

But this is very strange. The equilibrium of any body is its natural condition, the one it is headed towards when it is unstable. And certainly it does seem that the living body is headed toward its biological equilibrium, because when its energy gets too low, it eats and replaces the lost energy. But of course the energy gets too low because with every act it performs, it loses energy, according to the second law of thermodynamics—and so in this respect, it is headed for its ground state.

And eventually, each living body *does* get to its ground state; it dies (and decays). And in this sense, the purpose of each living body is death and decay. But this is its purpose *as a body only*. As living, it is constantly *fighting off* its tendency toward death; its purpose *as living* is its *biological equilibrium*.

● Conclusion 2 ●

The living body's natural state as living (its biological equilibrium) is an *unnatural condition* for that same body *from the point of view of the body's physics and chemistry*.

The reason is, of course, that the biological equilibrium is a *higher* energy level than the body's ground state, and so the body is

unstable in this respect. And this is shown by the fact that every living act the body performs loses energy. Hence, the living body's *natural* condition as living is unnatural for that same body as a body.

There is, then, a *tension* in a living body between these two natures it has; and during most of the body's life, the living nature wins out over the downward tendency of the body as a body; but it doesn't seem to be able to do this forever.

In any case, it would seem that living bodies *cannot be adequately described by the physics and chemistry of the bodies.* Notice that the biological equilibrium is not something *forced upon* the body from outside, the way the color of the wall is forced by the light's constantly falling upon it. Biological equilibrium is *not* a response to *outside* energy, but something determined by *the internal structure of the living body itself.* Each organism (not only each type of organism, but each individual of each species) has its own special energy-level which it seeks and tries to maintain. Some dogs, for instance, are very peppy, and others, even of the same breed, are lethargic.

● Conclusion 3 ●

The biological equilibrium must be accounted for by some peculiarity about the living body's *unifying energy.*

The reason for this should be obvious. The strange seeking of this high-energy state can't be accounted for by the parts, because these are just physico-chemical systems (as can be seen by the fact that they are built from the food that is taken in). Hence it must be something about how the parts *are dynamically organized* that gives the whole as a whole a "need" to maintain an energy level so high that it is unstable in itself (as a body).

You can see now, I think, how philosophy and biology can

complement one another. Biology has been investigating nutrition for centuries; but since it concerns itself with *how* the living body breaks up the food, gets energy from it, finds the "right" parts it needs and sends them to the "right" places, and so on, it has tended to ignore the rather obvious fact that the very doing of this implies that the organism is making an equilibrium out of instability, and is spontaneously keeping itself at an energy level beyond itself. Biologists' orientation is so much toward the physics and chemistry and the mechanics of what is being done, that they are apt to miss the implication that the living body *cannot be* a mere physico-chemical body.

This is confirmed by comparing the simplest living body (the bacterium) with the most complex inanimate one: the virus. Bacteria nourish themselves, reproduce, and so on; they must maintain themselves, or they die. Viruses are in equilibrium when left to themselves; they don't nourish themselves, they don't grow, they don't reproduce, or repair injuries.

When introduced into an organism, however, they are attracted by the cell walls (to oversimplify); and on hitting one, they collapse, shooting their insides into the cell. *The living cell* then replicates virus particles instead of doing its own job, because the insides of the virus are DNA similar to the molecules the cell's unifying energy uses to direct its activity. So viruses, unlike bacteria, don't *do* anything at all to maintain themselves or reproduce themselves; they "are done to" by the environment, just like any inanimate body. They are in equilibrium until acted on (by a cell wall); and then they react.

3.3. Growth It seems that with the first property of living bodies, we have already been able to learn something significant. Let us go on.

● DEFINITION: *Growth* is the process of increasing in energy and adding parts until the living body reaches biological equilibrium.

Growth is a process, because the growing organism does not simply maintain itself; it becomes different, as can be seen from the fact that its total energy is different at the end from the beginning.

As a process, growth implies instability and a purpose; and an instability, you will recall, is a discrepancy between the unifying energy and the total energy of the body. The unifying energy "needs" a certain total energy, which it doesn't have if the body is unstable.

A growing body, then, from the beginning, is *biologically unstable*; but its instability consists in the fact that it has *too little* energy and two few parts (too little material) to be at its mature state: its biological equilibrium.

● Conclusion 4 ●

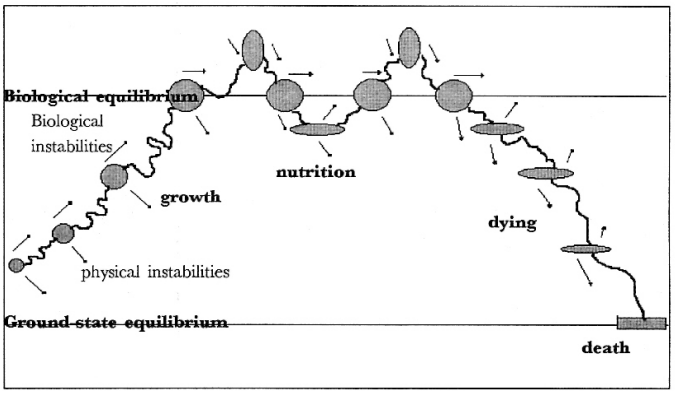
The direction of the change in growth is the *opposite* of the direction of change in inanimate bodies.

Inanimate bodies always start from an energy-level that is too high to sustain, and go downward to their ground state. Living bodies start from an energy-level that is too low and increase their total energy up to the biological equilibrium. This is another indication that living bodies are doing what is "unnatural" for them as physico-chemical systems.

Note that the *initial* energy-level in a living body (the one it has at the instant it is formed), while it is too low for the biological equilibrium, it is even at the beginning *too high* for physico-chemical equilibrium—as can be seen from the fact that a living body right at

the beginning will "go down" to death if it can't get food to nourish itself.

So the growing organism is in *two* instabilities at once: it is physically and chemically unstable (and so headed down toward the "ground-state" of death and physico-chemical equilibrium), and at the same time biologically unstable (and so headed upward toward



The life of a body

biological equilibrium).

Observe that growth is not a steady process, but occurs in "spurts." This is because the growing body is unstable physically as well as biologically, and has to be able to survive at the various stages of growth as it acquires energy, in spite of its continual tendency at any stage to go down to ground-state equilibrium.

● Conclusion 5 ●

Life is not "constant growth." Growth stops once maturity is

reached. Once maturity is reached, life *tends to stay the same*.

That is, growth is not to be confused with the "processes" that go on once the mature state (biological equilibrium) is reached, which processes have as their purpose *maintenance* of the *same* total energy. Growth usually takes up less than a third of the organism's life. True, the organism is always changing; but once maturity is reached, this is not because the organism is "headed" anywhere; it is because of the tension between the biological and bodily natures of the organism. *In order to* stay the same, it must change to recover the lost energy.

In most organisms, this mature state involves the fact that the organism doesn't get any bigger. In certain plants, getting bigger (and increasing in some sense in total energy) seems to go on all through life—as in trees, for instance. But even here, the getting bigger is connected with the lapse into a dormant state during the winter and a consequent need to produce new leaves, which (for various reasons) can't be produced in the place where the old leaves were. Hence, this sort of "growth" is really a special kind of maintenance in the face of a certain special condition.

● Conclusion 6 ●

The biological equilibrium is not determined by the quantity of the unifying energy.

The reason why this must be so is (a) that the quantity of the unifying energy in the body's initial condition is *less* than the final one; and so (since the final amount of energy isn't there, the *amount* can't determine the final state), and (b) the mature state varies from individual to individual in living beings, in an unpredictable way. That is, there is no way, by looking at babies of any species, to determine which of them will grow up to be very energetic adults, and which will have less energy—until you see them growing for a

while, noticing which grow faster, and so on.

It does seem, however, that *the biological equilibrium is determined basically by individual characteristics of the* ***genetic structure*** *of the organism.*

Every living body has a distinctive set of *chromosomes* (DNA molecules), which are complex carbon-chain molecules which set limits on what the unifying energy can do. The "genetic code" of the molecules determines (a) the basic *kind* (or kinds) of unifying energy that can organize this living body, and (b) the basic biological equilibrium of this particular body (giving it *individual characteristics* within the kind of organism). *But the chromosomes are* ***not*** *the same as the unifying energy itself,* since they exist in the corpse after death (which is no longer organized in the living way), and a given set of chromosomes is often compatible with *more than one* form of organization (as in the seed and the plant, the caterpillar and the butterfly, the organism and its cells kept alive in a tissue culture).

The genetic structure of the cell is somewhat analogous to the program on a disk in a computer. The program isn't the electrical energy that does the computing, nor is it the "limit" in the sense of the voltage of the internal electrical current; but the electrical impulses "read" the program and thus are directed in their activity.

(Note, however, that a computer has to be plugged into an outside source of energy, and that, like any inanimate object, it goes from a high energy state to a lower one. That is, a computer is always *being forced* to act by the energy coming in from the outlet or the battery; it simply "runs down," and never, whatever the program, has a spontaneous tendency to "run up.")

What does this analogy tell us? That the unifying energy of the living being "reads" the genetic code like a program and directs the building of the body and its "basic operating system" according to the specifications in this code.

● Conclusion 7 ●

The unifying energy is to some extent independent of the genetic code of the organism, as well as to the parts of the body it organizes.

The reason for this is that, while the unifying energy is due to the genetic code, it actively *uses* the genetic structure to guide itself; it is not a product of it (or the corpse would still have life).

The way the living body is organized, then, is quite strange. It seems not dependent on its own energy level, nor does it seem to depend on the parts of the body itself—since it is what builds the parts, and sometimes even builds a whole new set of parts halfway through the life cycle. The only part of the body it could be said to depend on is the genetic code in each cell; but even there, it seems to be using the genetic code rather than being used by it. And yet, the unifying energy of the body is nothing but the way the parts of the body are interacting.

A rather startling indication of Conclusion 7 is the following: In some cases of growth of a species, there is a definite metamorphosis, indicating two entirely distinct forms of unifying energy. A plant ordinarily forms a seed, which has its own biological equilibrium, which it maintains until water from outside disrupts this; at which point, the parts begin a new growth process whose purpose is the mature plant.

Similarly, a caterpillar develops organs which adapt it to an entirely different *kind of life* from the butterfly it turns into: it eats leaves rather than nectar, it has many pseudo-legs, not six real ones; it does not have the three-segmented body that a butterfly has, and so on. So, though the

caterpillar and the butterfly are the same *biological species*, they are organized in *two entirely different ways.* That is, though the biological classification is the same, *they are really two different kinds of bodies.* The organism undergoes a *substantial change* at metamorphosis.

In these cases, the unifying energy is reading different parts of the same genetic code, and using them to form different structures of itself as activity which organizes the body and gives it its nature as "power" to act. The caterpillar and butterfly are one species, biologically, but they have two different kinds of nature.

But even given this, we can conclude the following:

● Conclusion 8 ●

When an organism is in the process of growth toward a given mature state, then it has the *same form* of unifying energy as it has in the mature state.

Why is this? Because growth, as a "running up" cannot be due to the energy-*level* of the organism, and hence not to the quantity of the unifying energy. Therefore, it must be controlled by the *form* of the unifying energy. The instability implied in the growth is that the form "needs" a higher energy-level (and more complex parts) in order to do its job, rather than that the energy-level "needs" a certain structure to exist.

Therefore, the purpose is in the form of the unifying energy rather than its quantity or even the genetic code—because the genetic code can contain several possible biological equilibria, which the unifying energy must select from.

Hence, when a given process with a given direction is actually going on, this is due to the form of the unifying energy. The caterpillar, for instance, grows as a caterpillar until a certain point is reached, which triggers a substantial change—and from this moment (when it begins to spin the cocoon and then gets into the chrysalis,

where it builds new organs), its development takes a new direction, whose purpose is the butterfly; and so from this moment it has the form of organization of a butterfly, even though it does not look like one yet, because at the beginning it still has the (unstable) parts of a caterpillar.

● Practical consequence ●

As far as human development is concerned, there is no "seed" or "caterpillar" stage. Development of the body is continuous in the direction of adulthood right from fertilization onward. Therefore, from that time on until death, the organism is a human being.

This is confirmed by the fact I mentioned in the last chapter, that all the organs are there in the two-month fetus—organs that make no sense for its life in the uterus, such as eyes, hands, lungs, esophagus, etc., but are adapted to life after birth. You might just as well say that the baby is not organized as a human being because it hasn't developed any teeth for the first year or so. *Hence, the human embryo and fetus are human beings; they are not "potential" human beings.*

This is an extremely important point, with significant ethical implications. "Pro-choice" people are apt to claim that a woman having an abortion is either "removing a part of her body," or that the fetus is like a seed and is only "potentially human," and is not yet a human being. But as to the first point, the embryo or fetus *does not* act for the mother, but for itself even *at the expense* of the mother (making her sick, fighting antibodies her body produces against it, etc.), which indicates that it is *another* organism; it is no more a "part of the body" than a tick or tapeworm is. And as to the second point, the facts indicate that there is no justification for saying that an embryo is "not yet" human. Hence, when a woman has an abortion *she is in fact killing a human being,* whatever she may think.

3.3. Growth

3.4. Reproduction One of the most mysterious of the properties of living beings in many ways, is that of reproduction. It does no good to the organism itself, but simply ensures that there will be other organisms of the same type. Georg Hegel was so intrigued with this that he called it "the cunning of the concept" (meaning, in this case, the form) which, as it were, "foresees" that the body is ultimately doomed (because irreplaceable parts wear out), and so "escapes" from the body "into" another one, and so keeps going.

Our investigation so far has indicated, as we just said above, that the form of the unifying energy of the body is to some extent independent of (a) of its own energy-level, (b) own genetic structure, and (c) the parts of the body; and Hegel's interpretation of reproduction is in the same direction.

But remember, the form of organization of the body is not a "something" that has "got inside" the body and "gets out" like a rat deserting a sinking ship; it is *simply an abstraction in itself—it is nothing but the way the parts are behaving toward each other*. And in reproduction, the "form" doesn't "escape" at all, really. It stays in the parent, and all the parent *actually* produces is either just a complex chemical or something living with a *different and lower* form of life, which *under the proper conditions, often totally apart from the parent* gets reorganized with the same *kind* of unifying energy as the parent (but at its own biological equilibrium level). Seeds don't have the same kind of unifying energy as the trees they turn into; fish eggs live different lives from fish, and are fertilized by the male after being laid. So the form the unifying energy doesn't really escape at all.

Still, it is true that reproduction preserves the form of the unifying energy beyond the limits that can be managed with a single body; and since reproduction does not seem to have any function within the organism itself (since all that happens is a loss of energy and parts, which are quickly replaced through nutrition), this does seem to be its only real function.

Once again, we seem have previous conclusions confirmed:

● Conclusion 9 ●

The form of the unifying energy of the living body is independent of its quantity and even of the body it organizes, since the same form is maintained throughout a succession of bodies, each of which has a different biological equilibrium.

So it isn't just that the unifying energy is independent of the body; the *form* of the unifying energy has some independence of its own quantity, since it produces another body with the same form but a different quantity in its unifying energy. And all this from something that is really the force by which the parts are acting on each other.

● Conclusion 10 ●

In reproduction, the parent organism neither benefits nor is harmed by producing offspring.

There is, in this sense, no reason (in the sense of "incentive") for reproduction. "No incentive!" you say. "Think of the sex drive!" Yes, but why do organisms *have* a sex drive? All the other properties and tendencies of the living body are for the sake of the body itself; this one does nothing for it; it just produces another body. As far as the organism itself is concerned, sex is no different from urination or defecation: the organism just gets rid of what (to it) is waste.

It is not surprising, then, that sex goes by the name of "love," if love means unselfishness. The mystery is in why this unselfish activity should be *built into* organisms that can't think or realize what they are doing. And they all not only have it, it is one of the strongest drives in all organisms.

Reproduction of some simple organisms is asexual; they simply divide. This kind of "reproduction," of course, also occurs in all the

cells *within* a given organism as they multiply to make up the complex body. But there is also sexual reproduction; and even many of the simple organisms that can reproduce by simple division also reproduce sexually.

Sexual reproduction is ingenious in two ways: (a) it forces the organism, for this "unselfish" act, to seek out another organism of the same type to perform it; and (b) it mixes the genetic code of the two parent organisms in such a way that the form of life can maintain itself even in the face of a changing environment.

As to the first peculiarity, it would seem more efficient for all organisms to be like plants, with both sets of sex organs, so that they could impregnate themselves; but this sort of thing is the exception rather than the rule among organisms that can go looking for a partner.

But the second peculiarity has an implication that is much less "mystical," and it confirms what we saw as Conclusion 5 under the section on growth:

● Conclusion 11 ●

The natural tendency of reproduction is *not* toward either diversity or unlimited population. Population reaches an equilibrium in numbers, and also in form. Reproduction's tendency is for the organism to *stay the same indefinitely.*

This needs considerable discussion. First of all, notice that the tendency to reproduce depends on the natural enemies that the organism has; those organisms that tend to get eaten have a lot of offspring, while organisms like lions that nobody messes with have very few. So the tendency in reproduction is not to fill the world with offspring, but *to have enough to ensure that the species (the form of unifying energy) continues forever.*

And it has been shown that, even in cases where a species' natural enemies are removed, the population of that species ex-

plodes—but only up to a point. Eventually, the numbers of organisms encroach upon the food supply for that species, and they become nervous and do not reproduce as much; and after that, the population hovers around the number of individuals which can survive in the new situation.

As to the tendency *not* to become diverse, we will have to discuss the mechanics of evolution to see this.

3.4.1. Evolution

When you hear scientists talk about evolution, you sometimes get the impression that it is a built-in tendency for organisms to change and diversify. All the evidence seems to indicate that we have now a much greater diversity of organisms than existed millions of years ago, and the evidence of the structure of these organisms is very compelling that somehow or other, the organisms got differentiated through reproduction. Henri Bergson, in fact, wrote a book called *Creative Evolution*, in which he spoke of an *élan vital* (a vital drive) that "creatively" headed all organisms toward differentiation and diversity.

The trouble is that the mechanism for doing this works in exactly the opposite direction.

Here is what the science behind evolution says: Gregor Mendel's studies of genes indicates that when a given gene from one parent is different from that from the other, one dominates completely; and so only if the organism gets the "recessive" gene from both parents will it show the "recessive" property. Thus (with a simple, single gene) the chances are three out of four for keeping things the same. With complex genes, this is even greater. So the fact that the dominant gene is the one that is used by the unifying energy to build the organism means that the tendency here is to stay the same if possible.

Secondly, the genes themselves do not spontaneously change, but only when they are *interfered with by outside energy* (such as cosmic radiation). There is no "genetic growth" that goes on

spontaneously. So the genetics of the organism is so constructed that it can adapt somewhat to changes in the environment without actually altering its basic structure; and so if the environment changes back, it simply reverts to its original form.

Nevertheless, sometimes something *unnatural* occurs and the genes of an organism are interfered with. Ordinarily, this will produce a body that cannot live, and so the changed genes are lost.

But there is a *very unlikely possibility* here. An organism with mutant (changed) genes just might have a unifying energy that (a) can survive and (b) is *better* adapted to the environment than its parents. In this case, it tends to reproduce more (because it's healthier), and the other offspring of the original parents, as less well adapted, tend to die out. If this happens several times in succession, then the form of unifying energy at the end is incompatible with the ancestral one—and biologists say a new species has evolved.

- But the point is that this new organism evolved by accident, *not* because of some inner drive. The organism itself tends to want to keep the form of its unifying energy throughout the generations.

As a footnote to this process, I should note two things: First, Scientists *have never been able actually to produce a new species in the laboratory.* They can produce mutants; but even with fruit flies, which reproduce at enormous rates, when they breed the mutants with each other to try to get an organism that will not reproduce with the originals (the sign of a new species), either they die off, or they become infertile, or they mutate back. Very frustrating for the theory.

Secondly, some of the parts of organisms that have evolved (like the eye) are extremely complex, even in their simplest form, and cannot come about by the alteration of a gene or two. And if the whole complex system isn't in place, the organ won't work, and the mutant with the non-functioning rudimentary organ will be *less* well adapted to the environment, and will therefore (according to the theory) die off.

So in order for evolution to work as it seems to have, you have to suppose *very complex changes in the genes occur all at once*, and somehow these catastrophic alterations of the genes result in an organism with a special organ that fits it better for the environment it finds itself in. The chances against this ever happening are billions and billions to one.

But even supposing that it happened (and it would have to have happened billions of times over, not just once), it is still the case that it is the chance beneficial result of what is in itself *destructive interference* with the organism, not some built-in tendency of the organism toward diversity.

● **Note** further that, if the environment is stable, then *evolution will reach a limit* at which the type of organism in question is best adapted to it; and once this happens, all further mutants will be less well adapted, and will die off. So even the tendency toward diversity based on interference with the genes stabilizes over time, given a stable environment.

Of course, in the real world, the environment of any organism is not stable; and so the changes keep occurring. My point is that the *internal tendency of life is to stay the same*.

3.5. Repair We must remember that we are talking about the lowest type of living body here. All living bodies have these mysterious properties; but some (animals and humans) have more mysterious ones still. The final property shared by all living bodies is that of the ability to fend of attacks from hostile energy, and repair injuries done by such attacks.

● Conclusion 12 ●

Living bodies tend to repair injuries done to them and return to their former condition; they also spontaneously produce defenses against possible injuries.

3.5. Repair

From the point of view of physics and chemistry, this universal characteristic of living things is even more uncanny than the others, if possible. Inanimate objects just respond to energy acting on them; living bodies respond to energy they can use, and actively fight off energy that can do them harm.

If an organism is cut open, for instance, it has mechanisms by which it can seal off the cut so that it doesn't lose the fluid it has inside it; and then while the cut is closed over, it rebuilds the part that was cut out.

I mentioned that in lower forms of life, this can mean rebuilding practically the whole organism. Apparently as life becomes more complex, the higher forms just don't have enough internal energy to be able to do this and also perform their other properties. They still seal off the cut, but the organism has to make do with, say, only one arm instead of the two it had to begin with.

(Note that the rebuilding of a limb by an organism, with the limb rebuilding the rest of the organism—so that now there are two where there was originally only one—does *not* imply that the limb before being cut off was a different body, only "hitched onto" the other. A starfish is a single organism, with only one unifying energy. It is just that, when the part is cut off, the interaction of the parts of the leg is such that it can keep existing, and so builds a new body.)

But even more remarkable, when you think about it, are things that have evolved, like thorns on roses that discourage *possible* animals from eating them, spines on porcupines, stink on skunks, and so on. It is as if evolution "knew" that these would be needed, and figured out a way of defending the species against its most formidable attackers.

● Conclusion 13 ●

The anticipation of future injuries indicates that the living body, even at the lowest level, has some contact with and control over its surroundings, and is independent of simple action-

and-reaction.

And all of this happens, at this lowest level of life, through reproduction. And the interesting thing is that characteristics *acquired* during a given organism's life are *not* transmitted genetically; so if one organism develops an ingenious method of defending itself from harm, this is not passed on to future generations *unless by chance interference with the genes,* the organism's genetic structure is so altered that the offspring happen to get it.

That is, as we said, evolution is not something that happens from within the organism at all; it is chance interference from outside that alters the genes at random. Randomness is really exceedingly clever, though, isn't it?

HISTORICAL SKETCH

Over the ages, the dispute has gone back and forth about whether living beings are of the same basic nature as inanimate bodies or not.

Plato (400 B. C.), who held that the "soul" was a spiritual something "trapped" inside a body, concluded from this that animals (and presumably plants) were the result of being trapped (perhaps for sins as human) into more limiting bodies—and it would follow that living beings were essentially different from inanimate ones.

Aristotle (350 B. C.), however, thought of the "soul" as the basic form of activity of the matter, which was the "potency" to be active in this living way. Though he considered life as superior to inanimate reality, there was not a radical difference for him, and he cites instances of where meat, exposed to sunlight, spontaneously "turns into" flies; or, in other words, living beings can come from inanimate ones.

Neither Plato nor Aristotle had any concept that living beings might have evolved to the state they are in. All the evidence available to them indicated that all the species that now existed had always existed, since fossil evidence was not available, and it was clear that living things

reproduced their species and that monsters and mutants died off (i.e. that the answer to the question, “Which came first, the chicken or the egg?” is “Yes.”).

St. Augustine (400), in his Christianization of a Platonic kind of philosophy, took over Christianity’s view that the material universe had a beginning, and that there was a development up to “the New Jerusalem” which would end the world’s process. He did seem to hold for a kind of biological evolution (though he wasn’t much interested in it) in his attempt to interpret the seven “days” of creation. He took over the Stoic notion of “seeds of intelligibility” which were in things but didn’t develop for long periods of time—and so were “created” at the beginning to emerge in their proper time under God’s providence. For him, the direction of evolution was explained by God’s plan for the world.

Descartes (1600), approaching reality from the problem of consciousness, considered, somewhat as Plato did, that the human being was a mind inside a body; and he drew the conclusion that animals and plants were not really conscious and were just complex machines. Indeed, the human body itself was a complex machine.

From here on there has been a dispute between the “mechanists” (who consider living beings as totally explainable in terms of physics and chemistry) and the “vitalists,” who hold that there is something special about living things.

The vitalists seemed to be ahead for a long time, because no chemist had succeeded in producing an “organic” compound, and so these were thought to be producible only within living bodies. **Louis Pasteur** (1870) laid to rest the “spontaneous generation” of living from inanimate bodies with his experiments; and so there was thought to be an unbridgeable gap between life and non-life.

Charles Darwin (or, as some say, **Alfred Wallace**, whom Darwin seems to have pirated the idea from) in the 1860's had the idea that species evolved from other species by natural selection, and then **Gregor Mendel** shortly afterward with his experiments in genetics provided a mechanism that would allow for it. But this was still within the “vitalist”

tradition.

The synthesis of urea (a simple organic compound) and the subsequent discovery of the physical and chemical mechanisms by which life operates (especially the discovery of the chemistry of the DNA molecule in the middle of this century) has shifted the dispute back in the direction of mechanism.

The fashion now is to consider the matter as laid to rest, on the supposed grounds that what "vitalism" was founded on was the erroneous beliefs that organic compounds could be synthesized only in living beings, and the workings of the living being were impossible to describe in terms of physics and chemistry.

What has been overlooked, however, in all this is that, though any single operation is an operation that is physico-chemical (at least on the lowest levels of life), the tendency of the operations themselves is directly against their natural tendency in terms of physics and chemistry. The issue is by no means dead.

We have in this chapter given a sketch of the properties living bodies have that inanimate ones don't, and indicated something of what that difference implies. In the next chapter, we will try to define what life is based on our discoveries here.

SUMMARY OF CHAPTER 3

Vegetative life, the lowest form of life, characterized by nutrition, growth, reproduction, and repair of injuries, indicates that living bodies are different from inanimate ones.

Inanimate bodies have only one equilibrium: the ground-state equilibrium, which is the lowest energy level that the body with the particular form of unifying energy can exist at. Hence, when they are unstable, it is because they have too much energy, which they then lose. The amount of this excess energy is what determines their purpose (the future ground-state equilibrium). They have no energy in reserve, and so (whether in equilibrium or unstable) are always doing all they can in the condition they are in; nor, for this reason, can they defend themselves against

energy falling on them.

Nutrition is the act by which a body takes in other bodies and uses their destruction to replenish its energy and used-up parts; thus, nutrition adds energy to a body. Bodies that nourish themselves (living bodies) therefore, have an equilibrium (biological equilibrium) which is an additional equilibrium *above* the ground-state equilibrium (which they also have as bodies); biological equilibrium is instability from the point of view of the physics and chemistry of the living body. This added, super-high equilibrium must be due to the unifying energy of the body, since its parts are physical systems.

Growth is the process by which the living body starts at an energy level too low for its biological equilibrium, and with too little material (though already too high for ground-state equilibrium), and gets rid of its biological instability by acquiring more energy and material until it reaches its biological equilibrium and then simply maintains it. Once at the mature state, the tendency of life is to stay the same. This direction of growth is the opposite of that of inanimate bodies, and indicates that the form of the unifying energy determines the biological equilibrium (the purpose of growth); the form of the unifying energy is therefore independent of its quantity and of the body's parts, even though it is nothing but the interaction of the parts. As long as an organism is growing, it has the same form of unifying energy (and so is the same kind of body) as the mature organism. Reproduction involves the producing of another body of the same type, implying the same form of unifying energy, but with its own biological equilibrium energy-level. This indicates that the form of the unifying energy is somehow independent of the body it organizes (though not necessarily capable of existing without organizing some body). Reproduction is very mysterious in that it does not benefit the individual organism; it looks like a natural form of love or unselfishness.

Reproduction does not occur indefinitely; a population equilibrium seems to be aimed at, and accidental changes in the type of organization head the species toward a specific equilibrium, of the organism as best adapted to its environment.

Repair of injuries indicates that the organism is free from and to some extent in control of the energy in its environment, in that it can defend itself and return to biological equilibrium when harmed. It even anticipates possible future injuries and takes steps to avoid them.

3.5. Repair

Exercises and questions for discussion

1. Are inanimate bodies always at their ground-state equilibrium? If not, how can they exist?

2. Suppose you have a machine run by batteries and it's got a computer in it so that when the battery runs down below a certain level, it's programmed to plug itself into an outlet and recharge the battery. Is it alive?

3. How can biological equilibrium be equilibrium if the body starts losing energy as soon as it reaches it (and so doesn't stay there)?

4. If reproduction doesn't benefit the organism, and doesn't benefit the form of unifying energy either (which is only an abstraction), why do all living beings have this tremendous urge to reproduce?

5. If living beings are essentially superior to inanimate bodies, how can evolution be possible, since the greater cannot come from the less?

3.5. Repair

Chapter 4

The Nature of Life

4.1. The basic conclusions

I have been giving hints throughout the preeceding chapter about the nature of the living body as opposed to the living body, and it is now time to tie all this together and see if we can come up with an idea of what life is based on the evidence that has presented itself to us.

From what we have seen so far, it is certainly safe to say this:

● The basic conclusion ●

The properties of living beings even at the lowest level function to maintain indefinitely in existence a body which is at so high an energy-level as to unstable physically and chemically.

Growth moves the organism from a lower energy-state to this biological equilibrium; nutrition keeps the organism at this level until enough waste and wear collect in the parts to prevent it; reproduction keeps the form of organization in existence by producing other bodies with this form of organization; and repair

acts against damaging acts and even anticipates possible damage and takes steps against it.

4.1.1. Essential superiority It does not seem open to dispute that the actual energy-level of biological equilibrium is high, and is instability in terms of the physics and chemistry of the body itself, nor that it is an equilibrium and is something "sought" and maintained by the body.

But this leads inexorably to the following:

● Conclusion 2 ●

The living body is essentially superior to inanimate bodies.

Another way of saying this is that living bodies have a "greater dignity" than inanimate ones; they are *essentially less limited* in their reality than inanimate bodies.

At the beginning of the preceding chapter, I said that bodies which have more properties than others are less limited than the others. This seems to be verified in this case at least. Living bodies have all the properties that inanimate ones have (color, mass, size, hardness, etc.), and in addition have nutrition, growth, reproduction, and repair. And these additional properties imply a super-high energy level maintained by the body—which certainly sounds as if they aren't as limited as inanimate bodies.

Given that this energy level is instability even in the living body (because each act gives up energy), then its explanation in terms of physics and chemistry seems impossible. Why would something maintain (as natural) a condition which it is explicitly trying to get rid of (as unstable; i.e. as unnatural and internally self-contradictory)? That is, any physico-chemical system will exist at a high energy level *only if it is forced to do so* by energy being pumped into it. But the

living system not only is not forced into the higher state, it actively *seeks* the energy that gets it into this state and maintains it.

I am belaboring this point for four reasons: (a) the burden of proof is on the person who holds that living beings cannot be explained with a purely (if complicated) physico-chemical explanation; (b) each of the acts by which the living body gets and keeps its super-high equilibrium seems to be one describable in terms of physics or chemistry; (c) largely because of this, the prevailing mentality is to pooh-pooh those who would contend that life is different from and superior to non-life; and finally (d) it seems to rule out the evolution of life from a non-living environment before it—and yet the geological evidence seems to indicate that this happened.

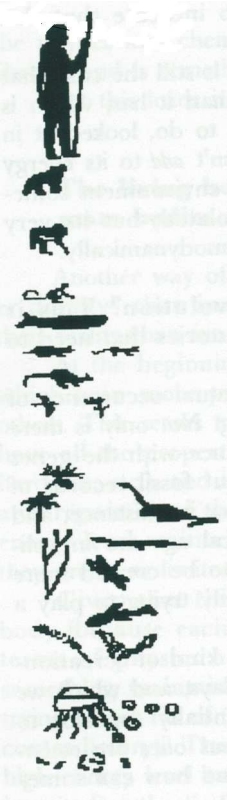
Whatever the force of these arguments, it is still the case that something can't spontaneously give itself more than it has, which is exactly what the living body seems to be trying to do, looked at in terms of physics and chemistry. Granted, it doesn't *add* to its energy "by itself," but finds the needed energy in the environment somewhere—so no laws of thermodynamics are violated; but its very "need" for more energy is itself inexplicable thermodynamically.

4.1.2. Evolution revisited

Then what about evolution? This is another of those long stories that need to be shortened.

First of all, the evidence in favor of the actual occurrence of an evolution of species is well-nigh overwhelming. Not only is there a simple mechanism to account for it (interference with the genes and mutant offspring, plus natural selection), but fossil records of forms both different from and similar to those now in existence, and also different forms in strata of different geological age are inexplicable on a "creationist" theory that assumes all to be created more or less at once—unless the Creator was deliberately trying to play a joke on us.

But the biggest argument in favor of some kind of "creationism" is one not mentioned in polite circles nowadays, and which we just concluded to above: living beings are essentially superior to inanimate ones (and, as we will see later, conscious ones are essentially superior to non-conscious living bodies), and how can something raise itself to a level essentially beyond itself?



That is, that the unifying energy has a definite quantity, and a quantity is a limit, then a limit implies that the activity cannot be greater than this limit (otherwise, how is it a limit?). Then for it to do something that implies that it is less limited than its limit is a contradiction in terms. But this is exactly what seems to be the case in living bodies. There is no need to repeat the evidence.

Evolutionists are apt to say to this, "But obviously it *happened,* which means that it's possible. So what's the problem?" This is like saying, "But obviously bodies fall down, so why make a mystery of it with things like the force of gravity or the warping of space-time?"

The reason for "making a mystery" of it is that if there is evidence that something is impossible and yet it happens, then we have (as we saw in Chapter 1) an *effect,* and we know that therefore there has to be a cause that makes sense out of it.

And supporting the contention that evolution seems in itself impossible is the evidence I brought up in discussing the subject in the preceding chapter, that a new species has not actually been

4.1.2. Evolution revisited

produced under laboratory conditions by the mechanism that evolution is supposed to use, and that the probabilities against its happening are positively intergalactic, not simply "very great."

How then to explain how physico-chemical systems can get into a stable state that is beyond their limits? It seems that the only possible explanation is that *the physico-chemical systems that evolved into the first living organisms are not the total cause of the jump to a higher state of being.*

Something that we didn't mention when talking of bodies is that *any* finite activity (which is an activity with limits, making it less than just "activity") is in itself a contradiction (because all it is is activity—the limit is nothing, but just the fact that the activity doesn't do more—but activity that is less than activity); hence it must be accounted for as finite by the Infinite Act (God). This act by which the Infinite explains the finiteness of the finite is called "creation."

Every limited activity, then, needs God to account for its limitedness; and so God is involved as partial cause in every step in evolution. Supposing there to be a being whose structure would allow it to support a less limited form of organization, then it is possible that God would "lift it beyond itself" to help it do something it couldn't do *by itself,* but which could be done *to* it, as it were, by a higher power; and the result would be a body organized in this less limited way.

Thus, evolution would be *natural but not self-explanatory.* It would be "natural" in the sense of "in accordance with nature under the guidance of Divine Providence and helped by Divine power; but it would not be "self-explanatory," since the lesser cannot account for the greater. Biologists are apt to assume that since evolution happened, it is natural, and since it is natural, it is self-explanatory. Neither follows logically, and there is evidence that in this case the

natural cannot be self-explanatory.[1]

If we grant that God has to have a hand in every finite activity, then we can now account for something that evolutionists seem to gloss over: that *evolution has been occurring in a direction* ***opposite*** *to what is predictable by the second law of thermodynamics.* According to that law, when stated statistically, more organized systems tend toward greater randomness and less organization; but in evolution, less organized and less complex systems develop into systems that are more organized and more complex.

Now the Law is statistical, and so the unlikely does not "violate" the Law. But evolution rests on the fact that *at each stage* the excessively unlikely occurred (with chances on the order of millions to one against it), and *these fantastically improbable stages form an unbroken chain from the "big bang" at the beginning right up to the present complex living bodies.* If at any point the unlikely event didn't happen, the whole of evolution would have ground to a halt right there.

If a person throwing dice throws sixteen thousand twelves in a row, you wouldn't say, "Well, statistically such things can happen," and call it "natural and therefore self-explanatory." You'd start looking at the dice. It *could* happen, of course, but it's far more likely that the dice are loaded.

And since God has to have a hand in any finite being's activity

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[1]Note that this particular introduction of God into evolution theory *has nothing Theological about it.* There is *observable evidence* (which it is not the place here to give) for an infinte existence, and an infinite existence who from our point of view can be called "absolute love." Religion, based on Revelation, says that God is such-and-such (a Trinity, for example, and also Love); but the fact that religion and observable data say the same thing does not make the observable data "religious." Revelation is not used in this book remarks, unless it is put in a Theological note.

4.1.2. Evolution revisited

anyway, then isn't it far more reasonable to form the following hypothesis?

● Evolutionary Hypothesis ●

God, who is Love, has created the world in such a way that (a) He helps it advance in greater complexity and less limitation when it is capable of supporting this, (b) He shows increasing respect for his creatures by manipulating the chance element in the Laws of their operations, rather than doing violence to their natures even "for their own good," (c) this respect and leaving them "on their own" so far as possible becomes greater the less limited they become and more capable they are of acting on their own, and (d) the direction of evolution is a reflection of God's love on earth, in that creatures grow in ability to act unselfishly.

Thus, we find that inanimate beings act in simple response to outside forces; hence their activity is neither selfish nor unselfish. Nevertheless, what they do in inanimate evolution is unite into more complex systems (the parts giving up their natures and assuming the more complex nature of the new body, as when atoms unite into a molecule) up to the threshold of life.

Living bodies, as far as we have so far seen, are for themselves at the expense of the world around them (because they maintain themselves and destroy the food). But still, they seem to be "cheated" into performing unselfish acts in two senses: (a) there is reproduction, which does not benefit the individual, but preserves the species; and (b) there is the "balance of nature" which means that organisms exploit each other in an ingenious system. Plants, seeking reproduction, use bees for pollination; bees, caring nothing for

helping plants, pollinate the plants as they seek the nectar in the flower. The pollinated plant produces a fruit encasing its seed (which happens to have a hard shell). The fruit is attractive to the animal, which eats it instead of the rest of the plant, and digests the pulp, passing off the seed in its feces, so that the seed is fertilized and can produce a new plant. Each is seeking its own benefit at the expense of the other; and each "uses" the selfishness of the other to benefit itself. And all by chance. By chance?

There is something more. Living things show a *superfluity* which is not in evidence with inanimate objects, where everything happens by action-reaction, cause-effect. Living bodies, having energy "in reserve," can use it for non-necessary functions—and tend to do so, the higher one goes in the levels of life. We already saw that reproduction is not *necessary* for the organism at all, and if it is "necessary" for the preservation of the species, the species as such is an abstraction. It is simply nice, when all is said and done. Later, we will see that animals could behave just as well if their brains had no consciousness as an "added dimension" of the electro-chemical discharges. And animals tend to *play:* that is, do acts which do not "perfect" their natures and have no particular purpose, but are a simple overflowing of a kind of *joie de vivre*. Humans perhaps can survive better because they can think, but they do all sorts of things for the acts' own sake—and for the explicit sake of others' happiness—and these acts are not necessary for anything. That is, as one goes up the scale of life, living beings exhibit greater and greater "giftedness"—which is just what one would expect if the Creator is Love.

THEOLOGICAL NOTE

Those who hold the theory of evolution do not realize what a powerful argument for the existence of a loving God they are

4.1.2. Evolution revisited

giving. And by the same token, the "creationists" are cutting themselves off from interpreting the Bible in terms of the Bible of the evidence of "his invisible presence from the creation of the world [which] can be seen from what he made by anyone who puts his mind to it." (Romans 1)

4.2. Life

Since we now have some sort of clarification of what it is that makes living bodies different from inanimate ones, we should be able to come up with a definition of "life" as "whatever it is that accounts for the difference." Actually, there are several ways of looking at the difference, and so several different (and complementary) definitions can be given for the term.

First of all, we can say that the life of a body is that body's existence, since when the body dies, we say that the living thing has gone out of existence. And, of course, if life is existence, then life is activity.

And that makes sense, because the difference between a living body and a corpse is that the living body is actively maintaining its biological equilibrium, and the corpse is simply at the lowest energy-level its parts can exist at. Or, as Aristotle said,

For a living being, to be is to live.

THEOLOGICAL NOTE:

If Jesus is God, and God is infinite existence, then when Jesus said, "I am life," referring to himself as God, what he said was absolutely true. As God, he would not be a *kind or form* of life, but life itself, unqualified.

If the "eternal life" Jesus talked about is God's own life (God's infinite existence), then when he said, as recorded in John 17 "they are to be one thing in me, just as I am one thing in you and you are one in me; they are to be one thing in us" is literally true. Obviously, this life given to us is super- natural (something beyond our nature). But what it means is that we are

> God Almighty, since to live is to be. We live two lives; we have two acts controlling us: ours and God's, the natural and the supernatural.
>
> And, of course, supernaturally, Paul's contention that we are "one body" is also literally true. The same spirit (infinite act) unites us all, and gives us all the same life, just as the parts of a single body live the same life and are (though different in themselves) only one body.

But we can come up with a better definition of "life" than simply "the existence of a living body," or "the activity of a living body as such." We have seen that the way a living body acts is very different from the way an inanimate one does; and therefore, our definition of life will have to reflect this difference.

● **DEFINITION I.** ***Life* is *existence* (activity) insofar as it is *not controlled by quantity* (even if it has a quantity).**

This is the definition of life looked at from the point of view of its being super-high energy. The living beings we have seen so far all have quantitative limitations in their unifying activity, but they exist at a level above what would be expected by the limitations, and the form of activity determines what the limitations shall be, not the other way round.

Somehow or other the unifying energy of a living body must be independent of its *own* quantity and not just of the total energy of the body. The reason is that, from the very beginning, it "knows" what biological equilibrium it is going to have; but this biological equilibrium is a *greater* quantity than the energy possesses at the moment. Hence, the form of the unifying energy is what determines the quantity, not the other way round, as in inanimate bodies.

It would not be surprising to find that as we examine higher forms of life, we will discover that they are even less bound by

quantity, and that the highest form of life of a body is an act that is in itself spiritual.

Thus, there is no easy distinction to make. You can't distinguish "life" from "energy" the way you can distinguish "spiritual activity" from "energy." At least some life involves energy—but it is energy that is not "dominated" by its quantitative limit.

● **Note** that *All spiritual acts (as totally beyond any quantitative limit) are automatically forms of life*; but not all living acts are spiritual. They "tend in the direction" of spirituality, because they "escape" from material limitation, but they may not totally escape from it and still deserve the title of "life."

Obviously the Pure Activity which is not even a form of activity (God) is Absolute Life by this definition (as we said in the Theological note above), because He is not even limited in kind, let alone in degree.

There seems, then, a gradation in things, and the terminology that belongs with it can be shown in the chart on the following page:

In a body, therefore, life is biological equilibrium. **It is the *act* which is the super-high energy level the living body maintains.**

● Note Well ●

Life is essentially *not* process or "development"; basically, it is activity *in equilibrium*.

LIFE AS
NOT CONTROLLED BY QUANTITY

- **Absolute, unlimited activity** (God)**: Absolute Spirit; Absolute Life.**

- **Pure form of activity:** Spirit**; form of life**

- **Form of activity which *has* a quantity but can exist without it** (the human)**: embodied spirit; intellectual (embodied) life; body with a spiritual soul**

- **Form of activity which acts in one respect without any quantitative limit and in another respect must also have a quantitative limit** (the animal)**: immaterial activity; sensitive or immaterial life**

- **Form of activity which has a quantitative limit, but which is not controlled by it:** vegetative life

- **Form of activity which is controlled by its material limit: inanimate activity; pure energy**

Life in a body *involves* processes (to get to biological equilibrium and return there when in imbalance), but the *essence* of life is *to stay the same*. Life is activity, to be sure; but *fulfilled* activity, not activity

"headed somewhere." Life **is** the end, it does **not have** an end.

The purpose of a given form of life, then *is that form of life*. It has no "purpose" beyond being the kind of life it is; that would be to say that essentially it is a process, not equilibrium, and the evidence is against this.

● **DEFINITION II:** ***Life*** **is activity** ***which is in control of itself.***

Another way of looking at this is *life is internal freedom*. The living being controls itself; it is not controlled— and to the extent it can control itself it is to that extent living.

This takes the other aspect we discovered about the unifying energy of a living being; that what the being is is determined ("decided," if you will) from the top down rather than from the bottom up. Thus the living body, free from its domination by its quantity, determines what its biological equilibrium shall be; and—as we will see in subsequent chapters—the higher you go up the scale of life, the more you find the being in control of its future, so that the human being's genetic structure does not impose a "final purpose" on the person, but only sets limits within which the human spirit is free to determine itself to be whatever it wants.

These two definitions are two sides of the same coin. It is *because* the living body is not controlled by its quantitative dimension that it can control itself; it is because it has energy "in reserve" that it doesn't have to use to hold itself together that it can send energy into this or that part of itself to activate some parts from within rather than simply responding to outside energy.

At the lowest level, life begins as internally *directed* activity, and continues, once maturity is reached, as *self-sustaining* activity. Even at the lowest level, what the living being does as alive is not determined by the energy around it, but from within, and not from the

material side of its internal energy, but from the form of that energy.

If we look again at life from the top down, we see the following:

LIFE AS INTERNAL FREEDOM

- **Pure Activity** (God): Absolute self-possession, self-domination (absolute freedom), unable to be affected by anything outside itself

- **Pure spirit**: Free to choose which form of activity it is, but must choose to be some form of activity (i.e. cannot be infinite activity); unable to be affected by actions of other beings

- **Embodied spirit** (humans and other intellectual bodies, if any): Not free to choose form of activity, but free to choose which "lifestyle" it is to have within the broad limits imposed by its genetic structure; able to be affected by energy from outside

- **Immaterial beings**(animals): Not free to choose; the basic mature state imposed by the genes; but individual differences due to responses to the environment (trained habits); affected in large measure by external energy

- **Vegetative life**: Not free, but the mature state internally and not externally determined; affected greatly by external energy

- **Inanimate**: Totally controlled by its internal quantity and the energy around it.

4.2. Life

But these definitions, in either form, immediately have two senses (at least in bodies) depending on whether you are talking about the living properties (as "nutrition is life") or the unifying energy (as when you distinguish a sleeping being as "alive" and the corpse as "not alive," even though neither of them is performing any particular living properties.)

• DEFINITION: *Life* is the behavior or activities a living being performs as living. It is the properties of life.

That is, in this sense "life" is "living": the overt acts a body is performing because it is alive. In this sense, "living" is seeing, walking, breathing, eating, thinking, and so on.

We have seen four examples of "life-as-property" so far: nutrition, growth, reproduction, and repair. Others are sensation, emotion, thinking, and choosing. "Life" in this sense is the set of acts that can only be performed by living beings because they are alive—or in other words, it is the set of acts that depend on the fact that the body is organized with a form of organization that is at a super-high energy level. And that latter sense, of course, is the primary sense of life.

• DEFINITION: *Life* (primary sense) is the *activity* of the *unifying energy* of the body.

That is, life is the basic existence of the body. The body exists as alive (and is not a corpse) when the parts are unified (are inter*act*ing with each other) in such a way that it maintains itself at its super-high biological equilibrium.

4.3. The soul

Since the term "soul" is still used, especially in

Theological circles, and since resurrecting it in its original significance can be handy, let us make a definition of it as it fits into this approach to philosophy:

● **DEFINITION: A *soul* is the *form of the unifying energy* of a living body. It is the *form of life* of the body.**

Another way of putting this is that *a soul is the form of unifying energy of a body, if that form of activity is not controlled by its quantity (or if it controls itself)*. That simply is the substitution of the definition of "life" for the word "life" in the above definition.

● Note well ●
***All* living bodies have souls, not just human ones.**

Trees have souls, dahlias have souls, dogs have souls, cockroaches have souls, human beings have souls. Human beings, as it happens, have spiritual (and immortal) souls, as we will see—and that is why the ordinary person thinks that other living beings don't have souls at all—but originally, "soul" just meant "whatever is the source of life in something," and applied to all living things.
● **Note** also that *only bodies* have souls. Pure spirits (if any) are alive, and have forms of life, but their forms of life are not called "souls" because they don't organize a body. Of course, only *living* bodies have souls; the form of the unifying energy of a hydrogen atom (the internal field) is not called a "soul," because the atom isn't alive; that is, the form of energy unifying the atom is dominated by its matter.
● **Note** thirdly, *the soul is what makes the body the kind of living body which it is*. That is, as we saw, a body is a certain kind of body when its parts are organized in a certain way; and by definition, the soul is nothing but the way the parts of the living body are organized.

4.3. The soul

This is why it is useful to have a single term like this. In a dog, the soul is its "dogginess"; in a cat, its felinity; the human soul is the humanity of the human body, the elm's soul is the elmness of the tree— and so on.

● **Note** fourthly, *the soul as such is an abstraction, not a "something."* It is the fact that the unifying energy (the behavior of the parts of the body toward each other) is a certain kind of energy (the fact that the parts are behaving in a certain way)—together with the fact that this particular kind of behavior is a living kind of behavior, and so is independent at least to some extent of the energy *level* of the unifying energy.

● **Note** fifthly, the soul, as the form of life of the body, is the *limitation* of the body's life to being just this particular kind of life. As a limitation, it itself is nothing at all; it is simply the fact that in this case, all you have is this sort of organization and not some other one. The *reality* is the activity, not the soul; the soul is simply the fact that this unifying activity is limited in a certain way.

● **Note** sixthly, the reason biologists object to talking about "souls" is partly that most people mean by "soul" the spiritual soul of the human being (and only that), and biologists are understandably nervous about talking about "spirits," because spiritual acts are beyond their field of investigation. Also, when you say nothing more than that the soul is independent of its quantity to some extent, you make them nervous, because biologists as such are not concerned with the implications of living acts with respect to how the body is organized, but in the means the body uses to maintain itself—and these means are largely physical and chemical. "Soul" and "independent of matter" sound "mystical" to them, and they want nothing to do with it.

Still, based on the evidence we have seen even so far, it is impossible to escape this "mystical" conclusion; it is really only a

description of biological equilibrium as maintaining in a stable way something that is physically unstable. This is not to say that we should try to force biologists *as such* to talk about "souls" and "independence from quantity," any more than biologists, who are concerned with the operations of living bodies, should expect any philosopher with any sense to accept a mechanistic view of living bodies, just because the biologists are concerned with the mechanical aspects of the bodies.

It might, however, make the biologists' tasks a little easier if they recognized the basic independence of the living body from its own energy level, because then they would not wear themselves out on the futile quest of trying to explain absolutely everything in it mathematically. Some of the most interesting characteristics of living things, especially in the higher forms of life, are only trivialized by concentrating on their measurable aspect—because they don't depend on their measurable aspects, as inanimate beings do.

I beg one indulgence. Strictly speaking, the soul is the form limiting the activity (and as such does not include the activity). However, since it is such a simple word, and is so cumbersome to say "the unifying energy and its soul" or something like that, I want to use the term "soul" *including* the activity of which it is the form.

● **Soul** henceforth, except when used in relation to the activity which it limits, will be taken to mean *"unifying energy of a certain form."*

4.4. Faculties A final aspect of the organization of the body as a whole is that, in order for the soul to control the body (instead of being controlled by it), it must build subsystems with special functions—subsystems which can be turned on and off and controlled from inside the body (i.e. by the unifying energy).

● **DEFINITION: A *faculty* is a subsystem of a living body whose**

function is to perform one of the living operations (properties) of the body.

That is, a faculty is a set of parts (usually many organs, but it could be many cells united into a single organ) which has its own (sub)-unifying energy; but this subordinate unifying energy is, of course, under the control of the unifying energy of the body as a whole (or under the soul's control).

Thus, the digestive system is the nutritive faculty; it includes, philosophically, not only the digestive but the respiratory system and the circulatory system, since these systems (distinct for purposes of biology) all have as their function the nutrition of the body as a whole. The reproductive system is, of course, the faculty of reproduction. We will see later faculties of sensation and a sort of faculty of thinking and choosing.

● The function of a faculty ●

The faculty is so constructed that it has its own special instabilities when energy is introduced into it, and therefore its own properties as it regains equilibrium.

And since the living body's unifying energy is higher than is needed for simply keeping the parts of the body held together, this internal reserve energy can be sent into one of the faculties, thereby throwing it into instability. It then performs its special act, which, of course, is primarily an act of the body as a whole. Thus, the act in question can be turned on and off without being "triggered" from outside the body. In this way, the unifying energy has control over the body's properties.

For instance, nutrition turns on when the total energy within the body drops below the level of biological equilibrium. The instability

in the roots, say, of the plant then makes it absorb food until the energy reaches the proper level, when the act, now in equilibrium, shuts off.

The reproductive faculty initially becomes functional when the organism has grown to or is near biological equilibrium (adulthood). In practically all organisms other than human beings, it operates only at certain times (when reproduction is most favorable, as in the spring of the year) and shuts off at all other times.

The sub-faculty of sight is turned on and off by the opening and closing of the eyes; once it is on, it gets into its special instability when electromagnetic radiation hits the retina of the eye; and this releases energy into the nerves and so to the brain, where the sensation occurs and is integrated with the sensations from the other energy entering the organism; this integrated energy is in turn integrated (by the sub-faculty called "instinct" with the monitoring of the state of the organism), and energy flows through the motor nerves to the muscles, causing the proper response to the environment.

Faculties are, as far as their organization is concerned, complex feedback mechanisms, such as one would find in a computer. The difference between them and the computer's set of "faculties" is that in the living body, the basic control is from the soul, maintaining the particular biological equilibrium through them; while in the computer, the basic control is outside (the operator), and the energy being directed is also totally from outside.

This is not to pooh-pooh the analogy between the organism and its feedback mechanisms and the computer and its feedback mechanisms. The two are very similar, and much can be learned about living bodies' behavior by studying how computers work. The point here is that one should not be bamboozled by the striking similarities into thinking that there is no essential difference between

the two.

We will discuss feedback mechanisms in a bit more detail in the next chapter, dealing with sensation, since we will have to prove that the conscious dimension of the sense-act cannot be due to a feedback loop. Which is not to say that sensation doesn't involve feedback loops, but that feedback loops can't account for sensation as conscious.

HISTORICAL SKETCH

There had been discussions about life and the soul before Plato, but **Plato** (400 B. C.) was the first to develop a complex theory of the soul. For him, the soul was a spiritual "something" (a sort of Form in his sense of the term) that was "inside" the body directing it as a pilot directs a ship. Since all living bodies had souls (by definition), then he held that the differences were due to the souls of animals and plants being increasingly stifled by the bodies they were trapped in. Presumably, in a new life, they would get to move into a less limiting body—and the goal for the human soul was (by virtuous acts) to escape the body altogether and return to the "world of Forms."

Aristotle (350 B. C.) was the one who called the soul the "primary act of the living body," and (since for him form was act itself, not a limitation of it) the form of the living body as such. The soul, for him, limited the "matter" (the "stuff" of the body) to being "this kind of thing," and the matter limited the soul to being an individual. Aristotle also was the originator of the organic theory of living bodies: that they consisted of different "organs" (Greek for "tools") or faculties by which they had the "power" to do or not do their particular acts. Aristotle defined life as "activity," as we said in the text.

With **St. Augustine** (400), the Christian interpretation of life took a distinctly Platonic turn. Plato's idea of the soul as spiritual and as (preexisting and) postexisting its stay in the body was congenial to Christianity with its notion of a life after death. St. Augustine dropped the "preexisting" part, and said that the soul was created when the body was, but that it was immortal from then on. It didn't get stuck in another body, but went into a state of happiness or anguish, until the Resurrection, at which time it got back into its proper (but then unchanging) body.

There arose a dispute in the Middle Ages about whether God created one soul in the human being, or whether the human being developed (in the uterus) first a vegetative soul, then a sentient soul, and then the human, spiritual soul was created when the fetal "animal" was capable of supporting thought. (After all, if caterpillars metamorphose into butterflies, this would not be unthinkable.) Since we know what goes on in the uterus now, however, with the organs of extrauterine life developing from the beginning, this "gradual ensoulment" does not account for the data of fetal development any more.

St. Thomas Aquinas (1250) was the one who Christianized the Aristotelian approach to life. He changed Aristotle by introducing existence as the act which (when not limited more or less as we described above) is life; and he called the soul the "substantial form" of the living body (what we called the "form of the unifying energy") and realized that it was the limitation of existence, and that matter was nothing but its limitation— but he saw its independence, as soul, from its matter. "Matter" for him was not just the quantitative dimension of the act but also, somehow, the "stuff" of the body itself, which got formed into parts. He did quite a bit with the faculties and their operations, much of which is still valid.

Descartes (1600) thought of the "soul" as pure "mind" (i.e. spirit that thought), because of his approach to things based on trying to argue to the world from the contents of his consciousness. No being lower than man, for Descartes, had a soul, because none of them could think. He is really the forerunner of the modern person's idea of the soul as a kind of spirit.

Gottfried von Leibniz (1670), with his notion of "substance" as "internal activity" that produced all its acts purely from within itself without being able to be affected from outside, held that all beings were really "living" in a sense, and "conscious," in fact, in a sense. So really, they all had souls. The ones we call "thinkers" were really conscious; lower forms of life had lower forms of consciousness; and inanimate bodies had the lowest form of consciousness of all—but they were really conscious. The problem with this "unconscious consciousness," of course, is why bother using a term which means the opposite of what everyone thinks it means?

The English who reacted to Descartes and Leibniz (**Locke** [1670] and **Hume** [1750]), thought all of this speculation about souls was a waste of time; if you couldn't see it, why talk about it?

Immanuel Kant (1800) got us locked up in our minds, which, based on the practicalities of ethics, he said we had to assume were free and

immortal and survived our bodies; but he said that there was no way we could actually know this as a fact. We only assumed it to be a fact (without evidence) to make ethical action make sense.

Georg Hegel (1825) essentially said that we are all developing stages in the mind of God as God tries to understand Himself fully for what He is; God includes us, and we include him within us; all there is is consciousness (Reason), which develops according to a definite pattern, of which we are one stage. There really isn't any material reality as we think of it at all; it is all Spirit, Mind, Idea.

Needless to say, the scientific (and after a while, particularly in this century the philosophical) community reacted against this idealistic speculation, in spite of its enormous brilliance, and would have nothing at all to do with Spirit, Mind, Idea, Soul, or anything remotely "metaphysical." So it developed purely mechanistic "explanations" in a way just as dogmatic as the most adamant Idealist, blinding itself to any evidence that would make it think its explanations woefully inadequate. Science has kept the dogmas "If it happens, it's natural; if it's natural, it's mechanical."

And this is where we are today.

SUMMARY OF CHAPTER 4

The fact that living bodies maintain a super-high energy-level enables us to say that living bodies are essentially superior to inanimate bodies. This is not contradicted by evolution, since God must cause any finite being to exist; and the evidence from evolution seems to indicate that God, as Love, creates beings that evolve "beyond themselves," and are "lifted up" beyond their previous capabilities when the conditions for their supporting this less limited existence warrant.

Since the living body differs from the corpse in being active, it follows that life must be activity; and what it is is this: activity as not controlled by quantity (even if it has one), or activity in control of itself. Though life is activity, it is not process, but equilibrium, though it involves processes; its tendency as such is to stay the same, not develop.

Life-as-property ("living") are the acts that a living body performs because it is alive; the primary sense of life in a body is the activity of the body's unifying energy.

The soul is the form of life of a body; that is, it is the form (type) of unifying energy when that unifying energy is not controlled by its quantity or controls itself. Strictly speaking, it is the abstraction which is only the *kind* of unifying energy of a (living) body; but it is also used to include the act, and so it is "unifying energy of a certain form."

Living bodies control their properties by faculties, which are subsystems which can be put into instability by the unifying energy, and which then regain their own

equilibrium and as a result perform some specific act. In this way, the living body can “turn its properties on and off” by sending or not sending energy into the faculty in question.

Exercises and questions for discussion

1. If life is not controlled by its quantity, doesn’t that mean what living beings do isn’t predictable? Then how can there be a science of living beings, since science depends on prediction?
2. If life is existence as in control of itself, then isn’t life the same as freedom? Does that mean that trees and dogs and cats are free?
3. If trees have souls, does this mean that there is a heaven for souls of trees after they die?
4. Does a human embryo have a soul of its own, or is it using its mother’s soul? What evidence can you give for your answer?
5. What faculties have we seen so far? What is the part of the body that forms the faculty, and what are the properties that it can turn on and off?

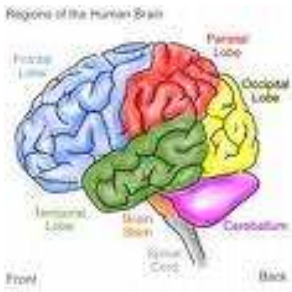
4.4. Faculties

Chapter 5

Consciousness

5.1. Evidence for consciousness

There are those, like Gottfried Leibniz, who hold that all beings, even inanimate ones, are conscious; but since, as we will see, consciousness implies that the being cannot be in itself limited quantitatively, then unless we have evidence that something is conscious, we should assume that it isn't.



This is simply an application of a general principle in science, and it is based on the attempt to pick out the cause (the true explanation) from the many explanations that are internally consistent. The principle is known as "Occam's Razor," because it was first made explicit by William of Occam (1300). It is called a "razor" because you "cut away" all the speculative explanations that *could* be true but aren't *necessary* in order to explain the observed data. Thus, if the

properties (operations) of a body, even a living body, can be explained without saying that the body is conscious, then the scientist will explain them as non-conscious (until some evidence comes along forcing him to admit them as conscious).

The reason some people call all living beings (or even all beings) conscious is that they react selectively to certain aspects of the environment. Sensitive plants have leaves that droop at a touch, the Venus's flytrap closes its leaves when a fly lands on it, heliotropes' flowers turn toward the sun, and in general plants grow toward the light, and so on.

But we have reactions to the environment that do not involve consciousness. The iris of our eye opens and shuts depending on the amount of light falling on it—and we are totally unaware of doing this. Our liver and spleen secrete their fluids on the presence of food in the stomach—and yet we are not conscious of anything being done by these organs. So if in us there are reactions, and very definite reactions, but unconscious reactions, to the environment, then it is possible for a body to react selectively to the environment without being conscious of what it is doing. Hence, we should not take selective reaction to the environment as the evidence that proves consciousness in a being.

What then will count as evidence that some body is conscious? Each of us knows that he himself is conscious; and each of us is aware of what aspects of himself are the faculties of consciousness: our eyes, ears, nose, mouth, skin (for touching), together with the "processor" of our brain—in general, the nervous system. When something is wrong with the nervous system or one of its organs, we lose consciousness.

We can conclude that other human beings are conscious, because (a) they are the same kind of thing that we are, and (b) they talk to us and describe what is going on within them—which is really

inexplicable if they are not also conscious.

But since animals also have nervous systems and brains and other organs very closely analogous to ours, and since, though they do not talk, they exhibit behavior which is very similar to ours when we are conscious (such as motion in sleep, as if dreaming), then the more reasonable theory is that they are conscious, even though we can never get inside them to find out.

Of course, it is not really our task (even if it could be accomplished) to find out which bodies are conscious and which aren't, but to discover what the nature of a conscious body is, based on an analysis of consciousness itself, and the implications of this with respect to how the conscious body must be organized.

● WARNING ●

We are going to be talking about what is in fact spiritual here, so be prepared for some rough going.

5.2. Self-transparency But we have to have some idea of what we are talking about, if we are going to investigate it; and unfortunately, the waters have been muddied, not only by people like Leibniz, but more especially by modern psychology, which defines consciousness either as *any* selective reaction to the environment (which would make sensitive plants conscious, as well as reactions like the opening of the iris of the eye), or any reaction to the environment involving the nervous system. But even then we become "conscious" of all kinds of "subliminal" things that we aren't aware of in the slightest; and I fail to see the meaning of "consciousness" when it is no different, really, from any other complicated unconscious act, like the reaction of your liver to food in your stomach.

Now this is not to quarrel with psychology for defining con-

sciousness as it does; it has its own purposes, and the term as so defined suits them. But such definitions are not useful for us, because we are not interested in how what is called "consciousness" operates, but in what this act *implies* about the structure of the conscious body; and it turns out that the aspect of consciousness that is problematic is the one where you not only react, but know that you're doing so. What kind of an act does this have to be in order to be able to do this?

If the following definition sounds weird, I'm sorry. We're in a weird area of investigation.

● **DEFINITION:** ***Consciousness*** (a) **an act by which a being reacts directly to its own activity; it is** (b) **an act which reacts directly to itself. It is** (c) **an act which contains itself within itself. It is** (d) **an act which is transparent to itself.**

These are four complicated ways of describing abstractly what is going on when, for example, you are aware that your hand is getting hot. Your hand is reacting to heat; but you react to the "being heated" of your hand when you become conscious of getting hot. If your hand just gets hot, then the act is unconscious.

The definitions are actually different ways of formulating this idea. Definition (b) spells out explicitly what is meant by "directly" in definition (a); the being reacts to its activity because the act reacts to itself. Definitions (c) and (d) spell out in different ways what is meant by "an act's reacting to itself" in (b).

The way we are going to approach an analysis of consciousness is this: First, we will try to show that the "reaction to the reaction" (the being aware of what the conscious act is) cannot be a different act from the conscious act—it is one and the same act. Second, we will see if it makes sense to say that a form of energy reacts to itself,

and will conclude that this is nonsense. Third, we will conclude from this that a conscious act cannot be limited quantitatively, but must in some sense be spiritual. Fourth, this implies that the unifying energy (or activity) of any conscious being must be in some sense spiritual.

In the following chapter, we will discuss the lowest level of consciousness, and show how an act can be spiritual and yet also be a form of energy (with a quantity), and that sensation is such a form of consciousness; and we will call this type of spiritual-but-also-quantitative activity "immaterial" activity.

It would be a good idea to keep an open mind from here on, then; because we are going to follow the evidence wherever it leads us, and it leads us pretty close to contradictions at times. Our minds are built primarily to deal with energy (because the acts coming into our senses are all energy); but they are capable of dealing with the spiritual, if we don't let the scientific prejudice that "if it can't be measured, it doesn't exist" blind us to the conclusions demanded by the evidence.

5.3. Consciousness as one act

Let us then consider the first question. Is the conscious act aware of *itself,* or are *we* aware of it (presumably by means of some other act)? So, when you see this page, is the seeing of the page one and the same act as the "knowing that you are seeing" the page, or does the "knowing" part of the complex act "see" somehow the "seeing"? (You can see how confusing this can get. Read carefully.)

The "second act" theory is preferable by Occam's razor, because then consciousness is explainable in terms of energy, whereas, as we will see, if the act is aware of itself, then it has to be basically spiritual—because it has to "do itself" twice without being a system of two interconnected acts.

The "second act" theory basically explains a conscious act as a kind of feedback loop. Let us take seeing this page as the example. When the energy from the light from this page gets into your eye, it sends electro-chemical nerve-impulses to a definite area of the brain (so far, no consciousness). If the energy in that area of your brain is above a certain level (the "threshold of perception") then that stimulates nerves in a different area; and it is the excitation of nerves in this second area which is the "I am seeing" aspect of the consciousness of the page.

So, the theory goes, you can react to the page without being conscious of it—if the only area of your brain that is active is the "visual" area itself. If that second area is active also, then you not only react to the page, you react to your reaction to the page, and you are conscious of seeing the page.

Let me say that *there is no direct evidence* that there is such a "second area" of the brain. It is assumed on the grounds (a) that it is the most reasonable explanation for the "awareness of being aware," and (b) that the energy in our brain actually goes through the whole brain in the form of waves of nerve impulses over the whole brain; and so even if some area can't be identified, it is quite possible that one exists (or is even some aspect of the waves themselves).

Now this "second area" theory of consciousness is, as I said, the preferred theory, if in fact it can explain all the data of consciousness. I am going to try to show that it can't; and so, however attractive it might be, it is false.

The first indication that there might be something wrong with it is that we actually do have cases where parts of our body react to acts of other parts of our body—but the second part's reaction does not make us conscious of what is going on in the first part.

For instance, when the stomach becomes active, the liver reacts

by secreting bile. But this secretion of bile does not make us conscious of what the stomach is doing. When our blood-sugar level drops, we become hungry and are conscious of a feeling *in the stomach,* not in our bloodstream. Actually, the consciousness there is our consciousness of the stomach's activity in response to the drop in blood sugar; but the stomach's activity itself does not make the lowered blood sugar conscious as such.

● The point is that *a simple reaction to some other act within us* does not necessarily make that other act conscious. This in itself is not evidence that the "second area" theory is false, but it is a clue that it might be.

What is necessary, then, in a "second act," whatever its nature, in order for it to render a "first act" conscious rather than a simple reaction?

Going back to your consciousness of the page you are reading, in order for you to be aware of your consciousness, your "awareness of your awareness" must not only be "aware" that your visual center is active, but it must be "aware" of *what that activity is.* That is, in order for your reaction to the page to be a conscious reaction, you have to know *that you are seeing this page;* that is, that the particular visual act you are having is the one of seeing this page and not seeing the Taj Mahal or an elephant.

Now *a simple reaction to energy in the visual area won't do this.* That is, a simple reaction means that some energy from the visual area travels to this "second area" and "turns on the light" there (i.e. stimulates some nerve there). The nerve in this second area just becomes active, that is all.

But what we need is for this "second act" to be active *and* for it somehow to "know" what *caused* it to be active. If in itself it is just an act, then the fact that it turns on when the visual centers turn on

is not enough; then *the fact that* it is connected to the visual centers does not make this connection *part of the act as such,* in the sense of contained within it—any more than the pilot light telling you your stereo is on "knows" that the stereo is on. It goes on *because* the stereo is on, and *we* know this; but *it* doesn't.

So this is another indication that the "second act" theory is probably wrong.

There are, however, two ways in which this "second act" might possibly know what the "first act" (the act it is reacting to) is: (a) there could be a "third act" which reacts to the *connection* between the "first area" and the "second area"; or (b) the "second act" could be aware of itself, (and therefore aware of itself (1) as a reaction to something and (2) of what it was reacting to.)

Alternative (b), however, means that the "second act" reacts directly to itself—and we supposed that there *was* a "second act" in order to get around the difficulty connected with an act's reacting to itself. Hence, for the purposes of this hypothesis, that avenue is to be eliminated.

So the only reasonable explanation on the "second act" hypothesis (that can distinguish the *consciousness-bearing* "second act" from a simple pilot light that doesn't know what it is doing) is that there is a "third act" that reacts to the connection between the "first act" (reaction to the page) and the "second act" (reaction to the act in the brain's visual centers).

Unfortunately, however, this "third act" is just another pilot light. It turns on when *both* the visual centers and the "second area" are active, but it doesn't *know* either what is going on in the visual center (it just reacts to it) or what is going on in the "second area" (since it just reacts to this). It reacts *when* there is simultaneous activity in these two areas, but if it is a simple reaction, it doesn't know the connection between itself and these areas. Yet this is just what is

needed for it to do its job of making the "first act" conscious. You can't be aware that you are seeing the page without knowing somehow that the "awareness of the awareness" is in fact the awareness of seeing the page.

This "third act" which simply reacts to the interconnection of two other acts would be analogous to your making a motion to turn over in the middle of a deep sleep. Your brain is reacting to the bad situation of being in the same position too long *and* the fact that you are asleep, and doing something to correct it. But that doesn't mean that you are *conscious* at this time; and certainly the *movement itself* is not the consciousness of the two aspects of the situation.

But in the case of consciousness, what this "third act" must do is make the "second act" aware that it is a reaction to the "first act." But if it simply *reacts* to the first and second acts, it can't *do* anything to either of them; they act on it; it doesn't act on them.

And really, wasn't that the problem with the "second act"? It was supposed to make the "first act" conscious; but it was simply turned on by the first act, and so couldn't do anything to it. So by the introduction of a "third act" we have come no nearer to solving the problem.

Of course, if this "third act" is aware of itself (if it knows that it is caused by the "first and second acts") then it can do the job; but then again we have to have an act that reacts directly to itself.

Since the problem with the "third act" *leaves us with the same difficulty as the one we had with the "second act"*; and since this difficulty is in fact the problem we had with the "first act" itself (how can an act be directly aware of what it is doing?), then to introduce a "fourth act" or a "fifth act" is going to get us no closer to a solution.

Hence, we can conclude the following:

5.3. Consciousness as one act

● Conclusion 1 ●

Our conscious reaction to anything cannot be accounted for by an additional activity which reacts to it. An act of consciousness must be capable of directly reacting to itself.

Thus, until someone can show how a "second act" can not only be a reaction to the "first act" but know that it is one and also know what it is reacting to—without directly reacting to itself—then we will assume, by Occam's razor that these "second acts" and "third acts" don't exist, and all there is in consciousness is the "first act," which somehow or other not only acts, but acts on and reacts to its own activity while it is at it.

5.4. Consciousness as double itself

The question now is what kind of act consciousness is, if it is in one *single* act both "awareness of X" and "awareness of the awareness of X."

It doesn't look, at first sight, as if it could be a form of energy, because the act seems to happen twice at the same time, without being more than one act.

There are two ways we could confirm or refute this: First, we can analyze it, to see if there is a contradiction in having a form of energy which "duplicates" itself in this way; and if there is, we can conclude that the act, based on this analysis, *can't* be energy. Secondly, we can argue that, if it is in fact energy, then it should be detectable, and we should be able to figure out an experiment by which it could be detected. If it can't be detected, then it must be some other kind of something than a form of energy (i.e. it must be a spiritual act).

To take the first line of reasoning then, what we are going to do is apply what is called the *reductio ad absurdum* (reduction to absurdity) form of argumentation. What this type of argument does is this: You suppose (for the sake of the argument) that a certain

statement is true. You find out what logically follows from this statement (that is, what *must also* be true if the statement is true). If that conclusion turns out to be false, the original statement also must be false.

For instance, I suppose for the sake of the argument that I never learned to write. But then this book would not have been written, and it would be impossible for you to be reading it. Therefore, it is false that I never learned to write.

To apply this to the present case, let us consider carefully what "being aware" and "being aware that you are aware" entails. When you see this page, the act of seeing the page (the very act of [consciously] reacting to the page) is *totally aware of itself*. That is, you not only are aware that your eyes are "turned on," but that they are seeing the page with these words on the page, that they are seeing it with such-and-such a degree of clarity, concentration, and so on. The *whole* of your act of "being-conscious-of-this-page" is *within* the act of "awareness-of-the-awareness." You may not know all about the *page,* but you know all about *how the page appears to you*.

So whatever this "awareness of the awareness" is, it contains *all* of the act of seeing the page within it. It would have to do this, because it *makes* the act of seeing the page conscious; without the "awareness of the awareness," you would have a simple reaction to the page, as we sometimes react to things that we don't really notice (as when we are driving and mulling over some problem, and have stopped for the red light before we realize even that we saw it).

Now if the act of "awareness of the awareness" is analogous at all to the act of seeing, then it is a *reaction* of some sort to this act of seeing (which is why we developed the "second act" theory, you remember). But then the "awareness of the awareness" is a reaction to the *whole* of the act of seeing, of which it is the "conscious"

dimension.

● *But the act of "awareness of the awareness" is one and the same act as the act of seeing.*

This means that the act *really* reacts to itself. That is, the "awareness of the awareness" is a *real* aspect of the act (and not just a name we put on it), because the act is really different below and above the threshold of perception. And it reacts to itself in such a way that the "awareness of the awareness" contains within it the *whole* of the act it is reacting to—but the whole act is itself.

● The act of consciousness contains the whole of itself within itself—it contains its *whole* self as *just one part* of itself.

That is, the "awareness of the awareness" contains the "awareness" (the seeing) as just *one part* of the "awareness of the seeing"; obviously, the "seeing" aspect is less than this additional awareness that the act is seeing the page. Yet the "seeing" is *identical* with the "awareness of the awareness"; there are *not* two acts here, or we are in the "two-act" theory, which makes consciousness impossible.

And this is confirmed by the fact that the "seeing" contains within *it* the "awareness of the awareness," or it wouldn't be seeing, but just a reaction. So the "awareness of the awareness" is just one aspect of the total act of "seeing the page."

That is, it is purely arbitrary which of the "aspects" (the "seeing" or the "awareness of the seeing") is the container and which is the containee. Each contains the whole of the other within it.

● But that makes the act greater than itself.

But this does not seem to make sense.

5.4. Consciousness as double itself

I told you we would be skirting pretty close to a contradiction. Let us look at the act as reacting to itself, and we will see what is going on here. If the act is a form of energy, then in order to react to itself, it has to act on itself. But with energy, this means to *give up* energy. Then it has to give up *all* its energy (because it reacts to the *total* of itself); and it gives it up to itself—which means, of course, that it doesn't give it up at all, which in turn means that nothing happened. If it doesn't give up energy, it doesn't act, but if it gives it up to itself [directly now, not through a feedback loop], then it doesn't really give it up, in which case, no action takes place.

● So if consciousness acts on itself, it has to have more energy than it has.

And this doesn't seem to make sense either.

That is, if the act really acts on itself, then *it has to **add** energy to itself, which of course is impossible,* because then it would have more energy after the "addition" than before, without getting it from anything but itself. But that is absurd. Heat can't raise its own temperature; because there's only so much heat to begin with. If the temperature rises, this has to be from some outside source. Hence, if energy can't add anything to itself, then it can't really act on itself or react to itself. Therefore, the act of consciousness can't be a reaction to itself. But it is.

Nor does this seem to make sense.

But—the act happens, and it *does* contain itself within itself (or it *does* react directly to itself, without going through some feedback loop); and so it is not really a contradiction.

● Conclusion 2 ●

The act of consciousness cannot be described quantitatively. It

is not a form of energy.

All of the difficulties we got into, if you look back at them, turned on the fact that the act had to be *more* than itself; but "more" is a quantitative term. If there is no "greater" or "less" connected with the act, the problem disappears.

5.4.1. Confirmation: consciousness as not energy

Now let us take the second line of reasoning, and see if we can confirm the theoretical conclusion we came to. If consciousness is not a form of energy, then obviously it can't be detected as energy. But if it is detectable as energy, then obviously, our analysis above has been faulty.

Now in fact many psychologists do not bother with a "second act" theory of consciousness at all, but simply say that the energy-output of the brain's nerves *is* consciousness. That is, they say, "What's all the fuss? When these nerves are active above a certain level, we call that activity 'consciousness,' that's all; why fool around with 'second acts that are supposed to react to first acts'?"

From an experimental point of view, I suppose this is legitimate. If consciousness occurs when these nerves are active (whether naturally, or directly as by an electrical probe introduced into the brain at that point) and if it doesn't occur when they aren't; and if the consciousness becomes more vivid the more active the nerves are, then what more do you want?

Remember, the fact that something happens does not make it self-explanatory.

The experimentalists' reaction is like the ordinary person's reaction to the physicist who wonders why things fall down (and not up, and fall faster and faster and not at a steady speed). The ordinary person is apt to say, "Because that's the way things are, that's all";

5.4.1. Confirmation: consciousness as not energy

while the physicist answers, "Of course, but *why* are they this way? It violates the First Law of Motion if nothing's making them act this way."

Similarly here. The experimental psychologist is not interested in the *implications* of what "knowing that you know" has for consciousness; he's content when he's found the area of the brain in which the consciousness occurs, and can examine the measurable activity going on. Whether that measurable activity is or can be the whole story doesn't affect his particular investigations, and so is "just the way things are" as far as he is concerned.

It is legitimate for the psychologist not to pay attention to the problem. But he is overstepping his evidence if he says that there isn't one. What our purpose here is is to show that consciousness can't be explained as a form of energy (measurable activity), let alone the electrical output of the nerves.

● First clue ●

Different forms of consciousness (seeing, hearing, etc.) have identical forms of nerve-output.

The only difference in the output of the nerve energy in seeing and hearing is the *place* in the brain where it happens. The nerves in those two areas are even identical. But if the nerves and the energy-activity are identical in both cases, then why are the conscious acts *different in kind*? That is, the energy is not different in kind; but the consciousness is. That doesn't make sense if the consciousness is nothing but the energy.

So you see, it isn't straightforward, at the very least, that consciousness is "simply" the electrical activity of the brain's nerves.

● Second clue ●

A given act of consciousness does not seem to be absolutely tied to a given nerve-complex.

That is, there also seems to be some evidence that when damage has been done to nerves in a certain area of the brain (as in a stroke), destroying the consciousness associated with that area, it is sometimes the case that nerves in adjacent areas *which hitherto did not have the function in question* take over the function and restore consciousness. Nerves, once destroyed, are not replaced; but sometimes a person gets back lost consciousness by having *different* nerves do the job.

This is further evidence that the nerve-energy itself is not the consciousness. If it were, then these other nerves (whose energy does not change) would have the consciousness associated with them even before the taking over of the lost function. But they don't. How then can their output be consciousness if the same output is not and then is a given form of consciousness?

● Third clue ●

Sometimes there is nerve-energy but no consciousness.

That is, it is well known that nerve-output below a certain level of intensity (the threshold of perception) is not associated with (or is not) consciousness, and above that level it is.

This implies that consciousness cannot be *absolutely* identical with the nerve-energy output; otherwise, there would be consciousness whenever there is output of the nerves.

Now at the threshold of perception, either (a) something real happens, so that the act is really different afterwards, or (b) we just choose to call the act "consciousness" afterwards, and don't call it

that before. Alternative (b) is absurd, however, since below the threshold, we don't know what is going on (we may react, but there is no "awareness of the awareness"), and above it we actually know what is happening to us (we are aware of seeing, or whatever). This is a real difference.

Then alternative (a) is the only one that truly describes the situation. Now then, if there is a real difference, either (1) the difference is due to a "second act" which turns on, or (2) there is a real difference in the act itself. Alternative (2) is the only one possible here, since our previous discussion ruled out alternative (1).

Then the act after the threshold is passed is really different from the way it was before: it has that new aspect to itself called "consciousness," which involves the "awareness of the awareness," and is no longer a simple reaction.

Now then, *if* this other aspect is energy, then what this means is that the *output is at this point transformed into two different kinds of energy:* the nerve-output and "consciousness-energy."

In principle, this "consciousness-energy" aspect of the act is measurable, since it is energy—*but* we might actually be able to measure it, because we might not have instruments that can detect it.

So it looks as if we're stuck. True, no one has ever measured "consciousness-energy." But that could be either (a) because there isn't any, or (b) because we don't have the means to do so.

But even if (b) is the case, all is not lost.

But since there was just electrical energy below the threshold, then we can *indirectly* measure this "consciousness-energy," because (1) energy doesn't get created out of nothing (the first law of thermodynamics); and therefore (2) it would have to come into being by *a transformation of* ***some*** *of the electrical output* into this other form. Where else could it come from? This is the only possible source of

the new energy.

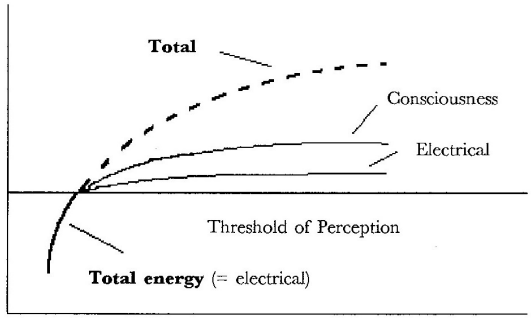
But then this allows us to predict the following:

● Prediction ●

If the "consciousness" aspect of the nerve-output is a form of energy, then as the electrical output of the nerves increases from zero through the threshold and beyond, we would find a "flattening" of the rate of increase as the threshold is reached, and a decreased rate of increase thereafter.

The reason for this prediction is that at the threshold, the *electrical* output *no longer is the total energy involved;* the total energy begins to split into two different forms of energy ("consciousness-energy" and electrical); and therefore, the electrical output itself would not increase for a while and then would increase more slowly than before (because only a percentage of the input now is going into the electrical component).

Schematically, it would look this way:



IF CONSCIOUSNESS IS ENERGY

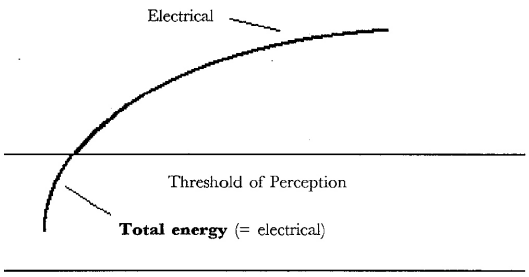
5.4.1. Confirmation: consciousness as not energy

The dashed line called "total" above the threshold of perception is a *theoretical* figure: simply the *sum* of the two energies beneath it; it is what the energy *would be* if it were all one form of energy. The solid lines represent what the real energies are—on the supposition that consciousness is actually a form of energy.

The point is that you don't have to be able to observe both the energies in order to check this result. If all you can measure is the *electrical* output of the nerves, then the *discrepancy* between the output below the threshold and the dashed line (what the output *would* be if it were all electrical output) will give you the amount of the "consciousness energy."

So if consciousness is energy, the *electrical* curve will not follow the dashed line, but will level off and give a shallower increase above the threshold of perception.

Now then, what does the electrical output curve of the nerves actually look like?



OBSERVED RESULTS

As you can see, there has never been observed any difference

between the electrical output above the threshold of perception and what you would expect if there were no "consciousness energy" at all—which is one reason why experimental psychologists tend to say that consciousness is nothing but the electrical output. If, they argue, it is something else, then why can't we detect it?

But if it is, then what about the clues we talked about above? And what about our argument in the preceding section?

In any case,

● Conclusion 3 ●

If consciousness is something real, it takes no detectable energy from the nerves when it comes into existence.

In fairness, while the curve above represents what *is* observed, it isn't as simple as that. The output of a small area of the brain (which is what would have to be the issue here) really spreads itself over the whole brain; and isolating one small aspect of it is not in practice possible (since any given nerve is connected to millions of others, and "tracking" what happens to the energy that comes out can't be done).

So the graph just above is *consistent* with what is known from the nerves, but is not a graph of actual measurements. Hence, the best we can really say from observation of the nerve-output is that *there is no* evidence of any "consciousness-energy" *rather than* the stronger statement that "there is evidence that there is no 'consciousness-energy.'"

5.4.2. Consciousness as spiritual

So the two lines of evidence converge upon the same fact: *consciousness is not something measurable*. Some scientists would say, "Therefore, it doesn't exist." But if there's anything we have evidence for, it's

consciousness; *it,* in fact, is the evidence for everything else.

But we argued back in the second chapter that there is no reason to say that something has to be measurable in order to exist. *Quantity* is not existence; quantity is just a limitation of a limitation of existence. Spiritual existence is at least theoretically possible— and, in fact, the evidence for the existence of God (which I haven't given here) indicates that there is at least one spiritual act.

● General Conclusion ●
Consciousness is a spiritual act.

That is, it is limited to being *this act*, but it has no "muchness" to it; numbers do not apply to it; it cannot be measured; it has no *quantitative* limit.

If the act is not quantitative, then one and the same act can contain itself within itself, because it can be doubly itself without really "adding" to itself at all.

● Corollary ●
The act of consciousness "does itself" many times over in one and the same act.

This is confirmed if we notice something about the "awareness of the awareness." Are we *conscious* that we are "aware of being aware"? We must be; because everyone recognizes (with a little introspection) that the difference between consciously seeing the page and merely reacting to it is that when you are conscious of it, you know that you are seeing it.

But then the "awareness of the awareness" has an "awareness of the awareness-of-the-awareness" that is conscious of *it,* or the "seeing" would be conscious, but we wouldn't *know* that we knew we were seeing.

So it's not true to say that there are "two" acts going on here; there are at least three of them, each containing the other two as part of itself (and each, at least in principle, distinguishable from the other two).

But of course, this "awareness of the awareness-of-the-awareness" is also conscious, because you know that it is happening. That is, it's absurd to say that you don't know that you realize that you are conscious of seeing the page. So there are "four" acts, not one or two or three. But these "two" or these "three" or these "four"—and we could go on—*are all one and the same act.* There precisely *isn't* more than one.

This makes sense if the act is spiritual, with the result that numbers don't apply to it; and it makes no sense at all if the act is energy. If it is energy, then any "multiplication" of itself has to be *outside* it; and then we have not merely two, but three or four or five or more interconnected acts. So the "second act" theory was actually an oversimplification.

Hence, we can say this:

● General characteristic of the spiritual ●

A spiritual act is totally transparent to itself; it is totally present to itself; it is totally within itself; it totally knows itself.

THEOLOGICAL NOTE

If God is a spirit, then there is nothing contradictory in his being a Trinity: that is, three acts, distinguishable in some sense, but actually just "ways of looking at" one and the same act. Just as the "awareness of the seeing" is *in reality* identical with the "seeing" (because there is no more than one act), it is also *not* identical with it *in concept* (because it is one of the "reduplications" of the act by which it is present to itself), so the "persons" of the Trinity are not the same as each other, but each is contained within the

others and each is in fact "one and the same reality" (in the words of the Greek of the Nicene creed) as the other "two."

The "Father" is said to "generate" the Son. We could perhaps express this this way: the Father is the "act" which reduplicates itself. The Son, of course, would be the reduplication, which is, as spiritual, the same act—one and the same act—as the Father. The Spirit is said Theologically to "proceed" from the Father and the Son. If you wanted to use the analogy I am developing here, the Spirit would be the "reduplicating" (what the Father is doing in generating the Son—which is the Divine Act itself—and what the Son is doing "imitating" the Father as His "reduplication"—which is of course also the Divine Act); and so the Spirit is a kind of relation between the Father and the Son, or an "imitation" which is no imitation but is the identical act which is both the Father and the Son.

Why is God called a Trinity and not a Quaternity or a Quinity? If the Trinity is due to God as spiritual (and not necessarily as absolutely unlimited) then there is no intrinsic reason why he couldn't be called such; because a spiritual act "does itself" as many times over as you want to name. But Jesus referred to the Father and the Spirit, and called himself "one thing" with the Father and the Spirit. And so since he gave these three distinct names to God, and yet said they are "one and the same thing" (John 16 and 17, e.g.).

This is not necessarily an "explanation" of the Mystery of the Trinity. It does, however, show that it is not unthinkable for God to be only one God and yet be three really distinct "somethings" at the same time; because a spiritual act does really "do itself" over more than once.

5.5. The faculty of consciousness

If consciousness as an act is a spiritual act, then this means that it is "infinite" with respect to quantity. That is, as I mentioned on page 31, this does not mean that it is God, because it is obviously limited in *form*. All "infinite with respect to quantity" means here is that, since quantity is a limitation, it is not limited on that level. That is, the *idea* that two and two are four is not twice the idea that one and one are two; it is just different.

But how are you to think of a spiritual act?

● Understand this ●

The spiritual is to energy as colorlessness is to color. Number-terms do not apply to it.

What do I mean here? Colorlessness is not "no color" (which would be blackness), or "all colors combined" (which would be whiteness) or "a color, without specifying which one" (which would be a "color variable"). What "colorless" means is that color-terms *do not apply to the object*. Similarly, as I said above, what "spiritual" means is that number-terms do not apply to the spiritual object, and when you try to apply them—as we did above—you get contradictory results.

That is why in consciousness you have to say that there is not *one* act (as opposed to two or three), that it doesn't have *parts* (in the sense that one part is "outside" the other ones), that one act of consciousness is not *greater* or *more powerful* than any other, and so on. Every act of consciousness is different from every other one in the same sense that heat is different from sound or that dogs are different from cats; they are different kinds of acts, even though they all have the generic name "consciousness."

Of course, numbers do describe limits on energy; and the spiritual is beyond this type of limit—and so it can be called "infinite" with respect to quantity. Note that only God is infinite with respect to *both* quantity and form. Other spiritual acts have the limitation of form, and are a definite *kind* of activity, and so to say "spiritual" is not necessarily to say "absolutely infinite."

With that out of the way, then, if the spiritual is totally beyond quantitative limit, it follows that

● Conclusion 4 ●

The parts of the body that make up the faculty of consciousness

cannot account for the act of consciousness.

Why? Because these parts are bundles of energy, having quantities. The eye, the nerves, and the brain cannot account for seeing as an act of consciousness—though they may be necessary for us to see. But insofar as they are energy, they cannot produce an act which is infinitely beyond their quantitative limits.

Yet it is clear that the brain and so on *do* produce the acts of sense consciousness, at least (we will take up the problem of what the "faculty" is for understanding and choosing much later). And since the parts can't be what is responsible for the spiritual act, then we can draw the following conclusion:

● Conclusion 5 ●

The activity organizing any faculty of consciousness must be (at least in some respect) a spiritual act.

The reason for saying "at least in some respect" is that, as we will see in the next chapter, the sense faculty has what you might call an "energy-component" whose function it is to unite the parts of the faculty; and so the organizing activity of the sense faculty is in one respect spiritual and in one respect material. But we will worry about making sense out of this later. For now, it is enough to say that *something* about *any* faculty of consciousness must be spiritual, and this "something" has to deal with the activity organizing the parts.

5.6. The soul of a conscious body

If a body which has consciousness as one of its properties has a spiritual act as one of its acts, and if this, as we just saw, implies that the faculty is organized with some kind of a spiritual act, then we can draw the following conclusion about the nature of the conscious

body:

● Conclusion 6 ●

Any body which performs a conscious act must have a soul which is at least in some respect spiritual.

The reason for this is that the soul is the controlling activity of the whole body, the act which builds the parts into organs and faculties and which regulates the acts of these faculties so that it is the whole body which "really" acts. If the soul of a conscious body were merely a form of energy (however high the energy-level), then its faculty of consciousness would be infinitely beyond it (because the faculty is organized with a spiritual—or in part spiritual—act), and therefore the faculty would not be able to be dominated by and under the control of the soul, and the body would not act as a unit.

Hence, if an act of a body is in part spiritual, then the faculty to perform that act must be spiritual (at least in part) and the soul of that body must be spiritual (again at least in part).

The reason I say "at least" in part here is that a totally spiritual soul can be responsible for a faculty and an act that is only partly spiritual. What is greater can do less; the point is that what is less cannot do anything greater than itself. And in fact human beings, who have souls that are spiritual (and not "immaterial," a distinction we will see later) have "immaterial" faculties of sensation (which are only "in part" spiritual).

5.6.1. Consciousness and the computer

Can computers think, then? Not if by "think" you mean a conscious act. Computers are systems of energy, and don't even have any real unifying energy making them bodies, let alone having the spiritual unifying act that would make them able to be conscious.

5.6.1. Consciousness and the computer

Computers may be able to *behave* in much the same way as animals and other conscious beings; because much of what we call "thinking" and "perceiving" is simply *reacting to* the world around us and *arranging and connecting* those reactions. Computers, for instance, can be connected to photocells, and these photocells programmed to react to, say, printed words, which the program connects to voice synthesizers producing certain sounds when certain words are "input" through the photocells; and so the computer could be programmed to read this page—and, in fact, I have seen this happen. A blind woman I know had a computer on which you could put a page of text, and it would "say" aloud what was on the page. But it didn't *see* the page; it simply reacted to the marks. There was no "reaction to the reaction."

Similarly, computers now exist which are connected to microphones and voice-recognition programs, and these words connected to a printer, so that the computer will print out what you say into it, and even be able to distinguish (by context) "to, too, and two".

And it's not far into the future when computers will listen to what you say and talk back to you, just like HAL in *2001: A Space Odyssey*. And there are already and will be computer programs that learn by erasing courses of action that turn out to be failures (as, for example, if the chess-playing program loses, it goes back over its moves and blocks out one of the moves it made, so that the next time it won't do the same thing).

But all of this, impressive as it is when you see it in action, does not mean that computers can think or are conscious. *We do* all these things when we think; but they do not define thinking; thinking is a conscious act, which knows what it is doing while it does it. And this is totally beyond the range of a computer. It can make marvelous connections; but it has no act which can "do itself" twice in one and the same act.

Beware of the pseudo-religion of science which says, "Well, maybe they aren't conscious *yet,* but give us time." What that is saying is that the argument above for the spirituality of consciousness is false (because it says that what consciousness involves is impossible—a contradiction—for energy). So the argument above has *not* simply proved that "we have no evidence for saying that consciousness is energy," it has proved the much stronger statement, "We have evidence that consciousness *is not and cannot be* energy."

In other words, to say that computers might become conscious in the future is analogous to saying that sometime in the future, it will be possible for water not to consist of hydrogen and oxygen, because "so far" we've just proved that there's no evidence for saying it's made of anything else. If you ever find water not consisting of hydrogen and oxygen, then the whole atomic theory is false.

No, this notion that, "Well, *some* day we'll figure out a way to make computers conscious," is pure dogmatism on the part of scientists who refuse to look at evidence that would indicate that there might be something that is real but not measurable.

Don't be taken in by this kind of thing. True, the theory above can be wrong; but until there is *evidence* against it, a reasonable person will take it as what the facts are.

HISTORICAL SKETCH

Plato (400 B.C.) certainly held that understanding was a spiritual act (since it got at the eternal, unchanging, invisible Forms); but he seems to imply that sensation or perceiving the changeable world was not spiritual (because our sensations change just like the world perceived by them).

Aristotle (350 B.C.) thought of consciousness as a kind of "becoming" of the thing we were conscious of, though not in a material way. That is, when we are conscious of a rock, the form or characterization of the rock (that is, the act the rock is doing as a rock) is within us, but without the matter; in other words, the mind imitates or performs the same act as the object (and so "becomes" or "is" the object);

but the mind doesn't turn into the object, because the act is the act of the mind, not of the "stuff" the object is "made of."

St. Thomas Aquinas (1250) made the distinction we are going to make (and have hinted at) between the "immaterial" and the "spiritual," on the grounds that the "immaterial" did not have matter (which he rightly interpreted as limitation of form, not some "stuff"), but was "subject to the conditions of matter": individuality, time, and space. Spiritual acts like understanding, however, were "universal, timeless, and spaceless," and thus were purely spiritual. Our grounds for the distinction will be different, because of what modern science has taught us.

Descartes (1600) held that thought, which had nothing to do with "extension" (spatiality) was a spiritual act implying that the mind was a spiritual "substance" different from the body it was in. He held that sensations were in themselves simply mechanical reactions to things; animals were complex machines, with no spirituality about them at all.

The British Empiricists, **Locke** (1670) and **Hume** (1750), thought that they had successfully reduced all "thought" to combinations of sensations; and this, together with Descartes' exclusion of sensation from spirituality, led future thinkers to pooh-pooh the notion of spirituality altogether.

Immanuel Kant (1790) did say that understanding was an act different from sensation; but he believed he had proved that it was impossible to know whether anything spiritual existed—though we had to assume (or "postulate," as he said) that the human soul was spiritual in order to have ethics make sense.

Kant, then, was the one who made scientists think that it was a waste of time to pursue questions of spirituality—even though his analysis of why this was supposedly so was faulty.

Georg Hegel (1810), however, was the one who is most responsible for the modern world's suspicion of spirituality, because of his brilliant "description" of the world as the "consciousness of the Absolute becoming aware of Himself in the object He produces"— which made everything simply consciousness (i.e. Divine consciousness) and consequently everything, including matter, spiritual. Those intelligent enough to follow Hegel's very difficult reasoning either got totally convinced by it, or felt that something was radically wrong with it, but couldn't put their finger on what—and so decided to forget about the whole thing.

5.6.1. Consciousness and the computer

SUMMARY OF CHAPTER 5

Consciousness, in philosophy (not as in psychology) involves not only reacting to the environment, but realizing that you are doing so. The question is whether this act is a system of two acts, the "reaction" and the "realizing," or whether "they" are two ways of describing only one act; and if there is only one act, whether this act can be energy.

The conscious reaction and the realization cannot be two acts, because then the "realization," as separate, would not know what the "reaction" was, but only that something or other was active in another area of the brain. Nor would a third act reacting to the connection between the two do the job, because it would not realize what it is connecting. Hence, the act of consciously reacting to the environment must be one act, containing with in the realization of what it is doing. Consciousness, then is **(a)** an act by which a being reacts directly to its own activity; it is **(b)** an act which reacts directly to itself. It is **(c)** an act which contains itself within itself. It is **(d)** an act which is transparent to itself.

But such an act cannot be a form of energy, with a quantity which means it is "only this much and no more." First, if it is energy, then in reacting to itself, it would have to "do itself" twice, which would mean that, whatever its amount, it would have to be double that amount. Secondly, if it is a form of energy, it must somehow detectable. But (a) different forms of consciousness are associated with the same kind of nerve-energy, (b) sometimes consciousness "migrates" to an association with different nerves, (c) at low levels, the nerves produce energy but not the associated consciousness, and finally (d) if consciousness were energy, there would be a drop in the energy-output of the nerves at the threshold of consciousness; but no such drop is observed.

These two lines of reasoning prove that consciousness cannot be described as "only this much" of an act, or is *spiritual* and not energy. Consciousness is infinite with respect to quantity.

It follows from this that the faculty of consciousness (the nervous system), whose parts are all physical (i.e. made up of energy) must be organized in a basically spiritual way, or it would perform an act infinitely greater than itself.

By the same token, the soul of a body which is conscious must be in some sense spiritual, or it would not be able to build and direct a faculty which is organized with an act infinitely greater than itself.

And it also follows from the spirituality of consciousness that computers are not and will never be conscious, since they are simply systems of energy.

Exercises and questions for discussion

1. Why aren't Venus's Flytraps and sensitive plants (which respond by moving when you touch them) evidence that plants have sensations and so are conscious?

5.6.1. Consciousness and the computer

2. Why would it not be possible to be absolutely certain that there is something if your consciousness and being conscious-of-being-conscious were not one and the same act?

3. But since consciousness never occurs without the nerves in the brain putting out energy, doesn't this prove that consciousness is just that energy?

4. Doesn't the fact that if consciousness is conscious of itself it has to be twice itself without being more than itself prove that there's something wrong with our reasoning, not that consciousness is something weird?

5. If the soul of a conscious body, like an animal, has something spiritual about it, doesn't this mean that the soul will go on existing after the animal's death, and so there is a doggie heaven after all?

5.6.1. Consciousness and the computer

Chapter 6

Sensation

6.1. Reactive consciousness

The approach we are taking toward life is from the more limited to the less limited; and this poses a problem for us at this point. Thinking is actually somewhat simpler to analyze as consciousness than sensation is, because sensation is an act that is spiritual but also quantitative, which sounds like a contradiction in terms.

I can, however, offer the solace that, once we have got beyond this chapter, the sailing gets a little smoother. A little. So let us press on.

• **DEFINITION: *Sensation* is reactive consciousness: that is, acts of consciousness which are reactions to outside energy, or the integration, storage, and retrieval of such reactions.**

One of the reasons that sensation has to have an "energy-component" is that a

purely spiritual act cannot change, and so cannot be affected by anything outside itself. The reason, as we saw on page 44, is that change is started by an instability, which is a discrepancy between the unifying energy and the total energy of the body. But that implies that the unifying energy has a definite quantity, because if it didn't, how could there be a "discrepancy"?

Hence, if we are to have consciousness that is not totally self-contained, so that we can consciously react to the world around us, then our consciousness has to have this peculiar "spiritual-material" characteristic.

• DEFINITION: An act is *immaterial* if it is in itself spiritual, but is (in the same act) also a form of energy, with a quantity.

Sensation, then, is immaterial consciousness; and as we saw in the preceding chapter, this implies that the sense faculty is a faculty organized with an immaterial act, and the soul of the body which has sense consciousness must therefore be at least an immaterial soul.

Having given a reason why we have immaterial consciousness, we will approach the subject of sensation this way: we will give evidence indicating that sensation, though conscious, *is* a form of energy; and then try to show how it is possible for an act to be both spiritual and a form of energy. Finally, we will describe the act of sensation in terms of the various ways we react to different aspects of our environment (the so-called "five senses"), and then how we integrate, store, recall, and work with these reactions (the "internal senses").

6.2. Evidence that sensation is energy

Now then, what is the evidence that indicates that sensation, though consciousness, is indeed a form of energy?

- First of all, *a purely spiritual act cannot change,* as I said above; yet *sensations form a stream of varying impressions.*
- Secondly, *sensations depend upon the energy in the nerves* in the brain. When the nerves are active, sensation occurs; and which nerves are acting determines which type of sensation is going to be experienced. This could be simply a condition for sensation to occur, but it implies either (a) that sensation is affected by the brain's nerve-energy, or (b) that the consciousness and the nerve-energy are actually the same act. We saw in the last chapter the difficulties with (b) if you call sensation *merely* nerve-energy. What we are going to argue to is a version of (b) in which sensation has the nerve-energy as one of its "components."
- Thirdly, sensations vary in vividness—and, in fact, vary in proportion to the intensity of the energy they are reacting to. (Actually, this variation is not straightforward, and is not quite what Weber and Fechner thought in their "law," that of a logarithm of the energy; but there is—as S. S. Stevens has shown—a rather more complex, but still mathematical, relationship between the perceived vividness and the intensity of the energy.)

It would be difficult to see how a purely spiritual act (in fact, a spiritual act in any sense) could vary in vividness without having a quantity in some sense; it would seem that an act which is the same but "more vivid," especially in some mathematically definable sense of "more," has to have a quantity.

But

It is nevertheless the case that *sensation is an act of consciousness;* because when you see or hear or whatever, you are aware of seeing or hearing; and we saw in the last chapter that *this cannot be explained if the act is a form of energy.*

6.2. Evidence that sensation is energy

● The dilemma ●

There is good evidence that sensation is energy; and there is equally good evidence that sensation is consciousness, which cannot be energy.

Clearly here, we have an *effect,* not a contradiction, unless we have been misreading the evidence somehow. There has to be a way out of the dilemma.

6.3. The solution: sensation as immaterial

But how can something which can't be energy be energy? The answer, actually, lies in the nature of the spiritual. We saw in the preceding chapter that a spiritual act "does itself" many times in one and the same act, so that it contains itself within itself or is transparent to itself. We also saw that it was impossible for energy to "do itself over again" because this would mean that it would have to double itself; but its quantitative limit prevents it from being twice *as much as* what it is.

But if a spiritual act can duplicate itself without being two acts, there is no reason why *one* of its "duplications" could not have a quantity, so that the spiritual act could be *both* an act of consciousness *and* a form of energy in one and the same act. While is it impossible for energy to "duplicate itself" as consciousness, it would not be impossible to go the other way and have consciousness (which duplicates itself anyway) duplicate itself as energy. What is less cannot do what is greater, but what is greater can do what is less.

That is, if the act of consciousness called "seeing," for instance, "does itself" as the visual impression of this page, and also "does itself" as the awareness of this visual impression, *that same act,* since it is spiritual, could also "do itself" as a certain form of nerve-energy, with the quantitative limitation the nerve-energy has.

Now it could only "do" this *quantitative* "reduplication" of

itself *once,* because, even though the act in itself is infinitely beyond the quantity which it "adopts"; still, once it has a quantity, it can't have a different quantity at the same time in one energy-act. Of course, however, there might be a *system* of interconnected energy-acts as the "reduplication."

So a spiritual act can contain itself within itself as spiritual as many times as it pleases (so that it could—and does, as we will see—have many different forms of consciousness in one and the same act of consciousness); but if it "reduplicates itself" in a quantitative way, and so also becomes a form of energy, it can has to contain itself as one form of energy, or one interconnected system—even though it still has all of the multiple "reduplications" of itself as spiritual (since they have no quantity).

So, as I said, the idea is that a greater act can do what is less, and what can "do itself" many times in one act can "do itself" in a lesser form while it is at it. There is nothing contradictory in this, even though it is what I said earlier is apt to be the mind-boggling aspect of sense consciousness.

● The solution ●

It is possible for a spiritual act, in one of its "duplications" of itself, to "repeat" itself to a limited degree, and thus be both spiritual and energy.

Now of course, this is a theory of what sense-consciousness is, not an observed fact. But notice everything it explains. **(a)** It explains how sensation, as consciousness, can be aware of itself—because it is basically a spiritual act which contains itself within itself. **(b)** It explains how sensation is "connected" with the brain's nerve-energy output—because the nerve-energy is the "energy component" or the quantitative "reduplication" of the spiritual act. It isn't just

"connected" with the nerve-energy; it *is* that energy. **(c)** It explains how an act of consciousness can react to outside energy—because the act is (because of this energy-"reduplication") a form of energy, which can react to outside energy. **(d)** It explains why consciousness does not "turn on" until the threshold of perception is reached—because it would be difficult to survive if we had to be conscious of *all* the energy impinging on it; so the conscious act remains *only* energy until a certain intensity is achieved, in which case it acts as its full self. **(e)** It explains why when the threshold of perception is reached, no energy is "drained off" to produce the conscious act—because the conscious act, as spiritual, does not have a quantity, and as the same as the energy, does not "take" any energy from it. **(f)** It explains why the conscious vividness increases as the intensity of the energy it is reacting to increases.

Actually, this last point needs a little expansion. The "degree of vividness" *as conscious* is actually a *form* of consciousness which *represents* a degree. That is, the way a bright light appears to you and the way a dim light appears to you are actually two different *kinds* of appearance, not really different degrees of the same kind of appearance. We think of them as degrees because they represent or refer to different degrees of the energy we are reacting to.

The evidence for this is that it is possible to hold the "degree of vividness" constant (so that a certain amount of energy is coming into the sense organ), and vary the form of the energy, asking the person to rate the various forms of his perception in terms of numbers. Thus, for instance, colors of a certain degree of reflectance and saturation and so on could be shown subjects, with only the hue (the color itself) varying. The subject could then be asked to say how much "more of a color" the blue card is from the green or the yellow, and so on, and he would be able to rank the different colors as "quantities" of "color." Now the colors are clearly perceived as

different qualities, not quantities; and this indicates that, as far as the perception itself is concerned, what the "quality" is and what the "quantity" is are arbitrary.

This theory, then, says that the conscious act, which is also the form of the nerve-energy in the brain, has a conscious form which corresponds to the degree of the nerve-energy and represents the degree of the energy that stimulated the nerve to react. This is possible only if the nerve-energy and the conscious act are in fact one and the same act.

Hence, the theory, by making the one simple assumption that a conscious act can "reduplicate" itself once as a form of energy (and so be a spiritual act and a form of energy at once), explains much that is puzzling—and otherwise inexplicable—about sensation as consciousness.

THEOLOGICAL NOTE

Jesus is supposed by Christian Theology to be both God and a human being. Now a human being is a body (bundles of energy) organized by a soul, which is (at least as one "component") a form of energy. We will see more about the human soul later. For our purposes here, "to be human" means "to be limited" in a certain way, and also to a certain degree. but "to be God" means "to be absolutely without limitation."

This sounds like a contradiction in terms—and to the devout Jew or Muslim, it is. For them, to say that Jesus is God is blasphemy, because it assumes that a finite being can be the Infinite Being—which, for them, is absurd.

But what we have just seen about sensation makes the "incarnation" (the "becoming flesh," or "becoming a body") of God not unthinkable.

God, as spiritual, "does himself" over more than once in one and the same act. We saw this in the note on the Trinity. It is possible for one of these "reduplications" to "empty itself," as St. Paul says (Philippians 2) and "take the form of a slave" without

losing the Divinity.

Jesus would then have two "natures": the Divine nature as the Infinite Act, and the human nature as the human being. The human nature would not be an "illusion," but a real nature, just as the energy-component of sensation is real energy. But by the same analogy, Jesus would *not* be two interconnected beings or two "people"—one Divine and one human—because these "two" are just "reduplications" of one and the same act; just as the act of sense consciousness and the nerve-energy are not two acts, but the same act.

Thus, Jesus, according to Catholic Theology, is one "person" (the Divine one) with two "natures." He really is God and he really is human; but he has only one reality—and that one reality is basically the Divine one. In the same way, the act of sensation is really a spiritual act, and its energy-component is an "aspect" of it, but a real one.

Notice, by the way, that Jesus' consciousness would involve sensation, which is reactive consciousness. God, as a pure spirit, could not be conscious in this way (since this kind of consciousness needs a quantitative "reduplication"); and so God began to see—in the literal sense—when Jesus was born. This is not to say that God's consciousness was incomplete beforehand; reactive consciousness is a defective form of consciousness.

So Jesus would have two types of consciousness in him: the Divine consciousness, always the same, absolute, undifferentiated Truth, and sensations and their derived concepts and in general the human consciousness, which involves reacting, comparing reactions, and learning new concepts. Jesus, as human, had to learn new concepts; as Divine, he had always the mystical awareness of the truth of what he knew.

6.4. The sense faculty

Assuming that our theory of immaterial consciousness is true, then, let us briefly describe this consciousness and its faculty as it appears in us (and in animals, especially the higher ones).

• **DEFINITION: The *sense faculty* is the whole nervous system, with the brain as its central "processor."** Consciousness, however, occurs only with the acts of the nerves in the brain itself.

So the faculty of sensation is extremely complex; it is so constructed that it receives different sorts of information from different kinds of energy from within and outside the body; it sends all this information to the central processing area, the brain, where it is integrated and filed away for future reference, and where it is connected with behavioral responses to the information.

I want to stress here, however, that this is one faculty. Following Aristotle, Scholastic philosophers in general have supposed that there are many interconnected "faculties" of sensation, on the grounds that a faculty (as a power to do something) is defined by its act, which in turn is defined by its object; and so if the objects reacted to are different, this would imply that the reactions (the acts responding to them) are different, which in turn implies different faculties.

I think, however, that the ancient notion of "immaterial" as "only half-way to spiritual" got in the way of a clear look at sensation. With our notion that the immaterial is spiritual-with-an-added-energy-component, it is easier to see that the act of sensation is *one* act, but an act which "reduplicates itself" as many *forms* of activity, corresponding to the various forms of energy it is reacting to in a unified way.

• **DEFINITION: An act is a *polymorphous* act if one and the same act is simultaneously many different forms of activity.**

Sensation, then, and human consciousness in general, including thinking, is a polymorphous activity. As spiritual, there is no contradiction in the act's having many forms; as it "reduplicates" itself, its "reduplications" take on different forms; but it remains only one

act.

The energy-dimensions or energy-components of these different forms of activity, however, are a *system* of interconnected forms of energy: the energy in the brain.

- This theory of sensation, then, predicts that *each distinguishable energy-output in the brain will have its own form of consciousness, and this form of consciousness will be one "dimension" or "component" of the polymorphous act of consciousness.*

So it isn't really the case, if this is true, that sensation "reduplicates" itself only once as a form of energy; one and the same act *does* have a number of quantities, but each one is associated with a different nerve (or perhaps nerve-complex).

That is, energy-dimension of the act of sensation is an *organized system* of energies going on in the brain at the same time; but the conscious aspects of sense-perception all "interpenetrate" each other, so that each is, as it were, an aspect of the others.

It is easier to illustrate this than to describe it abstractly. As you read this page, you see certain colors; but are these colors seen as "aspects" of a pattern of shapes—or are the shapes "aspects" of the colors? The shaped colors are seen as at a certain distance from your eyes, they are seen as familiar or unfamiliar, and recall other shapes and colors (as well as thoughts as to what the shapes mean), and evoke certain emotions, tending to cause you to behave in various ways in response to what you are seeing.

All this occurs at once, in one single, simple act ("simple" in that it has no parts interconnected). But each of these "aspects" contains the others as "aspects" of itself, and is made different by and, if you will, affected by these other aspects—as, for instance, the familiarity you have with the words you see affects the way you see them; your expectation "makes" you see differently from the way you would if you were reading a foreign language. Thus, the different forms of

consciousness are contained within each other, or interpenetrate each other; the act of consciousness is not a system of interconnected acts, but one polymorphous act.

Nevertheless, the energy-components of this polymorphous act cannot be like the act itself, because energy has a quantitative limit, and so can't "reduplicate" itself; any complex energy has to be a system of many interconnected acts; and that is what the brain's energy is. But remember, the brain's energy is *not* something that *results in* consciousness; it is the quantitative reduplication of the conscious act itself.

6.4.1. The "external senses"

What, then, are the various ways in which the sense faculty reacts to "outside" energy? I put "outside" in quotes here, because this means energy coming into the *faculty,* but *not* necessarily energy from outside the *body.* Most of the energy we react to, of course, comes from outside the body; but we also react to energy within the body (hunger pains, the sense of balance, etc.).

These ways of reacting were traditionally called the "external senses," and treated as separate faculties. We will treat them as aspects of one faculty.

• **Note** that a detailed description of each of the aspects of the sense faculty really belongs to experimental psychology, not to philosophy. I will simply be giving a sketch here.

• **Note 2:** Think of these functions as various "inputs" into the information-processor which is the brain with its consciousness.

• **1.** First, we react to objects or acts which are *in contact with* the nerve-receptor. This is called the *"sense of touch."*

There are actually many "senses" of touch, because there are different nerve-receptors (each with its own form of consciousness)

which react to what is in contact with them. Under the "senses" of touch are included that of *pressure, pain, heat, cold* (there are different receptors for these and different forms of consciousness), *balance* (in the inner ear), *the "muscular sense", the "kinesthetic sense"* (by which we "feel" and movements of our bodies), *and various others, such as itch and tickle*.

The *function for the organism* (or "survival value") of the sense of touch is obvious. Contact with different forms of energy can be either beneficial or harmful to the organism; if it can distinguish which sort of energy is in contact with it, it can take steps to preserve itself.

Aristotle mentions that the simplest animals have only this sense of touch, and he may be right; though I would speculate that the second of the "senses" is probably also in every conscious body.

The point of this is that one way we can be in a position to get information from something is to be in direct contact with it. Touch is the "direct-contact" function.

• **2.** Secondly, we react to *the chemical breakdown of bodies taken into the organism; this is called the "sense of taste."*

The actual taste of food we have is a combination of the act of the taste buds on the tongue (which react only to sweet, sour, bitter, and salty) and smell (which is in the interior part of the nose); the odor from the food goes up to the smell organ through the back of the mouth. But which organs are used for taste is really not philosophically relevant (though it is biologically); the point is that, as we destroy the objects we take into our systems, we react to this act of breaking them up—and we react favorably (a pleasant taste) or unfavorably (an unpleasant one) depending on the needs of the organism.

The *function* of taste, of course, is to let the organism know

what bodies it takes into its system are compatible with it (good for it) and what are harmful to it.

• **Note** that in human beings, the needs of the organism take a second place to our *idea* of what is "good," and to *habits* we have acquired. For instance, alcohol, which, as the excretion of bacteria, is a poison, tastes unpleasant at first, and the sensation of intoxication (= being poisoned) is distinctly disagreeable to the "uninitiated"; but our culture has decreed that the sensation of intoxication is to be called "pleasure," and so one defines it as such, and becomes all excited about it; and then one "acquires a taste" for the stuff.

Adults, in other words, and even children, can't use "tastes good" and "tastes bad" as criteria of "it's good for me" or not. This sort of thing works only in the animal kingdom, where instinct is the controlling act.

In any case, taste is the "substantial change" information receptor.

• **3.** Thirdly, we react to *the medium between us and an object at a distance. This is the "sense of smell."* This sense is very highly developed in mammals other than humans. Actually, what activates the organ is small particles of the body in question, which break off and float in the air.

Here, *what we smell* (the "formal object") is the *air itself* as "polluted" by the particles in it. If your friend has just got through a workout in the gym, you don't really smell him or his sweat; you smell what he has done to the air. As hunting dogs show, you find the object causing the odor by sniffing around and following where the odor gets stronger.

Clearly, this "sense" has the *function* of letting the animal know what sorts of bodies are close enough to interact with the animal, and basically how close they are.

6.4.1. The "external senses"

So smell is the "between" the body and the object detector.

• **4.** Fourthly, we react to *the actions of bodies as distant from us. This is the "sense of hearing."*

With this sense, you hear *by means of* the vibration of the air molecules making the eardrum vibrate rhythmically; but you don't hear the sound as occurring either in your ear or in the air (as you smell an odor as in the air). In hearing, the *medium* between the organism and the object causing the sound is suppressed, and the sound is heard *as* at a distance from the organism and (because of binaural hearing) in a certain direction.

The *function* of this "sense" is that acts which make air vibrate are apt to be dangerous to the organism, and hence it is important to get an early warning, and especially a warning which will tell the organism which direction to run to escape the danger.

So hearing gives us "action-at-a-distance" type of information.

• **5.** Finally, we react to *bodies as at a distance from us. This is the "sense of sight."*

Actually, what sight reacts to as such is color; and you could argue (as the Scholastic philosophers have) that shapes and patterns of color are not the object of sight as such but that of the "unifying sense," which integrates all of the "external senses" into a single perception. But I think this is a quibble, because there is really only one faculty of sensation anyhow; and so how you divide up the various "sub-faculties" is arbitrary. There seems to be pretty decent scientific evidence that patterns as well as colors are largely visual.

The point here, however, is that as far as the form of consciousness of the "sense" is concerned, when we see, we do not see the light-as-it-hits-our-eyes, nor even the light itself (you can't see light as such), nor the distant body *as causing* the air to "light up,"

the way hearing is conscious of the *action* of the distant body. What we see *is the body itself*; the body *which* is either radiating light or reradiating ("reflecting") light that is falling on it. We see the *source* of the light that strikes our eyes, and the whole rest of the causal chain by which it gets into our eyes is suppressed in consciousness; and so we see the body at a distance from us.

It is the suppression of all of the "media" from consciousness that makes us think of sight as the most objective of all the senses. But of course, our visual impression of any object is only a subjective reaction to it, and is not a "copy" of either the object itself, or of the light which it is sending out.

Sight, however, does make other objects present to us, and present *as* distant from us; and this can be extremely useful, especially in an animal that can think. This is probably why sight is more highly developed in humans, and less so in other animals (even high animals, like mammals).

So sight gives us information about "what is acting at a distance."

The reason there are only five senses is that these exhaust the possible ways information can get into any system: the object has to be either in contact, interacting with, or away from the instrument; and if it is away from the instrument, then the information has to be either the medium, the action on the medium, or the object which is acting on the medium. And those are the five inputs we have described.

If, in other words, someone had a "sixth sense," then it would have to belong to one of those categories. Let us suppose you had a receptor like some fish, that could perceive electrical fields. You would either perceive the field as permeating the surroundings (in which case it would be a "second smell," analogous to the different

6.4.1. The "external senses"

versions we have of touch), or you would perceive what the energy-source was *doing* to the atmosphere (which would be another type of hearing), or you would perceive the energy-source itself (in which case you have a second sight).

Such extra types of sensory inputs are possible, but I make no pronouncements about whether any person actually has them. The evidence is quite tenuous, and fraud is just as plausible an explanation in most cases.

But there is a general fact about sensation that must be stressed.

● Note well ●

As far as sensation itself is concerned, the form of consciousness is always just a subjective reaction to the energy or the body outside faculty (or the organism).

Different forms of energy will generally produce different reactions, and so the organism will be able to behave appropriately, even though the organism doesn't really (as Aristotle seems to have thought) "become" or "imitate" the act it is reacting to. We will see later how human beings can use the fact that our reactions are consistent to get around the subjectivity of the reaction and learn about the outside act that caused us to react.

6.4.2. The processing acts: the "internal senses"

All of this different information coming into the organism would cause havoc if there weren't some way to put order into it so that the organism could behave appropriately in relation to what was important, and ignore what was not, and could learn from the past and not have everything absolutely new all the time. This is the function of what the Scholastics call the four "internal senses."

6.4.2.1. The integrating function

The first of these internal functions deals with handling the information that is coming into the brain at any given time.

• DEFINITION: The *integrating function* of sensation is the uniting of all the information coming into the brain at any one time into a patterned whole called a "perception."

This sub-faculty—or better, this organizing function of the brain—had the traditional name of "the common sense" (i.e. the "sense" that is "common to" seeing, hearing, etc. so that you see the body which you also hear). But this term is too easy to confuse with "common sense," meaning "ordinary understanding," (i.e. it's "common sense" not to go out into the cold lightly dressed); and so this term is not useful.

Following some Scholastic philosophers, I used to use the term "unifying sense," but this got confused with the "unifying energy" of the body (the soul), and so that term is not terribly much better. Hence, the term above, which describes what is happening and isn't confused with other things.

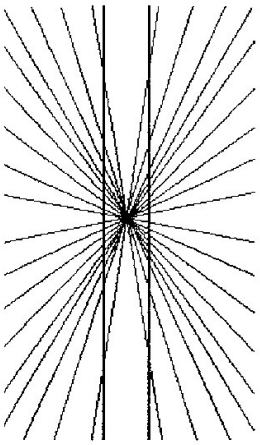
The *energy-"dimension"* of the integrating function, as an act of the brain, probably has a great deal to do with the brain waves. Brain waves are complex surges of energy through the whole brain, which doubtless are performing several functions—but it does seem that at least one of them is to integrate the information coming into the different areas into a single complex "information-signal."

But like all acts of the brain, this function has *its own form of consciousness;* and in this case, the form of consciousness of the function as such is *the form of* ***subjective space.***

That is, the integrating function "adds" the "spatiality" to our perceptions, so that when we have a perception, we have an act of consciousness that consists, say, in the forms of various colors and

shapes, the forms of various sounds, various tactile sensations, various odors, etc., each of which is "located" in the general pattern of a "volume" before our eyes.

This "volume," by the way, is basically the "space" of Euclid's geometry, when tricks of perspective are taken into account (such as lines appearing to merge on "vanishing points" on the horizon). It is what causes optical illusions such as the one at the left (the vertical lines are straight). Actual space (the dynamic relationship among the fields of objects) is, as Einstein has shown, not at all like "space-as-we-perceive-it." Real space has (from the point of view of perceived space) curved straight lines in the vicinity of massive objects, and so on.



The integrating function in human beings is to some extent under the control of thought: if we are expecting to see something (called "mental set" by the psychologists), we tend to "overlay" our perception with data from imagination (see below), and we can see more clearly than we actually see. For instance, if you see a person a long distance away, and someone tells you "That's John, isn't it?" your knowledge that it's John and your memory of what John looks like tends to affect the perception so that now you see the object as looking like John.

6.4.2.2. Imagination The second function we have corresponds more or less to what is called the "memory" of a computer, even though it has traditionally been called "imagination," with the term "memory" reserved for something

more specialized, as we will see shortly.

• DEFINITION: *Imagination* is the function of storing and recalling wholes or parts of past perceptions. It can combine parts of one with parts of another.

How we do this storing and recalling is quite mysterious, according to the psychologists who have studied it. We seem to have two "memories," analogous to the two "memories" of a computer; one is like the RAM of the computer itself, the temporary, working area, which gets erased when you turn the computer off; the other is like the disk or tape, on which things are stored to be accessed later.

We could go into the physiology of this, but it would take us deep into the area of experimental psychology and of biology, and it is much better to leave this to the scientists. The point here is that there are something like "pathways" of nerve-complexes, which, once stimulated, make it easier for energy to "travel through" this particular set of nerves, and at a lower level. Thus, once we have had a particular perception, we can reactivate it by energy from the brain-waves, without any new energy's being introduced from outside.

Presumably, a given nerve (associated with a given form of consciousness) can be used in any number of nerve-complexes; and so each nerve in a stored complex can act as a switch to take energy out of this complex into some other stored complex that also used this nerve. In this way, when a given set of nerves is reactivated, "pieces" of other stored perceptions can be "stuck onto" it. Thus, you can imagine a unicorn by recalling a horse, and imagining a horn (which you also recall) in the middle of its forehead.

The actual storing and recalling is called "imagination" and not "memory" partly because of this recombining aspect, and partly

because the third "processing function" (as we will see shortly) is called "memory"; but it deals with dating these images.

- Whatever the mechanism for this function, its form of consciousness is, of course, the ***image,*** which is *the same as a perception,* except for two things: (a) the image, as an act of consciousness, *is aware of itself as* ***not*** *a reaction to outside energy,* but as spontaneously produced; and (b) it is generally *much less vivid* than any perception (because perceptions involve energy *added to* the brain).

Imagination in humans can be consciously controlled, as when you deliberately try to imagine a blue unicorn. This is then called "creative imagination."

6.4.2.2.1. Hallucinations and dreams Imagination is fairly easy to fool. Since images are usually much less vivid than perceptions, this difference in vividness is the clue we ordinarily use to tell whether we are fooling around with the data already stored in us or a receiving new information (perceiving). But we can have very vivid images or low-level perceptions, and can therefore become confused.

When an image is confused with a perception, we call this a "hallucination." This is not the same as an "illusion" (like the one on page 155). An illusion is a misleading *structuring* of the information coming into your brain; a hallucination is a mistaking of an image for a perception. With an illusion, you are seeing what is there, but you misinterpret it; with a hallucination you seem to be seeing (or hearing, or whatever) something, but there's nothing there.

Generally, this happens when we are expecting to perceive something that is dim enough as to be at the limits of perceivability. If you are trying to hear a faint sound, such as a distant bell, then your expectation of hearing it can make you think you hear it even though the bell has not rung. If someone says, "Do you smell

smoke?" you may start sniffing and not be able to tell whether you really smell it or whether you're imagining you do.

Psychedelic chemicals send bursts of energy into the brain, stimulating nerves there more or less at random, and very vividly. This does two things: first of all, it creates a hallucination, because we have an experience that was not caused by energy coming in through the senses, and so is basically of the "imaginary" variety—but it is so vivid as to be like a "super-perception."

Secondly, however, the experience is apt to be so vivid as to be "burned into" the nerve-paths, so that a restimulation of part of this experience later can cause a new rush of energy into the nerve-set and reawaken the hallucination in almost all of its vividness.

Thus, on a "drug-trip" you may see a morning glory blossom grow to be larger than you are and swallow you in its embrace—and the experience may be as vivid as if it is actually happening. Then, weeks later, you might be walking down the street and see a morning glory—and all of a sudden it grows huge and swallows you again.

The taker of psychedelic chemicals is apt to find it difficult to distinguish the imaginary from the real; and we call that sort of difficulty "psychosis."

Moral: psychedelic chemicals are marvelous things to stay away from.

The reverse process of hallucination, that of thinking that a perception is an image, is probably the explanation of the fairly common experience called the *déjà vu* (French for "already seen").

In this experience, we "could swear this has all happened before"; it's as if we remember it, even though we know it couldn't actually have happened in the past. What seems to be happening is that, for some reason, our perceptions (perhaps because of trying to pay attention to too much at once) drop down to a level of vividness very close to that of vivid images. If they drop low enough, we seem

6.4.2.2.1. Hallucinations and dreams

to be experiencing and recalling the same thing at the same time, since the experience has the level of an image, but we know intellectually that we are perceiving.

Dreams are a kind of non-hallucinatory hallucination. That is, in a dream, consciousness itself is at a low enough level that the "awareness of the awareness" is not operating very much, and whether the experience is imaginary or is actually happening is not something that the person concerns himself with.

What seems to be happening in dreams is this: The "RAM-type memory" of the brain (the working area) tends to get filled up with a day or so's information, and the "switches" in this area need to be "reset to zero" so that they can receive new data. Sleep does this. If a person is deprived of sleep for two or three days, the information coming in will be overlaid with what is already there, and there will be a mess of perception/images, or hallucinations.

Now then, certain experiences during the day get passed over or ignored, and the energy in them tends to be stuck at a rather high level. The "resetting" function of sleep finds this energy too high to allow it to "zero-out" the nerves, and so it stimulates this nerve and lets it "run" for a while, draining out the energy (as the energy goes from this nerve-complex through others) until the level falls low enough to be able to set the nerves back to zero.

Of course, as the energy flows out of this nerve-complex, it follows the path of least resistance, which would be the path that either has been most vividly experienced originally, or most often used; and so the sequence of images in a dream depends on which experience is most vividly associated with the one that the energy happens to be in at the moment, and has nothing to do with what we would call "logic."

6.4.2.3. Sense memory The traditional name for this third processing function, as I said above, is "memory," even though it doesn't really deal with storing and recalling past experiences. What it involves is the "pastness" of the past and the "presentness" of the present.

● **DEFINITION: *Sense memory* is the function of classifying perceptions or images in order of vividness, with the perception (the most vivid) being taken as "now."**

So with sense memory, you don't actually do any recalling of the past (imagination does that); but when an image is recalled, it's "place" in your internal filing-system is "felt," so that you recognize it as more or less remote from the present.

Note that sense-memory is **not** actually the *understanding* of when some past experience occurred; though understanding the "date" of an event you experienced generally relies heavily on this function. When you date something in understanding, you say things like, "I know it was last Tuesday, because I was eating a hamburger, and we have hamburgers on Tuesday." Sense memory in itself is just a "feeling" of greater or lesser remoteness from the perception of the moment.

This "sense" is also quite easily fooled. Apparently, stored perceptions tend to "dim out" at a fairly regular rate; but (a) experiences which were originally very vivid are apt to be classified with ordinary ones that happened later, and we remember them "as if it were yesterday"; and (b) experiences that are often repeated tend to lose their "dating" and become a kind of "timeless" image. Your recollection that 2 + 2 = 4 has no "time of experience" connected with it.

● The *form of consciousness* added by this function is that of ***subjec-***

tive time.

This is "time-as-its-passage-is-felt," not our experience of clocks. Thus, when we are concentrating heavily on something (as in an examination), the "clock time" seems to go very fast, because we are not paying attention to the flow of our impressions; and when we are sitting idly in the doctor's waiting room, the clock's time seems to go very slow, because we are noticing each tiny event as it passes.

Psychedelic drugs like marijuana distort this sense, because they create a "super-present" by the charge of energy that surges into the brain. The sense memory doesn't know what to do with this experience, and so sometimes a "trip" seems to take no time at all, and sometimes it seems eternal.

6.4.2.4. Instinct The final organizing function of sensation has as its energy-"dimension" the basic "program" by which the brain operates, taking information coming into the brain, assessing it in connection with the brain's monitoring of the state of the organism, and directing energy through complex routes into the motor nerves—and in this way causing behavior that responds to the information.

- Let me mention at the outset that "instinct" in the sense I am using it is *not* the same as what psychologists mean by the term. For a psychologist, an instinct is a completely genetically fixed behavior pattern, not something that is modified by learning. Thus, the dance the bee does when coming back to the hive is an "instinct" in this psychological sense, because the bee will do the dance even if there aren't other bees around to see it. For a psychologist, a "drive" is a modifiable behavior pattern: a tendency to do something. Again, I have no quarrel with their terminology, which suits their purposes. But we have different purposes here, and therefore, here is what I mean by the terms:

● **DEFINITION:** ***Instinct*** **is the function by which the body responds appropriately to the information it is receiving.**

You might think of it this way. The *basic operating system* is what instinct in our sense of the term is. This would be like the basic operating system (Windows, say) of your computer. But instinct has several *major programs* called ***drives***, like the sex drive, the hunger drive, the fear drive, and so on, which are like the computer's word processor, database, and spreadsheet programs, which are what actually do the job. Instinct itself (a) monitors the state the body is in, (b) checks the information being received (or imagined), and (c) has a set of basic rules as to which drive to start operating. It then sends energy into the drive-program, which produces more complicated processing of the information to get appropriate results.

● The *form of consciousness* added to our experience from instinct is ***emotion***.

Instinct does two main things in the conscious body.

● First, it *directs attention,* so that only *part* of the available information gets above the threshold of consciousness.

It seems to do this by "picking out" the aspect of the information that is "important" based on the monitoring of the body's state at the moment, and directing energy from the "unimportant" areas to this "important" one, so that the "important" one is perceived more vividly and the other information is not noticed.

Thus, when the blood sugar level drops below a certain point, the hunger drive begins to operate, and food becomes "important." You start feeling hungry, imagining (recalling) the refrigerator and what is in it, and you find it difficult to keep your mind on philosophy. The hungrier you get, the more difficult it is to think of anything except eating.

● Notice that this function can be controlled deliberately, to some

extent. When we consciously control attention, we call this *concentration*. Animals cannot concentrate, because instinct is the controlling activity; their attention is *directed* by instinct itself, and they have no way to direct instinct.

- Secondly, as we said, instinct *directs information by complex routes from perception to behavior*.

I am not going to go into the various drives we have, because this is a matter for psychologists, not philosophers.

Each of these basic drives is modified (at least in higher animals) by what happened in past times when that "program" operated. Thus, a dog which snaps at the bone you give him and gets a slap on the cheek has the "grab it!" program modified so that after a few times, he takes the bone gently from your hand. He learns to expect food only at a certain time of day; he learns not to choke himself on his leash or not to run after cats, and so on. Extremely complex behavior can be induced in animals by taking the basic drives (which seek gratification or to avoid harm) and manipulating rewards and punishments.

- This, of course, also happens to some extent in humans; but *human drives are different from those of all other animals in significant ways, because we can consciously control how the energy is to go in our brains.*

First, when we deliberately direct the energy in our brain, we call this "doing logic" or "reasoning." The animals' instinct is its "reasoning"—and it can be a "reasoning" of a very complicated sort, as I just mentioned. But it is not *consciously directed,* as true reasoning is. When a human being reasons, he knows not only *that* the next step is the next one to take, but *why* it is the next step.

Second, animals' drives work out for the survival of the animal or its species. As the controlling function in the animal, this would have to be the case, or the animals would die off. So what "feels

good" for an animal is in the long run what "is good" for that animal (or that type of animal)—as long as its instinct hasn't been tampered with, as when animals are trained to smoke.

But humans' drives are not this way. Each drive seeks its own gratification, and just becomes stronger the more it is acted on; and in general, the drive will operate to the *detriment* of the human organism unless it is *regulated* by thinking and reasoning.

That is, the human being has to form an objective evaluation of what is in fact for his benefit, and regulate his behavior based on this *understanding,* not on instinct or his emotions, or the emotions will destroy him. Take hunger. If you eat whenever you feel hungry and eat what happens to taste pleasant, you will find yourself fat and malnourished to boot. You must find out how much your body needs and what foods form a balanced diet and base your eating habits on this objective information, not on what "feels right."

● Note well ●

For human beings, the "way you feel" is no indication of what you "really are"; what "feels right" is no indication that it really *is* right.

Notice that since emotions (as the conscious dimension of instinct) are automatic responses to the information coming into the brain, *there is nothing right or wrong about feeling emotions.* The emotions are not your "true self" expressing itself; and so if someone you can't stand comes into the room and you feel a surge of murderous hatred, you don't have to reproach yourself for feeling this, or try to pretend you don't really *feel* this way.

This does not mean that you should *behave* toward this person as if you hate him. He is a person and as such deserves respect, and expressions of human brotherhood. Because of this, when you act in

a friendly manner to him, even though you feel hatred for him, you are *not* being a "hypocrite"; you are acting consistently with the *real* relation you have to him; it is the *feeling of hatred* that is the "hypocrite" in this case, because your instinct is reacting inappropriately with the real situation.

But the point is that, if you act consistently with the real situation (and not as your emotions prompt), you don't have to be ashamed of having these inappropriate emotions. They are not in themselves either good or bad; they just happen. In fact, if you ignore them and act appropriately with the reality of the situation, then the emotions will become less strong as time goes by, and eventually will tend to become the ones that are consistent with the real situation.

You have then "trained yourself." You have used yourself as understanding the real situation to train yourself as an animal. And if you get yourself perfectly trained, then your emotions will fall into line.

But the other point is that if you *follow* your emotions, you will be training yourself into inappropriate behavior patterns, which will only cause you trouble later.

And at this point, when the drives become strong enough so that the mind and thought cannot control them and we act as we choose not to act, then *emotional unhealth* occurs, and you need the help of a psychologist.

And since this is the place where philosophy and clinical psychology overlap, let us leave the subject here, and let the psychologists concern themselves with the various ways we can get out of control, and the various means there are to help us get back into control of ourselves. The point here is that psychological problems are basically problems with the way the instinct has been modified either by organic malfunctions of the brain or by repeated behavior.

HISTORICAL SKETCH

Plato (400 B.C.) held, as I have said, that sensation was a material kind of consciousness, because it involved the individual and the changing.

Aristotle (350 B.C.) said that sensation was the taking on of the act of the sensed object without its matter, and so there was a certain spirituality to it in his theory. He was the one who classified the "five senses" (though he recognized that touch was multiple) and the four "internal senses." He thought that the heart was the basic integrating organ (doing what we say the brain does), because when he cut up bodies, he was not able to see the nerves, but noticed all the blood vessels, which led to the heart. It is from this that we think of the heart as "where feelings occur." He thought that the action on the sense organs produced modifications like chemical changes in the blood, which were then integrated in the heart. Much of his analysis of sensation was quite brilliant, and is still valid today—though much of it is also colored by the lack of information at the time.

St. Thomas Aquinas (1250) stressed the "immateriality" of sensation, as quasi-spiritual, but with the conditions of matter (space and time). For St. Thomas, perception had a conscious form, but imagination, since the object was not present, had to "produce" an image as a kind of internal "object." This, I think, is a mistake. The image is nothing but the form of the act of imagining, and is an "object" only because the act is aware of itself. St. Thomas did not think that a sense-act was aware of itself; it needed a "second act" (that of the integrating function).

Both Aristotle and St. Thomas, in addition to the "senses" named, talked about "sense appetite," (emotion) as something distinct from instinct, on the grounds that instinct was a reaction to the object and the "appetite" was a "tendency toward" it; and different objects imply different faculties. I think this is a too-mechanical reading of what is going on in sense consciousness. I think also that our experience with computers has shed a lot of light on instinct—light which these great thinkers did not have to guide them.

Once the Renaissance and **Descartes** (1600) were reached, sensation as immaterial was lost sight of. Either, with Descartes, it was a purely mechanical process and thinking was the only spiritual one, or with the British Empiricists **Locke** (1670) and **Hume** (1750), it was all there

was, and its immateriality was of no concern: they were interested in it only insofar as it revealed or did not reveal the real world "outside" us.

Hence, an analysis of sensation has been left, by and large, to modern science, which unfortunately, is infected with "measurementitis." Important discoveries have been made, but often a great deal of time is wasted with elaborate experiments that come to trivial conclusions, because trivial conclusions are all that can be "measured."

Sigmund Freud (1900) escaped this tyranny and did significant work on instinct. But not having a very solid scientific nor philosophical base to work from, but only the experience of people with emotional problems, many of his conclusions, though brilliant, were erroneous. Much of his work is valid, however, and even a lot of the invalid things are suggestive toward the truth. His theory of dreams, for instance, is, I think, faulty as "wish-fulfillment," but it has led investigators toward a better understanding of what dreams do for us.

B. F. Skinner who was alive in the middle of this century, was the most prominent "behavioral" psychologist. Unfortunately, he was over-enamored of measurement, and much too eager to argue from what happens when you train pigeons to what human behavior is. As an "objective scientist" he refused to get into "introspection," and our awareness of our own consciousness; and the result is that he considered things like "freedom" and "control over instinct" and so on illusions of those who think human beings have a "special dignity" that other animals don't have. I have no problem with people not using certain types of evidence (such as introspection); but when they say that this evidence doesn't exist and then start drawing conclusions that contradict it, I don't think much of them, I am afraid, as scientists.

SUMMARY OF CHAPTER 6

Our consciousness reacts to the outside world, and it can only do that if it is not a purely spiritual act, but is immaterial.

Sensation has to be energy, because spiritual acts can't change, and sensations change; sensations depend on the nerve-energy in the brain and will not occur unless certain nerves are active, and sensations vary in vividness depending on the quantity of the stimulus-energy. But sensation is consciousness, and so, as we saw in the last chapter, can't be energy.

The solution to the dilemma is that a spiritual act "does itself" many times in one act, and there is nothing to prevent one of these "repetitions" of itself to be at a lower level, having a quantity. Thus, a *spiritual* act can simultaneously be a form

of energy, even though what is basically just energy cannot add anything to itself. What is greater can do less, though what is less cannot do what is greater.

An immaterial act is one which is basically spiritual and so reduplicates itself, but which reduplicates itself once with a quantity, and so is both spiritual and energy.

Thus, the energy in the brain, when it is above a certain level (the threshold of perception) is not just energy, but the energy-dimension of the immaterial act of sensation. Each nerve-energy-output has its own form of consciousness associated with it, all of which become aspects or dimensions of the one polymorphous (many-formed) act of sensation a person is having at a given time. Thus, the brain is the faculty of sensation, which turns sensation on and off, and which directs which sensation occurs when.

The sense-faculty has five sorts of "input": acts in contact with the organ (touch, in its various forms), acts involving destruction of what is taken into the body (taste), acts reacting to the medium (air, water) between the body and a distant object (smell), acts reacting to the activity of a distant object (hearing), and acts reacting to the distant object which is acting (seeing).

These various inputs are organized in the brain in four basic ways: first, they are integrated into a single perception, adding the subjective form of space (integrating function); second, these perceptions are stored, and they or parts of them can be recalled by energy in the brain (imagination); third, the stored perceptions are classified by date received (memory), adding the subjective form of time, and finally are related to the state the body is in, directing behavior by a complicated program (instinct), adding the form of emotion. Any one of these in human beings can be consciously controlled to a greater or lesser extent. In animals, instinct is the controlling function.

Exercises and questions for discussion

1. If sensation is both consciousness and a form of energy, doesn't this prove that a form of energy can be conscious, and so refute what we said in the last chapter (that energy can't be conscious)?

2. Since "spiritual" means "without quantity" and "material" means "having quantity," then isn't "immaterial" a contradiction in terms? It means "spiritual and having quantity."

3. Some fish can perceive electrical fields. Does this mean they have a sixth sense, or is this one of the five?

4. In what way does your imagination help you to see?

5. Does the fact that the instinct can apparently get out of control and produce compulsive behavior indicate that human beings are not simply complex animals? Why or why not?

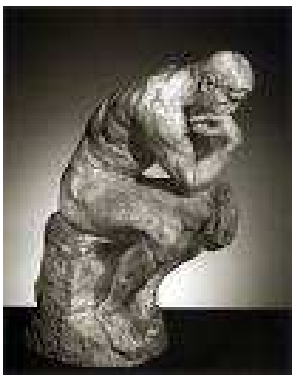
6.4.2.4. Instinct

Chapter 7

Thinking

7.1. The approach

For centuries—millennia, in fact—the controversy has raged over whether there is something distinctive about human beings, or whether we are nothing but complex animals. It seems lately to have been settled, as far as "scientific objectivity" is concerned, and "freedom," "immortality," and "spirituality" have been relegated to the area of "religion," which is supposed to be something emotional with no evidence to back it up.



It turns out, however, that spirituality, freedom, and immortality, and that humans are possessed of powers essentially different from and superior to other animals, have the objective evidence on their side, and it is the supposedly "objective" scientists who are the dogmatists and who ignore or sneer at evidence that doesn't happen to agree with their preconceptions.

I make this remark not to belittle

science, nor to blame scientists, but to counter the prevailing religion, which at the moment is *scientism;* anything a scientist says is supposed to be "objective facts," or backed up by overwhelming evidence; and this is simply not always the case. Scientists, as much as philosophers, are making educated guesses based on the evidence as it presents itself to them; and scientists, confining themselves to restricted fields of evidence, sometimes make guesses that a broader view can test and show don't fit all the facts. Not that philosophy doesn't deserve frequent tongue-lashings of its own. But that's not the problem today; people are too ready to belittle any objective, scientific philosophy and rely too heavily on what scientists say.

● Nevertheless, it is still the case that *the burden of proof is on the one who claims that human beings are distinctive and essentially superior to other animals.* The evidence has to indicate that it is impossible to explain the acts of thinking and choosing as just complex acts of imagination or instinctive association.

Hence, our approach in this chapter is going to be first, an examination of thinking as if it were an act of imagination that made a "multiple image" (which, on this theory, would be what we call a "concept"). When we show that this fails to describe our actual concepts (like the concept of "face"), we will see, secondly, if the concept can be explained by instinct—in the form of an association of images, especially an association of images with a symbol such as a word.

When this too fails, we will discuss what is necessary for concept formation, and will launch into a description of that phase of thinking called "understanding."

We will then get into understanding's relationship to sensation, and the question of truth and objective knowledge. This will be a brief sketch, since the question of objective knowledge is a book in itself. Then we will briefly discuss reasoning, the other aspect of

7.1. The approach

thinking.

In subsequent chapters we will consider the human determination of the body, or choosing, and the implications of thinking and choosing with respect to the meaning of human life, the constitution of the human soul, whether there is a life after death or not, and what it must be like if there is one.

Finally, based on all of this, we will treat the "existentialist" question of what it means to be a self and a person, and in what sense we "create ourselves," and in what sense we don't; what this implies with respect to values and what it implies with respect to morality (the two are not the same).

This last section will look forward to more extended treatment elsewhere of these subjects, and is not intended to be a treatise in itself.

7.2. Understanding vs. imagining

Again, we need to have some preliminary notion of what we are talking about so that we can find out if it is something distinctive to humans or is just a complicated sort of sensation.

● **DEFINITION: *Thinking* is any act of the mind that involves understanding.**

Thinking and understanding are not exactly coextensive terms. You are thinking when you are understanding a fact, but you are also thinking when you are engaged in a complex reasoning process linking many understood facts to arrive at a conclusion. This is thinking and not simply doing logic (as a machine might) if you understand what you are doing as you link these facts together.

But this means that we need to know what understanding is.

● Provisionally, then, let me say that *understanding is the act of the*

mind which results in general concepts like, "liberty," "triangle," "face," "nothingness," etc. We can also add that *understanding gets us at the* ***meaning*** *of general terms like the ones just mentioned.*

That will do as a starting, point, I think. The question is whether what, say, the term "face" *means* to you is some kind of sensation (a kind of picture of a face), or whether it is some combination of pictures of faces, or whether it is some connection among faces. If not, it is something that is distinctive, which cannot be accounted for on the sense level.

That is, if understanding is a complex kind of sensation, there are basically two sub-faculties of sensation we have considered which would be candidates for the act: imagination and instinct. Imagination allows us to form combined images—and therefore generalized images—and instinct allows us to associate images—and so to form "generic" associations.

● The question ●

Can understanding be explained either (1) as a generalize image or (2) as an association of images?

To tackle the first part, then, if we take the abstract concept of "face," is this a generalized image? The hypothesis that it is would go this way: Just as the film on a camera can store many exposures, so our brains can store many perceptions. And just as, if a person were to take many pictures of different kinds of faces on the same frame of film and then develop the film, he would come up with a blurred picture with the eyes, nose, mouth, and ears in the right place, but with fuzzy outlines; so our brains store up our perceptions of faces and (among other things) produce the generalized image we have when we hear the word "face." That is, if someone tells you "Draw a face," your imagination calls up this generalized image, and you

draw something resembling a generic face.

The theory then says that the "concept" of a face is this generalized image; and the statement "That's John's face" consists in superimposing the generalized image on top of the perception, getting a "fit." If there's no "fit," this produces the negative statement, "That's not John's face."

GENERAL AND INDIVIDUAL IMAGES

It seems to work. It would be hard to deny that we do in fact have such generalized images; and animals' recognition of, say, their masters when seen from all sorts of different angles must be a version of matching a perception to an image.

But the trouble with the theory appears when we note that we not only call the face of a dog a face, but we understand that it really is a face; and yet in what sense does it "match" the *image* we have of a "face"—which is always a human face? That the general image of "face" is that of a human one can be tested by asking people to draw "a face"; the picture will always be a human face.

Further, we talk of the "face" of a cliff, which doesn't at all like the face of any animal; and yet the word is not an equivocal term like

"pen" (i.e. the thing you write with vs. the thing you keep pigs in). We call the face of a cliff its "face" because we consider it the "front" of the cliff, and faces are in front. Note that we call the bottom of the cliff's face its "foot"; but our generic image of "face" has a chin at the bottom, not a foot. How could we possibly have got this by matching images? After you understand what the point of comparison is, you can see why the term is used, but there's nothing *in the images* that makes one "fit" the other.

Terms like this are called *analogous:* they have a *meaning based on a relationship* rather than some observable aspect of the objects that is the same in all cases.

● Conclusion 1 ●

If understanding (and meaning) came from "image-fitting," analogous terms would not be possible.

Further, if we take concepts like "free," it is hard to see how the image of one free object *looks like* the image of another: how an untied animal looks like a person who has just chosen to get married. Granted, the idea is that the untied animal doesn't have a rope constraining its movements, and the person who chose to get married doesn't have—it is supposed—anything forcing the choice; and so the two senses of "free" have something in common. But you can't *see* in any literal sense what the *images* of the two scenes have in common. It's not easy to tell how you could match the two scenes at all, let alone how they could be the result of a matching process.

Again, concepts like "colorless" or "spiritual" seem impossible in terms of image-superposition. To form a *visual image* of colorlessness is impossible (as we saw earlier), because "no color" is imaged as black, and "all colors" as white; but we can understand what "colorless" means. And "spiritual" as "activity that is not energy"

precisely can't be imagined at all (because all our perceptions are reactions to energy-complexes); but this does not mean that the concept is meaningless.

● Conclusion 2 ●

If understanding and meaning came from "image-fitting," we could have no concept of things that could not somehow be visualized.

So this theory does not explain the facts.

7.2.2. Understanding vs. association

If understanding can't be an act of imagination, whether simple or complex, perhaps it uses the sub-faculty of instinct, and is a *connection* among images rather than a generalized image. After all, we saw that analogous terms are based on a relationship rather than a visual sameness.

Bertrand Russell, who holds this theory, illustrated in one of his books how it goes. He used to give bread to his little child, who was just learning to talk; when he did so, he would say "bread." One day, he cut the slice of bread into a triangle, and said "triangle" as he gave it to the boy. Later, when the two were walking somewhere in London, his boy looked down at the triangular pieces of pavement and said, "triangle." He had associated the shape with the word.

The example makes the process sound quite neat; but there's more to it than meets the eye. How did the child know enough to associate the new word with the shape and not the taste, the color, the size, or any other aspect of the piece of bread? In this case the answer is obvious; the only different thing about the bread was the shape, and therefore the new word must refer to the shape. Then, when the shape is seen in a different context, the shape is associated

with the new word.

But the point is that in order to make the association, you have to be able to know this: "The word is different from the old word; therefore, it means something new. Everything else is the same but the shape; therefore, the new word refers to the new shape." For a computer to be programmed to do this, the program would have to be enormous, because the computer would have to go through every aspect of the two images and check to see which one is not the same—and if there happened to be two (as there undoubtedly would be, because the new shape also would imply a new size), then the program would stop before reaching a conclusion.

In fact, if you try to get computers to do something like this, you get frustrating results. Unless you have programmed the computer to pick out some given similarity or difference, it will just find the first one it happens to hit upon, which might be totally bizarre. Recently, a computer was given a series of photographs of landscapes, some of which concealed military installations, to see if it could pick out the camouflaged and hidden weapons systems. It did a fine job—*until* the researchers found out that what it was doing was picking out the photographs that were darker in tone, and it just happened that all the camouflage pictures were taken in dim light.

But that is precisely the point. If understanding is simply associating, then associating the right group of images would be understanding what they have in common. But they might have a hundred things in common, and the association doesn't distinguish any one from any other one.

● Conclusion 3 ●

Images are complex, and merely connecting the images does not reveal the relation among them.

7.2.2. Understanding vs. association

We can take the test of this theory a step further if we consider the following pictures, and ask the question, "What is the relation among them?" Look at them for a while and try to see what relation(s) you find.




HOW ARE THESE RELATED?

It does not matter which relation you picked out. What is of concern here is that there are thousands of relations: they are all pictures, they are all on the page, they are all in color, they are all photographs, they are all illustrations of a point in the argument, they are all of objects whose names begin with "b," they are all of material objects, they are all of visible objects, etc., etc.

Now if concept-formation is the same as association, why does *the same* association give rise to so many *different* concepts? That is, when you were presented with the drawings, they were associated in your mind. But the mere *association* did not tell you *what the relationship was* among the associated images; you had to perform an *extra* act of your mind to "see the connection." And the more you thought about the objects, the more relations you were able to discover about them.

● Conclusion 4 ●

If understanding were the same as connecting images, then one

connection would not give rise to many acts of understanding.

That is, if concepts are simply associations, then once the images are associated, the job is done. But this is far from the case.

Notice that the new concepts are formed by *picking out aspects* of the images or the objects they refer to; and these "aspects" can be pretty strange ones. Consider that the drawings refer to objects that begin with the letter "b." In order to see this relationship, you have to (a) say the names of the objects over in your imagination (boat, butterfly, baby, buffalo), (b) notice the alliteration of the sound of the names, ignoring anything else about the names except the sound, (c) connect that with the spelling of the words, (d) notice the similarity of the initial consonant of each word, and (e) use this as a point of similarity in the objects referred to by the drawings.

It is a mystery how the mere association of the images themselves could give rise to this similarity, which is a similarity neither among the drawings nor among the objects referred to by the drawings (as can be seen from the fact that if you were Spanish, this could not occur to you, since the names would be *barco, mariposa, niño, bisonte*.)

Furthermore, if the "association" is supposed to be with a word, where did the words come from? One supposes that they are already there in the language, and taught by parents and others. But this ignores the problem of how the words got there in the first place, and also ignores the fact that children are constantly forming new words that don't exist in any language to express relationships that they don't know the words for. Even in the adult world, as new situations and objects come into existence, people *invent* words for them, rather than "finding" some term to "associate" the images with. Consider computer terminology, with "byte," "RAM," "ROM," "baud," "modem" and so on, none of which words existed

in any language at all.

So what is needed in understanding is something *beyond* mere association of images; we have to know *what the connection is* among them. It is one thing to connect; it is another to know what the connection is; and this is what Russell didn't notice because of the obviousness of the connection his child made. He reminds me of the young mathematician who thinks he has discovered a way to trisect an angle with a compass and straightedge, just because he can trisect a 45-degree angle this way. But when you try to test his method with strange angles, like those of 2-degrees or 361-degrees, the method fails.

The theory makes it extremely difficult to explain negative acts of understanding. When I say, "John's house is not painted red," how could I have got this from an association? Obviously, it would have to be the fact that I tried to associate my image of "redness" with the house (which is white), and failed. But then I can form the *concept* "non-white," which means "everything else except white"; and how could I get this out of a failure to associate? Further, I may never have seen John's house (so I can't compare images); but I happen to know that he hates the color red, so that, whatever color his house is, it isn't red. In this case, the "association" is not based on a "failure to connect" at all, but on a positive fact I happen to know.

● Conclusion 5 ●

If understanding were simply connecting images, then negative concepts would not be possible, because they would be non-connections.

That is, if understanding were *just* connecting, then not to connect two images would simply mean that understanding did not

take place, not that a non-connection was discovered. But it is one thing not to understand that this page is blue and to understand that the page is not blue—but how could you do the latter without connecting the page with blueness in the mode of non-connection?

True, computers can generate negative results from comparisons *if* you tell them to search something for some *given thing* you have programmed into them, and the failure to find it sends energy into the program that writes "object not found" on the screen. But this is different from just looking at two objects without having any preconceived notion of what you are looking for and then noticing differences between them.

Let us face it: all instinct can do is make complicated connections among images; it can associate images, or go from one image-set to another. But of itself, it doesn't see either *why* it makes the association, or *what the connection is* among the images. In fact, insofar as instinct is doing the associating, the basis of the association is *emotional*.

And this is why psychologists find "free association" useful. They give you a set of words and tell you to say "the first thing that pops into your head" as they say each word to you. The idea here is to get to you say the word that you spontaneously—*without thinking*—associate with the word they say, because then the association is based on emotion and not on "abstract qualities of the object"; and so if there is any emotional problem, it will possibly show up as a strange association, a hesitation, or something else that is abnormal.

This is further evidence that thinking cannot be the same as association of images; and so we can take it that the instinct-generated theory of thinking also fails as an explanation of thinking.

● General conclusion ●

Understanding cannot be explained as a sensation or

combination or association of sensations. It is a distinct act of the mind.

7.3. What understanding is

But then what does this distinct act of the mind do, precisely? Our object here is to understand what understanding is.

● **DEFINITION:** ***Understanding*** **is the act of knowing** ***what the relationship is*** **among associated sensations.**

To connect this with thinking, when you see the relationship between objects that are presented to you, that kind of thinking is called "understanding." When you see the relationship between the premises and the conclusion in an argument, that kind of thinking is called "reasoning." It is understanding—the understanding of the relationship between different acts of understanding.

Thus, when you say, "John is a human being and every human being is mortal, and therefore John is mortal," and you *understand why* "John is mortal" cannot be denied without claiming one of the other two statements is false, then you are reasoning and not simply doing logic.

Now then, if understanding knows what the relationship is among the sensations associated in consciousness, what is necessary for it to be able to do this?

When we know that the face of a dog is similar to the face of a human being, what do we know? We have to be conscious (a) of some *associated perception/image* of a dog and of a human being (without the sensations, we can't know the relationship); (b) what *type of relationship* we understand—in this case, similarity, or "having something in common"; and (c) the *aspect each sensation has* in common with the other—in this case, the features like eyes, nose,

and mouth that make a face a face.

It is interesting to notice that, while (a) may be in consciousness before (b) and (c) (as the pictures above were in your consciousness before you understood any relation among them), it is logically impossible to know (b) before you know (c), or (c) before you know (b). In the case of the pictures above, how could you know they were similar, for instance, before you knew what they had in common; but how could you "pick out" a common element before you knew that the relationship was one of similarity and not of position or causality or whatever? And in point of fact, if you have two images associated in your mind at the same time, what you really have is one complex image that you then *analyze* into two parts—but how could you do this if you didn't first know that there was some relationship between the parts? Thus, even (a) depends on knowing (b) and (c) first. This, by the way, is one of the reasons why computers get into trouble when trying to "learn" relationships; they can't even define the objects to be related.

• Conclusion 6 •

Understanding cannot consist of a process involving several steps, because in that case each step has to be taken after all the others.

But then what is the solution to this conundrum? It sounds as if we will once again have to resort to a single act which includes itself within itself, or which "reduplicates" itself without being more than one act. That is, if the act of understanding understands itself, then there really wouldn't be any problem with whether (c) came before (b) or after it, because both would be there together in the same act, each a part of the other. So, for instance, when you understand that a dog's face is similar to a human face, *that very act of picking out*

"similarity" is the act of noticing the features that are similar.

Notice further that if the act of understanding includes the consciousness of the associated acts of sensation, then it *also includes* (d) *the consciousness of whether these acts are perceptions or images.* Hence, when you say, "A dog's face is similar to a man's," you realize that you are dealing with generalized images, and not any definite dog; whereas, when you understood that the objects drawn a few pages back were all "b-objects," you understood *in that same act* that the "objects" were the ones represented by the photographs, not the photographs themselves, *and* that these are photographs you *perceive* (i.e. are actually looking at) and aren't simply imagining. (Whereas now when you think of the relation without going back to the pictures, you recognize it as a relation among *remembered* photographs.)

This will be important later.

Not only that, but in the act of understanding, you understand that this relationship is *only one act* of your stream of consciousness; you understand (in a conscious, but not articulated way) that your mind is *capable* of understanding other things, and that your consciousness is *in itself greater* than this single act. You are aware of what Immanuel Kant called "the (I think)" in the act of understanding; you understand (e) *yourself as understanding.*

To put this into a more logical order, then, the act of understanding contains, in one single, simple (i.e. no system of interconnected parts) act: (1) the knowing self as beyond this mere act; (2) the sensations associated; (3) whether the sensations are perceptions or images, and in general the total consciousness of the sensations; (4) the relationship itself; and (5) the aspect in the sensations by which they are related. And since this is so,

● Conclusion 7 ●
The act of understanding is a spiritual act.

Once again, if this view of things is at all on the right track, those people who are trying to make computers think are doomed to failure. So far, what they have done has certainly borne the theory out; years and years of research have been wasted on rather spectacular failures, with the computers coming up with conclusions like "your car has measles" because you have given it information that it has red spots on its trunk.

7.3.1. Concepts The act of understanding, like the various "acts" or "components" of the act of sensation, has its own conscious form that it contributes to the total conscious act (which, as is obvious, is polymorphous, because it contains within it all the forms of the associated sensations as well as the distinctive forms of the act of understanding). This form of the act is called the "concept."

● DEFINITION: The *concept* is the *form* of the act of understanding as such; it is both the *relationship* understood and the *aspect* by which the objects in question are related.

● DEFINITION: The *judgment* is the *complete act* of understanding (i.e. the five "phases" we outlined above).

The term "judgment," then, is *not* to be taken as some kind of *evaluation*. An evaluation is only one kind of judgment, as we will see. It is another one of those single-word conveniences that will keep us from having to use the phrase "act of understanding" all the time. Try not to let this confuse you.

7.3.1. Concepts

● Note well ●
"Judgment" means nothing more than "act of understanding."

There is another term connected with understanding: the *idea*. This, unfortunately, is a vague term which can mean either the judgment (the "idea" that grass is the same as emeralds in color), or the concept (the "idea" of greenness)—or even, sometimes, a sensation (your "idea" of your mother reading this book, in the sense of your imagining it). Philosophy is difficult enough, however, without our having to contend with such a slippery word, and so I won't use it in this book.

● With that said, there are several things to notice here. First, *the concept is* ***not*** *something that the act of understanding "produces"*; it is the form of the act. It *seems,* in a sense, like a "product" of sorts, because, being conscious, the act is aware of the concept as one of its forms; but it is actually just *the way we understand,* or the *kind of act we are performing,* in the sense in which the color-appearance is the way we see the colored object.

● Secondly, the concept *contains (as "components)* ***both*** *the relationship and the aspect* by which the objects are related (both the kind of relation, such as similarity, and the "foundation" of the relationship in the objects, like the greenness in both grass and emeralds). Our language, since it is material, expresses only one of these two "components," though it always implies the other. Thus, "green" expresses the aspect green objects are similar in (and implies the similarity); "fatherhood" expresses the relationship (and implies the aspect by which the person is a father). But the concept itself understands both at once.

7.3.1.1. Abstraction Since the concept is only one of the millions of possible relations the object has with other objects, and since

the aspect by which this object is related is only one of the millions of aspects the object has, then it follows that *understanding ignores every other aspect* of the object except the one that deals with the particular relation it picks out to understand.

• **DEFINITION: *Abstraction* is the "selecting" from the object of only one aspect (the one to be understood) and the consequent ignoring of all other aspects of the object.**

• Thus, *understanding is always abstract;* you can never understand all there is to understand about any object, because there are always relationships other than the one you happen to be understanding at the moment; and since there is an infinity of possible relationships any object could have with others, it is not possible ever to get through all the aspects that could be understood about this object.

This means, of course, that understanding can *never* be *complete* knowledge about any object (you can never *comprehend* any object you understand); but it does *not* mean that understanding is *untrue*. When you understand that grass is green, you are ignoring (in that act) the fact that it is living; but that does not mean that you understand it as not living. It certainly *is* (among other things) green; so your act of understanding is true—but incomplete. Grass is in fact like emeralds and traffic lights; but (as living) it is also like dogs and carrots. To understand one relation is not to say that the other relations don't exist; it is to "abstract" from these other relations, that is all.

7.3.1.2. Universality Since the act of understanding is aware of itself as being a relation *between* objects (or parts of objects), then it immediately knows that the concept is *not confined to this particular object;* and this gives us another

7.3.1.2. Universality

characteristic of concepts; a characteristic that has always been recognized, and that has caused a good deal of discussion.

● DEFINITION: *Universality* refers to the fact that a given concept can be applied to *all* the objects that happen to have the aspect/relation in question.

That is, as soon as you understand that the grass is green (or is like emeralds and traffic lights in the way it affects your eyes), then you know "greenness" as an aspect of objects, and you are immediately aware that *anything* that affects your eyes in this way belongs in this relation and has this aspect. Hence, when you see a grasshopper or a frog, you know that it too is green, and you don't have to get a whole new concept.

● Note well ●

The difference between abstractness and universality is that abstractness deals with the many possible *relations in one object* (only one of which is chosen) and universality deals with the many *objects that could be connected by this relation*.

The *words* that express concepts are of two sorts, depending on whether they express the concept as *to be applied* to possible objects, or the concept as *just the relationship/ aspect*. The first use of words is called the "concrete universal" (of which "green" would be an example); and the second is called either the "reflex universal" or the "abstract term" (of which "greenness" is the example).

The idea here is that you can use "green" as the predicate of a sentence with "is" as the verb; but you can't use "greenness" this way. "X is green" makes sense, but "X is greenness" doesn't. "Greenness" refers to the aspect itself, and so you would have to say

"X *has* greenness" if you were to use this word in a sentence applying it to some object. On the other hand, "green" is this aspect *as being true of some possible object*.

Once again we come to a situation where language, as something perceptible (and therefore, energy) cannot fully express the spiritual aspect of understanding. The act of understanding *knows the concept as it is in itself* (expressed by "greenness") *and also as applicable not only to this object but any object having this aspect (expressed by "green")*. The two terms do not refer to two acts of understanding, but to two *ways of considering one polymorphous act*. There is more to the story than this, but this is enough for our purposes.

7.4. The "process" of understanding

We have now seen a sketch of what understanding entails as an act of consciousness. Since it is a distinct act of the mind, let us now consider how we perform the act. Strictly speaking, understanding itself is not a process; but since it involves a prior association of sensations and since it produces a sensation afterwards, there is a sequence (and therefore a kind of "process") involved in it.

First of all, then, what happens is that the attention (one of instinct's functions) is drawn to some perception, image, or association. This can either be the result of a sense-act, or can result from prior understanding as directing the instinct.

At any rate, once attention is directed to the act, this "turns on" the act of understanding, and we are conscious of *curiosity about* the sensation in question.

• DEFINITION: The *intellect* is the faculty of understanding.

• DEFINITION: The *mind* is sometimes loosely used to mean the intellect.

7.4. The "process" of understanding

Strictly speaking, the mind is the cause of all our consciousness' being just one stream of consciousness (or is the faculty of consciousness in general); but the major "component" of the human mind is, of course, the intellect. Since consciousness is spiritual and interpenetrates itself, you can't actually divide it up into distinct faculties.

The intellect is not, actually, some part of the brain or some spiritual "thing"; as a faculty, it turns out (as we will see) to be the instinct in its attention-function, since this is what turns understanding on and off. We cannot understand unless we are paying attention—as teachers know to their sorrow. But there is really no special faculty of understanding as such, for reasons we will talk about later.

When curiosity is aroused, the *intellect is active,* and is *studying* the images in question, as you studied the pictures some pages back. This phase of understanding was given the name "agent intellect" by Aristotle and St. Thomas. What understanding is doing is trying to pick a relationship.

Suddenly, the "light goes on" and you *understand;* you have recognized a relationship with its foundation in the objects, and so you have "formed a concept" and "made a judgment." Both of these are the same act; you don't form the concept first and then apply the concept to the images association; you "abstract" the concept from the images, but never leave them, and so you "see" the concept you have formed *in* the images in question (and that act is the judgment). Remember, the act of understanding is spiritual, and "does itself" many times in one act, so that "concept formation" and "judgment" are just two ways of considering the same act.

But then understanding does perform another act. Since the intellect in human beings is a kind of faculty, to be turned on and off by sense-consciousness and attention, and since understanding does not want to have to relearn this concept, it then *creates an image* in

sensation which will reawaken this concept when it is activated.

● DEFINITION: A *word* is a perceptible symbol of a mental act, especially of a concept.

Words can stand for all sorts of mental acts, but the ones we are interested in at the moment are the ones created to reactivate the particular act of understanding that has just occurred. This word need not be a word in some actual language; any perceptible symbol will do, so long as it *means* the concept in question.

● DEFINITION: The *meaning* of a word is the mental act it stands for.

Let us say that a person understands that grass, emeralds, and frogs all affect his eyes the same way—and let us say that he is a cave man, with no set language to express his thoughts in. He then moves his hand in a circle, say, to represent this concept he has learned—and for him from then on, this gesture means what we call "green." The gesture is a word; whenever he does it or sees it, the same thing happens in his mind as happens in ours when we hear or see the word "green."

Words, of course, since they are perceptible, can be actually produced as forms of energy, which other people can perceive. And if we can agree on what concepts the words stand for, they we can communicate with other people, reading their minds and allowing them to read ours.

7.5. Reasoning Notice that in word-creation, the instinct (the energy-directing function of the brain) is under the control of the spiritual act of understanding. Understanding either lets go at this

point and shuts off, letting attention wander, or it keeps control and leads attention in new directions toward further acts of understanding based on the act understood.

When this directing of attention occurs consciously and deliberately, it is called *reasoning*. In this case, the direction the associations are to take follows certain rules, called *logic*.

- Note that *each type of connection of concepts has its own logic. There is not one single "logic."*

What we call "formal logic" is the logic of *statements*. Statements (with subjects and predicates) can be interconnected in such a way that a new statement is "generated," and can then be understood on the basis of what the previous statements mean.

But mathematics, which uses equations and inequalities as (among other things) its relations, has different ways in which *its* "statements" can be interconnected to generate new equations; and the logic there is the science of mathematics. It is a good deal like "formal logic," but is not the same, as many people, who know how to manipulate language but not mathematics, can testify.

Each of the sciences has its own way in which objects connect themselves with other objects to generate new knowledge; and one begins to understand the science in question when one sees which sorts of connections are permitted, which are "useful" in finding new facts, and which are a waste of time to pursue. Occasionally, one genius will "violate the rules" and discover a new approach to things—a new logical procedure in this science—and we have a "breakthrough."

The arts also have their distinctive ways of connecting things so that new acts of understanding are produced. In general, the "rules" for each art (like the "rules of composition") are the basic logic of that art. The difference between the logics of all the arts and the logics of the sciences is that artistic understanding uses *emotions* as

the point of comparison in its concepts, and so the objects in art are connected by *emotion-based relationships,* not relationships based on perception. Emotional logic is true logic, but it is not the same as scientific logic.

Reasoning, as I said, is a conscious process; one is deliberately directing attention according to some pattern (either preexisting, as when one is following established rules, or by some new rule one is setting up for oneself). But these chains of associations can also occur below the threshold of consciousness. Then the process is not, strictly speaking, reasoning, but is more like what animals do. The difference is that at the end, the person suddenly understands the result, and that it is the answer he was looking for.

This is what happens when you have been trying to solve a problem by reasoning, and you can't get the answer—because the answer involves an association that can't be arrived at by the conventional rules. So you "sleep on it." That is, you deliberately put it out of consciousness, and tell your instinct, "Work on this by sending out energy from this image at random, and let me know if something promising emerges."

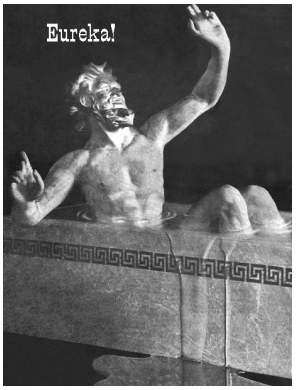
The instinct then just keeps energy in this image and sends it out more or less anywhere, associating it with all sorts of other images. The mind is monitoring this at a low level of consciousness (this is that feeling of "something bothering you" you have when you are concerned about the problem but not deliberately trying to solve it); and when an association that looks good is arrived at, the instinct turns the intellect back on to examine it. Then sometimes "insight" (understanding) occurs.

The famous example of this is Archimedes and the king's crown. The King wanted to know if the crown (an elaborate thing) was really made of pure gold or an alloy. Archimedes knew that gold does not weigh the same as an alloy would, and so if he knew how much

metal was in the crown, he could, by weighing it, know if it was gold.

The problem was how to tell how much metal was used without melting down the crown so that it could be poured into a measuring-cup—which would destroy the crown, of course. How can you measure the crown and leave it intact?

He thought of possible solutions, and then did what we said above; and as he began to take a bath, he idly noticed the water rise in the tub as he got in. Immediately, he rushed naked into the streets of Alexandria, shouting "Eureka! Eureka! (I got it! I got it!)."



What had he "got"? He had associated the rise of water with his problem. The water had to get out of the way of his body, so it rose. So to measure the crown, you fill a tank with water and sink the crown into it, catching all the water that spills out and pouring the water into a measuring-cup. This will be an amount of water that is equal to the volume of metal in the crown. Then weigh the crown and find out if it is the weight that this amount of gold should be.

As I remember the story, it wasn't, and the goldsmith who cheated the King didn't do too well.

Strictly speaking, Archimedes hadn't reasoned to this conclusion; but afterwards, of course, he could put the process he went through into logical form.

This is all we are going to say here about reasoning, because the rules of reasoning are different for each branch of knowledge that a person pursues, and each needs a complete study in itself. Our

purpose here is simply to show what is the mental basis of any reasoning process.

HISTORICAL SKETCH

Plato (400 B.C.) was the first to make a clear distinction between understanding and sensation. For him the "aspects" (a literal translation of *eide*, usually translated "Forms") were the actual realities, and existed independently of the perceptible objects which the ordinary person thinks they are aspects of. For Plato, the perceptible object "shares" the Aspect, not the other way around. This is because the Aspect is the "truth," and hence the "reality," of the object.

Aristotle (350 B.C.) turned his teacher's theory upside down, and said that what was "really real" was the perceptible object, and that the Aspect was something the mind got at by abstracting it from the image. He did not see this exactly in connection with a relationship understood and its foundation, though this is implied in his philosophy, which holds up pretty well even today, and is the basis for much that I said in this chapter. He mentions the "agent intellect," but seems to imply that it is a mind separate from the human one (possibly, as one commentator—Averroes—thought, the mind that drives the moon around); and the human being had only the "passive" intellect of being able to understand concepts.

St. Thomas Aquinas (1250) showed how the Aristotelian "intellects" were two aspects of the same intellect, which was in human beings. Both St. Thomas and Aristotle seem to think that it was the act of the imagination that "turned on" the intellect and acted as its faculty; I think that *any* sense-act can do the job, once attention is directed to it—and so for me, the basic "on-turner" is instinct. But this is really a quibble, I think.

In the middle ages, the question of whether "universals" really existed "out there," either as real forms of objects or real things or whatever (I.e. does "humanity" or "greenness" really exist, and if so in what sense?) was a conundrum that people had trouble solving. Some said that there were no real "universals" in any sense, only individuals, and all that was universal was words(the "Nominalists")—which were just convenient lumpings-together of things that really had nothing in common. Others, following one or another version of Platonism, held that the "universals" really existed as such, somehow—and there were various versions of how.

7.5. Reasoning

It was controversies such as this that precipitated **Descartes'** (1600) rethinking of the whole subject of knowledge, by being doubtful of everything that could be doubted and beginning with "I think, therefore I am" and using mathematical method from there on. His mathematical deduction of the universe from this proposition, however, proved no more satisfactory than the medieval controversies he was trying to reconcile; but it did change the focus of what was controversial.

From Descartes on, the question has been, "How can we get any objective knowledge at all?" And since this is the subject of the next chapter, let us end this sketch here.

SUMMARY OF CHAPTER 7

Is thinking a complex sensation (and so immaterial), or is it a different sort of act? It can't be a general kind of image, or terms that have common meanings and don't "fit the picture" of the general image couldn't exist. Nor can it be mere association of images, because a given association (or connection) can have an infinity of relations to be understood in it, and specific negative concepts would be impossible, since they are non-connections, and a non-connecting connection is a contradiction in terms.

So understanding must be a distinct act of the mind, by which we become conscious of what the relationship is between associated sensations. Reasoning becomes conscious of the relationship between acts of understanding.

The concept is the form of the act of understanding: the relationship in question and the aspect by which the images or objects are related. The judgment is the complete act of understanding, and knows the sensations, the aspects, the relationship, whether the sensations are externally caused or not, and itself understanding.

Concepts are abstract, in that each deals with only one relationship between objects (and one aspect in each), and "abstract" from other possible relationships and aspects; this partialness, however, does not make them false. Concepts are also universal, meaning that they apply to any object which happens to have the aspect in question, not just the objects the concept was derived from.

When an association occurs, this "turns on" the intellect, the faculty of understanding, which examines the sensations to find a relation; and when it does it makes a judgment (including a concept); and then it creates a word: a sensation that will stand for the concept, and which can then be communicated to others. The meaning of the word is the concept it stands for.

Reasoning makes chains of associations, which it then understands the relationships among. Each science or study has its own logic, which is the rules for connecting objects in that discipline so that new knowledge can be gained by reasoning.

7.5. Reasoning

Exercises and questions for discussion

1. Doesn't the fact that an animal can recognize its master's head even when seeing the back of it (which doesn't look at all like the front) prove that the animal has a concept of "my master's head" and so can think?

2. A chimpanzee sees bananas hung outside its cage, beyond its reach. It picks up a piece of bamboo and uses this to pull over the bananas and get one. The bananas are then hung beyond reach of the pole. It then sees two poles in its cage, fits them together into a long pole and gets the bananas. Doesn't this prove that the animal has thought, "If I put these two together, they'll be long enough for me to get the bananas," and so the chimpanzee can think?

3. How can understanding be universal if not everybody understands everything?

4. If it's arbitrary which word you use to express a concept, then how can we communicate with each other? How do I know what concept you're referring to when you use a word?

5. If a person "sleeps on" a problem and wakes up with the answer, has he been reasoning in his sleep? Has he been doing logic in his sleep? Are these the same thing?

7.5. Reasoning

Chapter 8

Truth and Goodness

8.1. The problem

I mentioned in the historical sketch at the end of the preceding chapter that modern philosophy has been concerned with whether we can know about what is "out there" outside our minds. This is called the "epistemological problem," because *epistemology* is the *study of knowledge in its relation to objects.*

A detailed examination of the problem can be very complex, and is beyond our scope here. If you want to see more about the approach I think is the correct one, I have a whole book on the subject, called *Knowledge: its Acquisition and Expression*. This chapter is going to be a summary of most of that book.

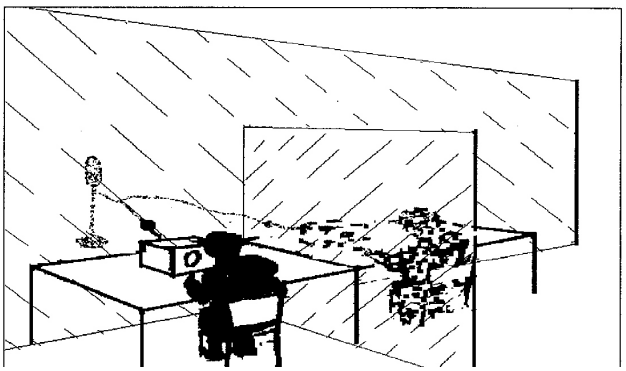
● The epistemological problem ●

If our sensations are (a) subjective reactions to the objects and acts that produced them in us, and (b) are not like the objects or acts that caused them, then how can we ever get any knowledge about the objects themselves?

The solution I propose to the problem (which in some ways is quite new) not only explains how we can know about things as they are "out there" independently of our reactions to them, it also explains why we understand relationships among our sensations. In other words, understanding and reasoning (that is, thinking), is the way we "bypass" the subjectivity of our sensations and understand facts about the world as it is.

The approach to this chapter, then, is to set up the problem in its most stark way, to show how understanding solves it; and then to define what facts are, and what their relation to the judgment (the act of understanding) is; then to define truth and error, truth and lying, and truth and falseness; and finally, to define goodness and badness as a different way of looking at the truth-relation.

To begin, let us consider the following sketch:



It shows two people in booths in a room. Each person has an instrument which is connected through the back wall to something they cannot see (but which we know is a microphone). Each in-

8.1. The problem

strument is different from the other one. Person A has an oscilloscope, and Person B has a set of tubes up which mercury can rise. Neither can see the other's instrument, because of the low wall which separates them, but they can hear each other. We assume that neither has *ever* seen either what is behind the back wall, or the other person's instrument.

This is a model of our minds. My mind is (presumably) a receiving instrument from energy outside me. I can't perceive what the energy "out there" *is* except by using my instrument (i.e. I can't leave the room and get behind the wall that separates me from the microphone).

So the first problem will be whether I can know even that *anything* is going on behind the wall (whether I can know that there is anything outside my consciousness) or whether my instrument (my mind) is doing everything by itself.

Secondly, I can't get into your mind (go over to your booth) and get a look at what is happening in your perceptions (what your instrument's output is like), and so I can't verify that the way things look to me is the same as the way things look to you.

Here, I am making a worst-case assumption. *I am assuming that your perceptions and mine are different,* so that when you see grass, the way it appears to you is not the way grass appears to me; that is, if I were to have your form of consciousness, it would be something like what (to you) would be the sound of e-flat.

● The object ●

Can this model show how both observers can agree on aspects of what is going on behind the wall (indicating that we can know aspects of what is outside us)?

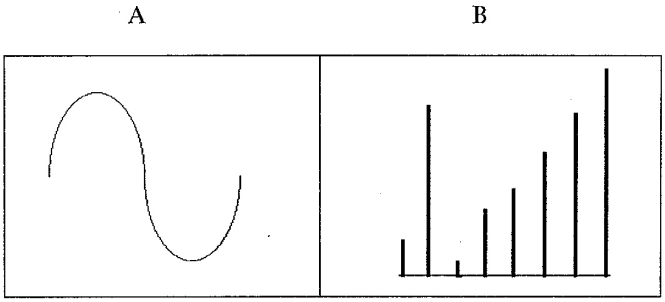
That is, I want to show, using this model, is that the two people,

just by using their instruments, will be able (a) to know that there is indeed something behind the wall, and (b) to agree on what is going on behind the wall. This in spite of the fact that neither of them can ever get behind the wall and that the reading of one instrument is even a different type of reading from the reading of the other.

If they can do this, and if our minds are analogous to instruments reacting to some in-itself-hidden source, then we might not be able to know what the source *is*, but we still might be able to know things *about* it. That is the gist of the argument.

8.2. Toward a solution

It turns out that the problem is solvable. Let us say that we play a tuning-fork into the microphone. Since the two observers have different instruments, their screens, perhaps, will look like this:



Can either of them convey any information to the other that the other can agree on?

Yes. Suppose A says, "Hey! Something happened!" B will answer, "You're right."

What does this mean? Let us assume that both A and B can

spontaneously make patterns on their instruments. But in this case, A knows that he didn't produce the pattern, and B also knows that he didn't produce his pattern.

This corresponds to a recognition of the difference between perceiving and imagining. Since the acts of perceiving and imagining are conscious, then (as I said two chapters ago) when we are imagining, we are aware that we ourselves are making the image; whereas when we are perceiving, we are aware that our minds are "receiving" something and not fooling around with energy that is already there.

● Conclusion 1 ●

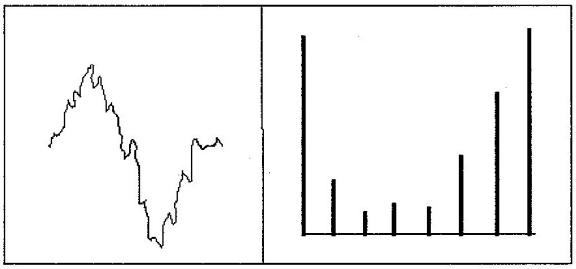
Even if our sensations are utterly different from the energy that caused them, we can still know *that* there is some external something by being able to distinguish perceiving from imagining. And even if our subjective impressions differ from person to person, this will still be true for everyone.

That is, since our conscious acts recognize whether they are spontaneous or reactions to something-or-other outside us, then we are like the people above; when there *is* something "out there" sending a message, *we can agree at least* that it is *not a figment of our imagination*.

At this point, the people can't say anything at all about what it is that produced the patterns (remember, they can't tell that there's a microphone back there). All they know is that something happened.

But let us now play a flute into the microphone. The two patterns now look like this:

A **B**



Can A tell B anything more than "Something happened"?

Yes. He can now say, "Something different happened," and again B will answer, "You're right."

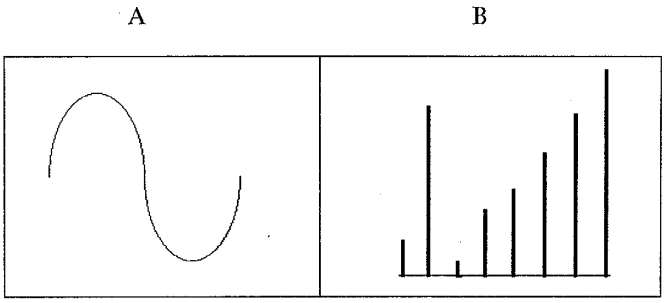
That is, even though A's pattern is not like B's, and even though A's pattern (and B's, for that matter) is nothing at all like the sound that caused it; still, a different sound produces a different pattern in each case, and each of the people recognize that this is so.

Does this transfer over into the case of our subjective impressions? It does.

● Conclusion 2 ●

Even if our sensations are not like their causes and not like anyone else's, it is still true that, given consistent faculties, different energies will produce different sensations.

Finally, let us replay the tuning fork. The patterns again become:



Can either of them convey any information to the other that the other can agree on?

A can now tell B, "The same thing happened as happened the first time," and B once again says, "You're right."

And as time goes on, *by each of them comparing the patterns he is getting to patterns he received in the past,* each can begin to *classify* the "somethings-going-on" behind the wall, so that each can recognize a given *type* of "behind-wall activity" as "the kind that happened the first, third, seventh, and twelfth times."

● Conclusion 3 ●

Similar forms of energy falling on the same sense organ will cause the sensations to be similar to each other; and this is true even if the sensations are not like the energy, and not like those of any other person. All people with consistent faculties will agree that there is a similarity in the causes.

In other words, *what each person objectively knows* about what is going on behind the wall is *the relationships* ***among the causes*** *of the read-outs of their instruments.*

Do you see now how understanding is going to enter into this? Understanding is precisely the knowledge of the relations between sensations (and, as we can now see, therefore the relations between the objects that caused the sensations).

● General conclusion ●

Understanding gives us *objective knowledge*, because it reveals to us the relations between objects—and these relations are the same as the relations between the sensations.

8.3. Facts So the function of understanding in human knowledge is to enable the person to circumvent the subjectivity of his subjective reactions to the world outside him, and to know at least something about the way the world actually is.

Since human knowledge comes about by way of *being acted on* by outside energy, and since effects are not copies of their causes, then it is impossible for a human being *directly* to know the thing that is causing his reaction.

But this does not mean that he cannot *indirectly* know *about* it. And this is what understanding, which knows relations, enables him to do.

Thus, when we are acted on by the light that emanates from grass, we have a reaction to that light that is *not* a "copy" of the light itself. But when we are acted on by the light that emanates from an emerald, we again have a reaction that is not like the light itself—but that *is* like the *reaction* we got when we were acted on by grass.

So when we understand that the grass is like an emerald (in the way it can affect eyes), and form the concept "green," what we *mean* by "green" is *not* "the reaction I have to grass" ("green-as-I-see-it"), but "whatever it is that grass ('out there') has in common with an emerald."

● And this is why *you and I, even if your reaction to grass is different from mine, can agree on what "green" is,* and can call the same things "green." That is, when we see a frog, we both say that it is green, and when we see a toad, we both say that it isn't; and when we see a grasshopper, we both say that it is green, and when we see a locust, we both say that it isn't. Why? Because the same form of energy is going to cause the same reaction in you every time (other things being equal); and it will also cause the same reaction in me every time. Hence, since "green" refers to the *cause* of the reaction (i.e. what is "out there") and *not* the *reaction itself* (what is "in here" in our minds), then we *both mean exactly the same thing by "green" even if our reactions (the way green* appears *to each) are different.*

The cause of these samenesses and differences in our reactions *has* to be, basically, outside our sense faculty, or there is no way to explain why the reactions are not always the same. What I mean is this: as you look at this page with the same eyes at the same time, the letters look different from the background. But your eyes and mind *can't* explain why you get these *different* reactions, because it's the same eyes and the same mind; the difference *must* be due to the fact that what they're reacting *to* is different.

● DEFINITION: An *object* of knowledge is any thing or act that can cause a reaction in a knower.

● DEFINITION: *objective knowledge* for a human being is knowing *relationships* among objects he (directly or indirectly) reacts to.

● DEFINITION: A *fact* is a *relationship among objects.*

● Note well ●

A fact is *not* a thing or object. it is a *relationship* among objects. A fact is *not* a statement, even a "proven statement." it is a relation among objects. Facts exist whether we know them or not. Our knowledge and statements depend on the facts, not vice versa.

Statements are *expressions in language* of what we *think* the facts are; or in other words, they are expressions of our *judgments* about the facts. But they are not facts. Even if you prove a statement, the statement remains the expression of your judgment about the fact and is not the fact, any more than your knowledge creates the facts it is aware of. The facts are "out there" waiting to be known; they do *not* depend on our knowledge.

In any case, what we know objectively is *facts about* objects, *not the objects-as-they-are-in-themselves.* And the reason is that our knowledge is based on the fact that our sense faculties are immaterial acts that can be affected by outside energy, and so we cannot directly get at the energy itself.

Note that objective knowledge does not have to be this way. A pure spirit—God, for instance—cannot be affected by anything outside himself, and consequently cannot form concepts as we know them. God knows "objects" by being their *creator,* not by being affected by them; it is because he causes them to exist that he knows them.

Thus, for instance, God has no "concept" of me (i.e. that I am like you in humanity, for instance). God knows me as I know the book I am writing; I know it even before the words appear on the page; it is the idea I have of the book that causes the book to exist, not the book that causes my idea of it. And since every finite act I perform (i.e. every property I have and everything about me) is

impossible unless God causes it to be this way, then God knows absolutely everything about me—but not in a conceptual way. He knows it in a way totally foreign to our conceptual way of thinking.

St. Thomas speculates that pure spirits, who cannot know by being affected by things, have "infused" knowledge. That is, any knowledge they have is given to them by God as he creates their minds; and consequently, any knowledge they have of objects other than themselves is not due to being affected by them, but to God's giving them this knowledge as a form of their consciousness.

Presumably, this is my way of knowing you, reader, if you are one of the people who is reading this after I am dead. You can't affect me; but I can affect you; and I care about you and want you to be helped toward your goals by what I do. And so I know you—but this knowledge of you is given me by God, and is not due to any ability you have to change me directly. Your prayers for me (and I hope there are some) are, so to speak, retroactive, and make a difference to the way I was when I still could change, and so to me as I now am in eternity.

For those of you reading this while I am still alive, don't laugh just yet. We haven't got to the theory of what choice means to the person, and what goals in life have to do with what happens after death. When we get there, we will see that life simply doesn't make sense unless our non-self-contradictory ambitions are fulfilled after death. I happen to have huge ambitions, that is all.

But the point is that objective knowledge and conceptual knowledge (understanding) are only synonymous *for the human being while he is still a living body,* and are not necessarily synonymous with objective knowledge as such.

8.4. Truth

Be that as it may, our knowledge as we now exist is conceptual; and therefore all that we can now understand

about any object is *facts* about it: relations it has with other objects and/or relations it has within itself. The theory I am developing says that our judgment about an object (our understanding that it is related in a certain way) will be parallel to the fact (the relation it actually has).

If only it were that simple.

● The trouble is that there is usually not just a single cause-effect action-reaction between the object and our minds. Usually, *objects cause sensations by means of a complex chain of causes;* and some of the causing agents in this chain are, as I mentioned in talking about sensation, our own expectations and past experience. When we expect to see John, we "recognize" him from a long way off, even before the object is close enough to be distinguished; and this "recognition" consists of an overlay on the perception by the image of John stored in our imagination. And this is one way that the reaction may not be what it should be. The person comes closer, and we see that it was really Frank, not John.

Put on sunglasses, and everything seems a different color than it was; look at clothes under fluorescent light and under incandescent light and under daylight, and the same cloth will look different colors.

● And so on. *There are any number of ways in which a cause can be introduced into the causal chain* without our realizing it, *making the judgment of what the fact is different from what the fact really is.* That is, we look at the red cloth under fluorescent light and form the judgment that it is the same color as the flower of the fuchsia plant; but in fact it isn't.

● DEFINITION: A *mistake* or *error* occurs when the judgment of what the fact is does not agree with what the fact is.

8.4. Truth

That is, a mistake is a misunderstanding. You understand the objects to be related in a certain way, and the objects are related in a different way.

● **DEFINITION: *Truth* occurs when the judgment of what the fact is agrees with what the fact actually is. The *judgment* is then said to be "true."**

That is, if you think that grass is green (i.e. like emeralds and frogs), your idea of its color is true. If you think (for whatever reason) that it's blue (i.e. like the ocean and sky), your idea is mistaken.

● **Note** that *facts are neither true nor false*; they are just facts. It is the *judgments* about them that are true or mistaken.

This is the *primary meaning* of the word "truth." It has several, which we will have to explore a little.

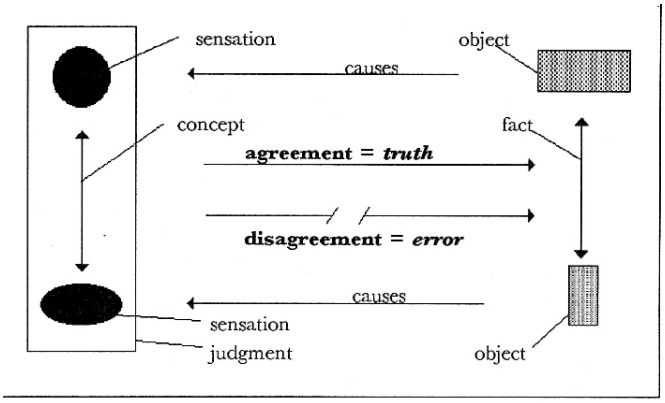
● Note well ●

for truth to occur, the *judgment* must be brought into conformity to the *fact*.

That is, it is the business of the *knower* to see to it that his judgment agrees with what the fact is, and not the other way round. This is another way of saying that facts are facts, and your *thinking* that they aren't the way they are doesn't change them. We have to find out what the facts are; we can't "make up" *facts* by using our imaginations. When Shakespeare imagined Caliban, this didn't make Caliban *exist*; in fact, there is no such person. Even the actor who plays Caliban isn't really Caliban; he's just an actor. We don't create facts; we discover them.

Here is a diagram of the truth/error relation. The objects cause

sensations (which are not like them); but the *concept* matches the fact in the truth-judgment, and doesn't in the error-judgment.



THE TRUTH/ERROR RELATION

Granted, we can change things, and alter objects so that new facts about them come into existence; but we do this by *acting on them,* not just by *thinking*; and if we don't act in the proper way, then our goals are not achieved.

I am stressing this because of the "disease of the present age" I mentioned in the first chapter: the mode of thinking that facts are what we make them in our minds. It is because the solution I proposed here has not been recognized that we got ourselves into the diseased situation I spoke of.

● At this point, it would be a good idea to reread Chapter 1, Section

1.2. and its subsections.

But I also want to call attention to the fact that our judgments must conform to the facts because looking at the truth-error relation from the point of view of the facts' having to conform to the judgment is actually the goodness/badness relation (evaluation), not the truth/error relation (understanding), as we will see.

8.4.1. Truth vs. falseness

A further complication arises when we take *language* into account. We not only form judgments about objects, but we express those judgments in words, as I said in the preceding chapter. What about the relation of the *statement* to the judgment and to the fact?

Most words, of course, are words in an existing language; and it is "decided" by the culture what relationship the word is to stand for. This is the only way people can communicate, practically speaking. If, like Humpty Dumpty in *Through the Looking Glass,* words "mean what I want them to mean, neither more nor less," (as he used "glory" to mean "a good knock-down argument"), then we can't expect people to know what we are saying.

Now it is quite possible for a person to have a perfectly true judgment, but to express it in language that says the opposite of what he thinks it says. Suppose a person thinks that the "hoi polloi" are the upper class of society (the word means the "many" or the "masses" or the "low class"). He then says, "Queen Elizabeth is one of the hoi polloi." She *is* a member of the upper class; and this is what he meant to say; and so his *judgment* is true. But his *statement* is not, because it says that she is a member of the lower class, when she isn't.

● **DEFINITION: *Falseness* is a term that belongs to *statements***

(in language). *Falseness* occurs when the statement *does not match the fact.*

That is, the statement is false when it doesn't express what the fact is.

● DEFINITION: *Truth* occurs in a statement when the statement states as a fact what actually is a fact.

● Note 1 ●

***Judgments* are true or mistaken; *statements* are true or false.**

● Note 2 ●

The statement's truth or falseness is in itself *independent* of whether the judgment is true or mistaken.

Why is this? It is really a convention of terminology, but there's a reason for it. When you are listening to someone, he is telling you what he *thinks* the facts are (his judgment of the fact). But what you are interested in, most of the time, is not what is going on in his mind, but what he is reporting about reality. That is, you are using him as evidence for the facts he knows.

Hence, the general purpose of factual communication is to inform someone else of facts we happen to be aware of. Therefore, the statements are taken to be statements-of-fact rather than statements-of-what-I-think-the-fact-is. Hence, we are interested in whether the statements actually express the facts or not.

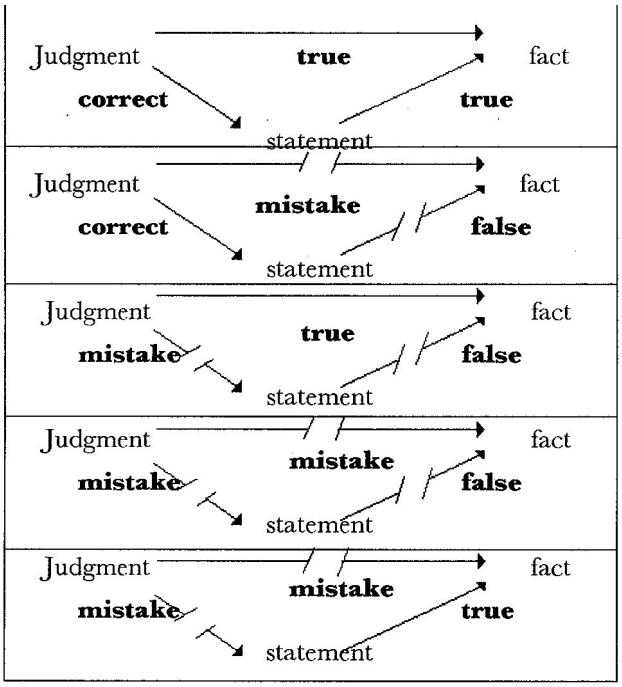
And the fact is that statements, of course, can be both false and, in a sense, mistaken. For instance, the one above about Queen Elizabeth is false because it is the result of a mistake about what the word means. But there are *two ways* that a statement can be

mistakenly false: (a) by expressing a mistaken judgment (accurately); or (b) by expressing a judgment inaccurately—so that the statement does not agree with the fact.

Oddly enough, if the judgment is mistaken and the person mistakes how to express it, it can happen by accident sometimes that the statement is true. Suppose a person thinks that "spiritual" means "high-powered energy" and that thinking involves a great deal of energy. He then says "Thinking is a spiritual act." What he says is true; but what he meant to say is that thinking is a form of energy—which is false.

The point here, as I said, is that the truth or falseness of the *statement* does *not* depend on what the speaker's judgment is, but on what the *fact* is. The statement is true if it agrees with the fact, and false if it doesn't—irrespective of the speaker's idea of what the fact is.

The relationship, then, between the truth or error of a judgment and the truth or falseness of a statement is quite complex, if all the possibilities are taken into account. You can see them in the diagram on the next page. Note that there are three possibilities involved when the mistake is in how to express the judgment, the last of which is the case above, where the statement turns out by accident to be true, because the mistaken statement happens to cancel out the mistaken judgment. Most of the time, of course, if there is a mistaken judgment and a misstatement of it, the result will still be false.



STATEMENTS, JUDGMENTS, AND FACTS

8.4.2. Truth vs. lying There is still another complication that we must at least mention. A person may *knowingly and deliberately try to misstate* what he thinks the facts are. In this case, his statement has a *moral* dimension, whatever its actual relation to the facts.

8.4.2. Truth vs. lying

● **DEFINITION: A *lie* is a deliberate attempt to state as a fact something that the speaker thinks is not a fact.**

If the speaker's judgment is mistaken, then the lie can be simultaneously a lie and a true statement. That is, if you think that John has left the room and you want Sally to think that he's hidden in the room, and you say, "John's still here, hiding behind the sofa," your statement is a lie.

If, unknown to you, John pretended to leave the room and hid behind the sofa, your lie is (by accident) a true statement, because John in fact still is in the room, hiding behind the sofa.

So the lie, unlike the false statement, *does* depend on what the speaker's judgment is. It has to disagree with his judgment, and disagree *not because of a mistake, but because he chooses to make it disagree.*

The point here is that when a person makes a false statement, to answer him with "That's a lie!" is very often a false statement. His false statement could be the result of (a) a mistaken judgment about the fact, (b) a mistake in what the language he expressed his judgment meant, or (c) a lie—or (d) *your* mistake in understanding either the fact or what he said. It's actually rather difficult to prove that a person actually lied.

8.5. Goodness and badness

Getting back, now, to the judgment and the fact, there is still another relation we have to consider—or rather, another way of looking at the relation we have considered.

I stressed that, in the truth-relation, we had to make our judgment agree with what the fact is. Someone might, however, wonder, "But why do I have to do that? Why can't I try to change the facts so that they agree with the way I think they are?"

There's no reason why you can't; but when you do this, we don't call this "understanding," but "evaluating," as I said; and the relationship is no longer one of *truth and error* but *goodness and badness.*

What is behind it is this. (1) we have experiences that are reactions to reality, but we also have imaginary experiences that we construct out of pieces of past experiences. (2) Using these, we can create imaginary states of affairs. (3) We can then use these imaginary situations as a kind of standard that we want the facts to conform to.

8.5.1. The evaluative judgment

The result, of course, is that the relation of the facts to the judgment is *the same relation,* but looked at *backwards.* Now the facts are supposed to conform with this construct we have made in our minds.

● DEFINITION: An *ideal* is an imaginary construct used as a standard that the facts are expected to conform to.

● DEFINITION: An *evaluation* is a judgment of whether or not the facts agree with the ideal.

That is, it is one thing to imagine yourself to be a tiger; this is just an act of imagining. But when you imagine yourself as having a job you like, a home, and a family, you compare what you are now with this imagined state of affairs, and *want* or at least *would like*—in some way *expect*—the real world to be this way.

What you are doing here is, instead of taking the *fact* as the "independent variable" and adjusting your *judgment* to agree with it, you are now taking the *ideal* (the mental construct) as the "standard" and expecting (or hoping) the facts live up to *it.*

In the case of imagining yourself to be a tiger, you simply say,

"Yes, but I'm really not a tiger," and there's no problem. In the case of imagining yourself with the job you like, you say, "Yes, but I don't actually have that job," and you think, "But I *ought* to have it."

Or, you imagine a world without nuclear weapons, where people don't go in fear of having the whole world blown up around them. "Why couldn't things be this way?" you say. The *imagined state of affairs* is now the way things *ought* to be; you are "judging" the facts in relation to your *expectation of the way things "really should be,"* as if your judgment expresses the "really true" state of affairs, and the facts are in a sense false.

This is evaluation. It is clear that the judgment ("the world is free of nuclear weapons and the terror they bring") is false. But instead of saying, "Sorry; my mistake; there are nuclear weapons," you don't give up the ideal; you use it to say that there is "something wrong" with the *facts*.

● Note well ●

Whenever we say "ought" or "should," we are making *evaluative* judgments, not factual ones.

There is, however, a second step in this process. You can create ideals and evaluate facts, and complain if the facts don't live up to your ideals; or you can then *make a choice* and say, "Well, I'll change things and see to it that the facts get to be the way I conceive them."

● Note well ●

***Choices* use ideals as ways of making the body unstable and getting it into a *process* whose *purpose* is the realization of the ideal. The ideal then becomes a *goal*.**

That is, you imagine yourself as having a college degree, and you complain about not having one. Then you say, "I'll go to college and get one," meaning that you will now bring the facts into conformity with your ideal. This is a *choice* (as we will see later); and the ideal has changed somewhat. It is no longer simply a standard for judging the facts (and complaining or being happy); it has now become a "future fact": it is a *goal*. It is now what you *intend* by your choice.

● DEFINITION: *Goals* are imagined states of affairs that one intends shall be facts.

Goals are ideals; but not all ideals are goals. Some ideals are just nice to think about, but we have no intention of putting them into practice; we just complain if they're not the case. So, you might have as an ideal being a millionaire; it would be nice to be one, but you aren't going to take the steps necessary to be one. If someone gave you a million dollars, you'd take it, but you're not going to set your sights on achieving it. It's an ideal, but not a goal.

In essence, the difference between a mere ideal and a goal is that when an ideal is a goal, there is an *instability* set up in the person, so that he *acts* in the direction of the goal as his *purpose* (which of course is why it is called a "goal"). With an ideal, there is no instability set up, and no change takes place; it only involves *evaluative judgments.*

● Note well ●

To the extent that you merely evaluate without changing the ideal into a goal, all you are doing is exercising your imagination so that you can complain that the world doesn't agree with your imaginary construct of it. Sterile evaluation is a waste of time.

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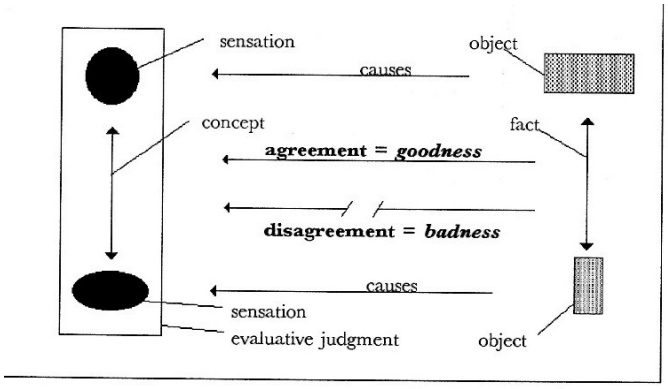
Now then, when we compare the way the world is with these ideals, and notice that it does not agree with our ideals, we say that this is "bad." When it does agree, we say that this is "good."

● **DEFINITION: An object is *bad* when some fact about it does not agree with our ideal of the way the object "ought" to be.**

● **DEFINITION: An object is *good* when the facts about it agree with our ideal about the way the object "ought" to be.**



EVALUATION

As you can see by comparing this with the truth/error diagram on page 212, the relation here is simply the reverse of truth and error. In the truth/error relation, the fact is the "independent variable," and the judgment has to "tune itself in" and become the same relation; here, the *judgment* is the "independent variable," and it is assumed that the *facts* about the object have to "tune in" to our concept of what they should be.

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That is, in general, when we consider objects as "bad," we think that they should be changed, to come into conformity with our idea of them; when we think of them as "good," then we have no project for them; we are satisfied.

The point, of course, in goodness and badness is that these concepts *depend on ideals we construct.* We did not get this ideal from anything "out there." How could we? It doesn't exist. So we made it up. This implies a couple of important things:

● Conclusion 4 ●

Goodness is not an objective aspect of anything.

The only objectivity goodness and badness has is *the fact that* the object conforms (or does not conform) to the person's preconceived idea of it. But the preconceived idea has nothing objective about it, even if it was formed from piecing together many actual experiences. The point of the goodness/badness relation is that the *standard* is subjective, not objective.

● Therefore, *one person's idea of what is "good" for some object may be very different from another person's idea of that object as "good";* and because of the first point just made, *there is no way of deciding which of the two is right.*

Neither person is *objectively* right, because the ideal is a mental construct, not a fact, and so is subjective, not objective.

● **Note** also that *God does not think in terms of goodness and badness. God has no ideals.* This is the exact opposite of the way we tend to think God thinks. But since *God's ideas cause things to exist,* then if God had any ideal for me (i.e. if God thought of the "real true George Blair" as a completely virtuous person), then that ideal would be what existed. No, God's idea of me is *exactly this miserable excuse for humanity which I am;* and of course it follows from this that God

is not and cannot be "dissatisfied" with the way I am.

THEOLOGICAL NOTE

Then this implies that God doesn't care whether I sin or not. This is perfectly true. God can't be affected by me in any case; as James says; "in him there is no change nor shadow of turning," and so nothing I do can make him any happier or disappoint him in any way at all. Even if I am damned, God is perfectly satisfied with me, and I have fulfilled his will for me—which is to be the self that I have chosen to be.

Then why is it said, "This is his will, your salvation." This means (a) *not* that God is "angered" by our sins with the result that he won't forgive us unless we placate him (for him there is nothing to forgive); but (b) that salvation is offered to each of us, and is ours should we choose to accept it—but if we don't, then this does not thwart God's "will," because there is nothing we can do that he doesn't help us do.

He redeemed us, not because it saddened him to see us damning ourselves, but because (since we are embodied and able to change) it is not a contradiction for us to change heart and repent, though it needs a miracle for us actually to do it, and he can supply that miracle—not that it gives him any kick to do so. It is done purely and simply for us, not for any "affection" he has for us. And an act that is done absolutely purely for the recipient, and in which the agent has no personal stake whatever, is an act of absolute love.

So goodness and badness is purely on our parts, not on God's.

● There is, however, a kind of "badness" (moral wrongness) that has some objective basis behind it. *An object which acts in contradiction with its nature has performed objectively a morally wrong act.*

● DEFINITION: An act is *morally wrong* if it is inconsistent with the person performing the act.

For instance, a lie, as I said above, is a deliberate attempt to communicate *as* a fact what you think is *not* a fact; it directly con-

tradicts what factual communication is all about. Such an act is morally wrong, and inconsistent with any "factual communicator."

We generally think of these things as "bad," because we *expect* people to act consistently with what they are; it is the rare person who thinks of dishonesty or hypocrisy (pretending by your actions to be what you aren't) as agreeing with his ideal of the way people "ought" to act.

Thus, moral wrongness is almost universally regarded as bad, and when people disagree on whether a given act is "really bad" or not, they are disagreeing, really, on the *objective fact* of whether it is consistent or inconsistent with the person acting. (E.g. "Are abortions bad?" is another way of saying "Are abortions morally wrong?" If they are morally wrong, the person would expect people not to do them.)

● **Note,** however, that *although moral wrongness is regarded as bad, moral wrongness and badness are not the same thing. Moral rightness and wrongness are* ***objective facts*** *(consistency or inconsistency); moral goodness and badness depend on subjective expectations.*

This opens up the whole area of morality, which is an extensive study in itself; so let this be enough for our purposes here.

● **Note** that the reason that goodness/badness is subjective and truth/error is objective is that facts are facts, and it is the *facts* that are "out there," and our knowledge which depends on them. *Facts do not depend on our ideas of them; hence, while ideals and goals have a basis that is subjective, not objective, truth and error have an objective basis.*

Ideas get "translated" into facts when they become goals and we choose to *act* to change the facts so that they will agree with our goals—as when a student actually enrolls in a college, with the goal of actually having a degree. Unless he acts, however, the facts remain what they are, and his "goals" are not goals, but simple abstract

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ideals.

But this leads us into what choice entails, which is the subject of the next chapter.

HISTORICAL SKETCH

Plato (400 B.C.) thought that truth consisted in our mind's being in contact with the "Aspects," which were the spiritual realities we know with our spiritual minds. Error, for him, came when we clouded our knowledge with sensations (which were our contact with the imperfect "sharers" of the Aspects).

Aristotle (350 B.C.) had the theory of abstraction; and since for him sensation was a kind of "becoming" of the object in a non-material way, then when we abstracted the "nature," we got at the truth of things.

Following Aristotle, **St. Thomas Aquinas** (1250) held the basic "conformity" theory of truth we enunciated above: the judgment is to conform to the facts. Both Aristotle and St. Thomas, however, thought that goodness was something objective, which was what attracted the "will" (the spiritual faculty of choice). Hence, things were "really" good or bad; goodness or badness did not depend on how you considered things. Thus, there would be an objective goodness, which God would know and "desire" in some analogous sense; and this led to all kinds of Theological conundrums about God's "permissive will" "allowing" bad things which he didn't "really want" to happen but "couldn't prevent" because a "greater good" would come from them. (E.g. it is supposedly "objectively better" to be free and have some of us damned forever than for us not to be free—though it's hard to see how you would find evidence to support this, since animals aren't free and are doing all right).

With **Descartes** (1600) the whole truth-question got turned inside out. Descartes started with what he thought was an undeniable fact: "I think, therefore I am," and argued from the "badness" of his doubting to the "fact" that he had an idea of a perfect being—which he couldn't have got from himself (since everything about him was imperfect), and therefore must have got by having a perfect being give it to him: hence there is a God, who won't deceive us. So "truth" had God as its guarantor.

This whole thing is actually full of flaws (we can get the idea of "perfect" by negating things that we think "bad," without having it infused into us); and in fact people began disputing it right away.

For the **Rationalists** (**Descartes, Spinoza**—1650—and **Leibniz**—1680), there were "innate ideas" that we always had in our minds, and were not arrived at by abstraction from sensations; and truth was something like Plato's notion, of not letting sensations cloud the mental grasp of the ideas themselves.

The **Empiricists (Locke**—1670—and **Hume**—1750), held that there were no innate ideas, and in fact no ideas in our sense at all. All there were were sensations, simple or complex; and the complex ones were what we mistakenly thought of as "abstract ideas." Since we didn't know whether there was anything "out there" or not (or whether we really had "minds" or not), then truth was simply the consistency among the ideas themselves.

For **Immanuel Kant** (1790), objective knowledge consisted in imposing order on the haphazard data of sensations, thus making "objects" out of blocks of data (for him, actually, the "object" is what I called the "perception"); reason, which created ideals, was naturally deceptive, because it made us think that these ideals (concepts of God, freedom, spirituality, and immortality) actually existed, when they couldn't. There was no question of a conformity to what was "out there," because there was, for Kant, no possibility of knowing anything at all about the "X" out there. All knowledge is "phenomenology": the study of the appearances.

Georg Hegel (1820) carried phenomenology to its ultimate extreme. The Truth was the Absolute—absolutely everything—and could be known by a dialectical process, where we follow the steps The Absolute takes in "becoming aware of itself in its own otherness," which it produces out of its own mind. Every concept is true, and every concept which is not yet the sum of all concepts is false. Every incomplete concept is implicitly Absolute Truth; and Absolute Knowledge contains absolutely all truth—and we have it, because we are the Absolute in his "otherness," and when we know Him, He knows Himself in us. For Hegel, "the real is rational and the rational is real." What Hegel did not realize is that the real is both rational and non-rational (though not irrational—but there are gratuitous elements in it), and the rational (consciousness) is both real and not real (real and imaginary).

In the United States, the **Pragmatists William James** (1900) and **John Dewey** (1920) held that truth is "what works"; which basically was again a kind of consistency among our experiences. If they contradicted

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each other, then obviously this was false. Actually, these people made a "definition" of truth out of a pretty decent criterion for deciding whether a judgment is true or not; but the two are not actually the same.

There are many, many other names who have dealt with objectivity and truth since Descartes; but the whole history of the epistemological problem has been based, I think, on a fundamental misconception: Up to the present, "truth" has been pretty much equated with "reality." It has been held that what is is true, and what is true is. I think that this is only in a sense true, and in that sense it is misleading. It supposes that what our objective knowledge is is knowledge of *objects* (which sounds on the face of it obvious—though I think it's false); and therefore, "conformity" theories are various versions of a kind of "copy theory" of different degrees of sophistication; or the "object" is taken to be *inside the mind* (the appearance itself), and truth is some kind of consistency in the object.

The various difficulties in "consistency" theories have lately led people like **Kurt Gadamer** to say that you never really can know what another person means; so *any* interpretation that is internally consistent is as good as any other (though he seems to be annoyed when other people interpret him in a consistent way which is different from what he thought he was trying to say).

Further still from reality are the "deconstructionists" like **Jacques Derrida**, who hold that there really isn't any "one meaning" to anything; what statements say is not the person's idea of what the facts are; they are attempts to "modify behavior" in other people. Hence, they express where the person is "coming from" or his "agenda" rather than "facts." But of course, if applied to Derrida's own writings, they themselves don't then express the *real* way we communicate, but are just his attempt to make a name for himself by saying outrageous things. Clearly, he must have intended to be disbelieved, because if you take him seriously, you can't take him seriously, because his own writings about deconstruction have to be deconstructed.

And all because Descartes couldn't see how the subjective impression could report anything about the reality outside us.

The theory I propose is that the object (the energy or bundle of energies which acts on our senses) is what we know *about* with our objective knowledge; but *it* is not *what we know* with our objective knowledge; what we know objectively are *facts* about it. But facts themselves are not "things" or "realities"; they are relations. That is, the similarity of all red objects is not an actual *interconnecting* of all these

objects, as if it were a string or field that attached them all together.

No, the fact is itself not something real; but it is the way we get at knowledge about the reality, because of the indirection necessary due to our being affected by the reality. Similarly, truth is not itself a reality, but a fact about reality's relation to our knowledge of it.

I think that the tortured history of philosophy from 1600 to the present shows that unless this view is taken, all sorts of really silly theories are the only result you have any reason to expect. Some of the theories—like Hegel's—are exceedingly profound and complex; but if you take a wrong premise ("truth is reality") and use it as an explanation, and then try to make it fit the facts, you are bound to come up with a really complex and difficult theory.

SUMMARY OF CHAPTER 8

The problem of objective knowledge is that our only contact with the world outside us is sensations, and these are subjective reactions to energy, and are not like the energy they react to. How then can we know things as they really are?

The answer is that if our reacting mechanisms (our sense organs) are consistent, then a given energy will produce a given reaction; and by understanding what the *relations* are among the reactions, we can know that *the same relation* occurs among the energies that produced these reactions. But this is what understanding does; therefore understanding is the way we reach objective knowledge.

What we understand is not objects, but *facts: relationships between objects.* Our understanding (our judgment) is true when we understand as a fact what the fact actually is (when the objects are related in the way we understand them to be). If the objects are related in a different way, the judgment is mistaken or in error.

We then express the judgment in a statement; the statement is true if it states as a fact what the fact actually is, and is false if it does not. There is a complex relation between the statement, the judgment, and the fact, so that a false statement does not necessarily mean a mistaken judgment. Truth and falseness in the statement ignores whether the judgment is mistaken or not.

A lie is a deliberate misstatement; a statement that is intended to be the opposite of the judgment. But since the statement is true or false depending on whether it matches the fact, not the judgment, a lie can be a true statement also (if the judgment is mistaken).

Goodness and badness look on the relation between the fact and the judgment in the reverse direction. The judgment is taken to be the standard, and is thus an ideal for evaluating the facts. When the facts about some object agree with the judgment, the object is called "good"; when they disagree, it is called "bad," or "there is something wrong with it." (Moral wrongness is not badness; it is acting

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inconsistently with what you are, and is a fact.) Since the ideal is constructed by the person, then there is no objective basis for goodness and badness, as there is (the fact) for truth and error.

Exercises and questions for discussion

1. Since I can never know how grass looks to you, then it follows that I can't say that you're wrong when you say that grass is purple, because that's the way it looks to you. Then how is it we say that colorblind people don't see things correctly? Who are we to impose our "style of seeing" on them?

2. Relationships (e.g. the "connection" of all red objects because each is red) don't really exist as such. Then how can we say that it is the relationships which are what we *objectively* know? The objects are the (related) bodies, not the relationships. But we only have contact with them by our subjective reactions. So we don't really know anything objective after all.

3. If truth means that the judgment is the same as the fact, then isn't what you think is true only true *for you,* because someone else can have a different judgment about what the facts are? So truth is really subjective, not objective.

4. If our knowledge of what facts are is based on a relationship between sensations, then how can we know a fact that we have never seen or directly experienced? For instance, how can you know that it's a fact that you lost consciousness last night, if you can't experience your own unconsciousness?

5. If we rank goals in terms of importance (by figuring out which we would give up if we had to give up one to get another), and if this process is subjective, doesn't this mean that nothing is objectively important?

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Chapter 9

Freedom

9.1. Different senses of "freedom"

The question of whether human beings are really free or not has probably caused more controversy throughout the history of philosophy than any other issue. But everyone agrees that we are "free" in some senses of the term and not in others. The sense of "free" in dispute is whether our choices can actually pick any option we are aware of, or whether they are constrained to select the most attractive option.

But to clear the underbrush, here are some of the senses of "freedom" that we are *not* discussing in this chapter:

• DEFINITION: *Spontaneity* is the kind of freedom a being has when no *external physical* force is making it act or restraining its activity.

Thus, a dog that is not tied up is "free" in this sense, and can act *spontaneously:* that is, the direction of the action comes from within and not from outside. But this does not imply that the dog has *real alternatives* that it can choose among; presumably, whatever is the

strongest drive (the most powerful emotion) will make the dog act.

A paraplegic who has a machine strapped to his hand that makes the hand move is not "free" in this spontaneous sense. The machine forces his hand to move.

To put it another way, an act is "spontaneous" if it isn't a *reaction* to some energy from outside. In this sense, life involves (as we have seen from the beginning) spontaneity—which is why one of the definitions of life in Chapter 4 was "internal freedom."

No one denies that we are "free" in this sense, as long as we're not tied up or caged; and so in this chapter, we are *not interested* in this minimal sense of "freedom," but in whether our actions are free from internal as well as external compulsion.

Here is another sense of "freedom" which we are not interested in, but have to include to clear the air:

• DEFINITION: *Liberty* is the kind of freedom a being has when it is not coerced by threats.

A threat, of course, is a promise (by the threatener) that he will inflict some kind of harm on the person if the person does not do what he wants.

These threats may be legitimate, as with the threat of punishment that accompanies just laws (park by a fire hydrant, and you are under the threat of a fine); they may also be illegitimate, as when the government passes unjust laws and threatens punishment for disobedience, or when a person without authority threatens punishment.

Again, there is no real disagreement among serious thinkers. Obviously, *no human being has absolute liberty.* We all exist in societies of some sort; and since members of societies have to be constrained to prevent their self-development from interfering with others'

self-development, there must be laws and threats.

Laws and their punishments are supposed to be an argument that human beings are basically free to choose; but they don't make a very good one, since we train animals by punishing them, and they associate the undesired action with the punishment, and so act as if they were under a threat. It could be supposed that human beings *understand* the threat and its relation to their acts; but this does not mean that the threat doesn't *make* them act.

Finally, then, we come to the sense of "freedom" that we want to explore here:

• DEFINITION: *Freedom of choice* means that there is nothing *from inside or outside* the being that makes it *impossible* for the choice to be different from what it is.

That is, if you don't have freedom of choice, either the attraction is so strong that you can't avoid choosing the act, or the disincentive is so powerful that you can't choose the act.

• DEFINITION: An action or choice is *determined* if it is impossible for it to be otherwise.

The act (or choice) might be determined by "positive reinforcers" which make it impossible to avoid it, or "negative reinforcers" like threats which make anything but the act impossible.

• Note •

These "reinforcers" may be there, but they only *determine* if they are so strong as to make any other option *impossible*.

• DEFINITION: An action or choice is *influenced* if something makes it *likely*.

This is the situation if a given act or choice is being affected by

positive or negative reinforcers, but they are not so strong as to determine it.

● Note ●

No one denies that our choices are influenced.

In fact, as we saw just above, the threat attached to a law is supposed to influence the person to choose to obey. So whether our choices are "free" in the sense that *nothing* affects them is *not* the issue.

● The issue: first formulation ●

Does the strongest influence on our choice determine the choice?

Perhaps this could be more accurately put if I were to state the question this way: *Does the choice necessarily follow the* most heavily weighted *alternative?*

For example, you like ice cream, but are afraid of the dark. You know that there is ice cream in the refrigerator; but the light has burned out in the kitchen, and you have to cross the dark room to get to it. Is what you decide to do (i.e. what you *choose* to do, not what you actually do—the two are not necessarily the same) simply a battle between the desire to eat the ice cream and the fear of the dark, or can you actually "overcome" the stronger influence?

● The issue: second formulation ●

Can we choose the less strongly motivated course of action?

Those of a scientific or empiricist turn of mind tend automatically to say, "Of course not. How could you do what you are *less* strongly inclined to do?" These people, whether they call themselves

such or not, are *determinists*.

• **DEFINITION:** ***Determinism*** **is a theory of human choice and action which says that the strongest set of motives determines both our action and our choice.**

• **DEFINITION: The** ***free-choice theory*** **of human choices says that our** ***actions*** **are determined** (generally by choice but sometimes by various other influences) **but our** ***choices*** **are** ***always*** **capable of opting for** ***any*** **of the known courses of action, whether they are the more or the less strongly motivated ones.**

So the free-choice theory is complicated. It does not deny that sometimes we *act* on the basis of influences which overwhelm us; and in this case, we are "temporarily insane" (or, of course, permanently so), and "cannot help ourselves." But the free-choice theory holds that we can *choose to do* the action that not only seems but actually is the *less* strongly motivated course of action. It would also hold that, generally speaking, we can also carry out our choice— that is, that it is rare for us to choose one act and find ourselves performing a different one.

9.2. The controversy I think you can see why there is a dispute here. The person who bases everything on reason holds that free-choice theories are absurd. "Why," he would say, "would a person choose what is less attractive? If he chooses this course of action, it must be because he prefers it; and if he prefers it, he either prefers it for some reason, or because of some emotion, or some combination of the two. But in either case, his preference indicates that it is *more* attractive, all things considered, not less. Hence, he is taking the more strongly motivated course of action. He

may *say or think* he is choosing the less attractive alternative, but that is because he means by 'attractive' *either* what is emotionally attractive (but hasn't got reasons for it) *or* what has the most reasons in its favor (but not the strongest emotions). But if you take the two influences *together*, he isn't choosing the less attractive alternative, because it doesn't make sense to say this."

The free-choice theorist counters, "What you say sounds very reasonable. My answer is that it doesn't agree with the facts. We can and sometimes do choose what has *both* fewer reasons in its favor *and* is emotionally less attractive—and know that we are doing this."

The determinist then denies that this ever happens, and the free-choice theorist counters that it doesn't often happen, but if it happens just once, that disproves determinism.

Since I think the free-choice theorist is right, there is some pretty rugged reading ahead.

9.3. The evidence The issue is not a minor one. If in fact our choices are determined by the combined weight of the influences on them, then human *responsibility* is a myth. None of us can "help" anything we do, and Stalin and Hitler deserve no blame for their acts, any more than Ghandi or Lincoln deserve praise for theirs. We are all like Fido out in the yard; we can be trained, but only by manipulating the influences on us; once the influences are there, operating, the case is closed; there is *really* only one course of action open to us, even though in theory there might seem to be many (the ones that in fact are less strongly motivated).

If we are determined, we are only "free" in the sense that the weather is "free"; it can't be predicted with certainty because we don't know *all* the factors that enter into a given weather pattern. Similarly, if we are determined, a given choice can't be predicted *only* because all the influences on it (and their relative strengths at the

moment) are not *known*; but if they were known, then the choice and the action could be predicted with certainty. This is the position of B. F. Skinner, who in fact uses the weather example as his explanation of why individual choices can't be predicted.

On the other hand, if the free-choice theory is correct, then most of the time we are responsible for what we do, because we chose to do it, and could have chosen not to. We are only not responsible when we are like Fido, and do something either without choosing (as in sleepwalking), or when we do something *in spite of and against* the choice we made (as in neurotic or "insane" behavior).

• **Note** that *If the free-choice theory is true, then people should be left free*; they should be presented with the evidence for the probable consequences of their acts, and left to make up their own minds. *If the determinist theory is true, then people should be trained to be happy doing what is most beneficial for the greatest number*, and shouldn't be left "free to choose" for themselves—because in fact they never are free to choose in this sense.

(Of course, if determinism is true, it is hard to see what "should" would mean above, because those who would do the training are themselves already determined, and there would be no changing them—except by someone else who would also be already determined. "Should" is a meaningless word if we have no freedom of choice. As you can see, the issue is complex, but important.)

Before presenting evidence that, I think, will lead to a solution of the controversy, let me point out that the "argument" above that seems to favor determinism is an invalid argument, because it begs the question. The argument, you will recall, says, "If you chose to do this act, then this was because you preferred it, which means that, taking emotions and reasons together, it was more attractive."

Now a person "begs the question" when he *uses the conclusion* as one of the *steps* necessary to *prove* the conclusion. This using the

conclusion as a premise (part of the proof) is usually hidden, of course. No one would do it openly, because, as in the following example, it can be seen to prove nothing: "If you're reading this, then you're insane. Why? Because if you weren't insane, you wouldn't be reading this."

In the "argument" about freedom, the begging of the question comes in the second clause ("then this was because you preferred it"). The free-choice theorist holds that you chose the act *in spite of the fact that you preferred some other one*; the whole point at issue is whether we are *capable* of choosing the less strongly motivated course of action. The determinist assumes that **since** you actually chose this act, then it *must have been* the more strongly motivated.

Why does he assume this? Because "we always choose what we prefer." But then he uses this supposed "fact" to *prove* his point against the free-choice theorist; but the point he is trying to prove is "we always choose the more strongly motivated course of action"; or in other words, "we always choose what we prefer." He has assumed as true the "fact" he wanted to prove, and used this assumption to "prove" this very "fact."

That is, the (question-begging) argument for determinism goes this way: The "fact" that we are not free proves that we always do what we prefer; and the "fact" that we always do what we prefer proves that we are not free. When you bring the hidden presuppositions out into the open, you can see how silly the "argument" is; it keeps going round in a circle.

● Conclusion 1 ●

The fact that we do something does not of itself imply that we were *incapable* of *not* doing it.

Nevertheless, the free-choice theorist can't just assert freedom of

choice, and say we do in fact sometimes do what is less strongly motivated, because this ignores the fact that we might be unaware of all the influences on our actions, and so the choice might only *seem* less strongly motivated and actually be the opposite.

So we've got to find some evidence somewhere.

9.3.1. The nature of goodness

The first piece of evidence comes from what was said in the preceding chapter about goodness. If goodness were something objective that automatically "attracted" the will, then it would be hard to see on what basis the will could resist the stronger attraction. The Scholastic philosophers, like St. Thomas, who held that we are free, had this problem.

But with my theory, there is no goodness "out there," and so it doesn't automatically attract our will at all. Goodness, as you recall, comes from your *making up* situation which you then use as a standard for judging the facts or go on to pick as a goal for your actions; hence, you precisely *aren't* reacting to some attraction from outside; the initiative is within you.

Granted, we do have emotional attractions and repulsions, but we actually *define* these as "pleasures" or "pains" not by their automatic tendency but by convention. For instance, we consider the sensation of getting drunk a "pleasure," when it is in fact the sensation of being poisoned; we find terror "fun" when we get into the roller coaster; and so on. So not even pleasures and pains are really objective.

The upshot of this is that, as far as the *reasons* for choosing something are concerned, it doesn't follow that any one course of action is "more attractive" than any other. True, one will lead to an in-itself higher goal (e.g. one job pays three times as much as the other); but whether this goal is a goal *for you* is up to your choice (you may not be interested in having a lot of money).

9.3.1. The nature of goodness

Thus, the determinist, who holds that the sum of reasons + emotions determines the course of action we choose, has got to hold that there is an "objective goodness" that is discoverable by understanding (the way "greenness" is); and so understanding will be able to know what act is "in fact better for me," and the will will be attracted in that direction, only to be deflected from it by the emotional factors that attract the senses.

But then if "goodness" is a property of things which can be objectively known (as G. E. Moore says, like "yellow," which you can recognize but not necessarily define), why do we disagree on what this property is, while almost no one disagrees on whether a given object is yellow or not?

The theory I am advancing, however, holds that, while you might say that a more spiritual act (like studying philosophy) is a less limited and therefore a "higher" act than, say, lifting weights, it does not follow that it is *better for you* to study philosophy than to lift weights. What is "better for you" in this sense depends on *what your goals are* (Do you want to be an intellectual or be in good physical shape?); and your goals are *not* built-in; so that it is possible for you to set as a goal being another Arnold Schwartzenegger, in which case lifting weights is better *for you* than studying philosophy.

The point is that if we are determined, then the "attractiveness" is something outside the choice that forces us to choose it. But this means that goodness is objective. But if it is objective, what is it?

● Conclusion 2 ●

The fact that goodness is subjective (created by the choice) shows that we cannot be determined by the "attractiveness" of what we choose.

9.3.2. The evidence from self-transparency

This, of course, doesn't settle the issue, because all that it says is that determinism contradicts *my theory* of the nature of goodness. But of course, this is just one theory disproving another; and so it could just as easily be that determinism (if it is a fact) disproves the theory of goodness as that the nature of goodness (if *it* expresses what the facts actually are) disproves determinism. We don't have any *direct* evidence one way or the other.

But there is actually a fact which both determinists and free-choicers admit, and so we can take it as a starting-point:

● First psychological evidence ●

When we make choices they *seem to us* to be free.

B. F. Skinner says of this, "The illusion of freedom should fool no one." So he admits that we *think* our choices are free; he just believes that it's an illusion.

But notice that this feeling of freedom of the choice is not an awareness of some outside object, like the feeling of heat when you touch something. That can be fooled, as can be shown by putting one hand in hot water and the other in ice water, and then putting both in tepid water: one hand feels it as cold, and the other as hot.

But the choice is free is *an awareness about the conscious act itself;* and since the conscious act *is present to itself directly,* then there is nothing in the "causal chain" by which a mistake could be made. We can make mistakes, as we saw in the preceding chapter, when some intermediary between the act and its effect alters the sequence of causes so that the effect is different from what it would be under other conditions. But between the conscious act and itself there are *no* "conditions" which could alter our awareness of it—because our awareness of it *is* the act we are aware of.

9.3.2. The evidence from self-transparency

● Conclusion 3 ●

A person cannot be mistaken about the conscious act he is having while he is having it.

That is, if the sky looks red to you, you can be mistaken about the color the sky *is*. But you can't be mistaken in *how it looks to you*. If it looks red, it looks red. It couldn't *appear to you* to be green and you *think it appears to you* to be red. This makes nonsense out of consciousness.

That seems to settle the issue, then. If the choice (which, of course is conscious—you know that you are choosing when you choose) appears free to itself, then it must be free. If it weren't free and appeared free, this would be like thinking the sky looked different to you from the way it looks to you.

But not so fast. That "fact" about consciousness is a *theory* about consciousness, if you will recall: that the act contains itself as part of itself. It is, I think, the only theory that makes sense; but it is possible that there is another explanation of consciousness which doesn't involve the act's containing itself inside itself—and in this case, the idea that the choice is free could be mistaken.

So once again we seem to be just in a conflict of theories.

Nevertheless, we can still say this: the determinist *has to* claim that the idea that the choice is free is mistaken, because otherwise he would have to admit that the choice is free.

● The determinist theory ●

Determinists explain the feeling of freedom by saying that, though the choice is always determined, we feel free when we *do not know* what is determining us.

That is, what they say is this: According to them, both our

choices and our acts are always determined. When we are aware of what is determining us, we realize we are compelled, and we think we "couldn't help it." When we don't know what is determining us, we think we could have chosen otherwise, and we feel free. When we choose what *seems to us* the less strongly motivated side, we are simply unaware of other factors that make it actually the stronger one.

The determinist cites in support of his explanation that we sometimes *do* make choices which we feel we "couldn't help," as when a person on a diet is offered a piece of chocolate cake, and "can't resist." This person *recognizes* in this case what is making him eat the cake. The determinist then says that when the person "thinks he can take it or let it alone" (as when, after a struggle, he refuses the cake), he is simply *not aware* this time that the factors influencing him to stay on the diet are *in fact stronger* than the attraction of the cake, and so *prevent* him from eating it. He didn't "win against temptation" at all; he couldn't help refusing the cake. He only *thinks* he won because what was making him refuse it was unconscious.

● This explanation seems to work. But note that it does so *by assuming things that are actually not in evidence*: these "unconscious motivators" that are active, overbalancing what the person is aware of. Obviously, *the determinist can have no evidence that these factors are actually working*, since (1) the person making the choice is unaware of them, and (2) no one else can get into his mind and know what is influencing him.

But since there is no way to test whether these factors are there or not, this is a bad scientific theory. It assumes, as crucial to the argument, a "fact" not in evidence, and one for which, in the nature of things, there can be no evidence. Once again we have, as so often in this matter, theory posing as a fact.

That is, the argument once more begs the question. The

9.3.2. The evidence from self-transparency

"argument" in this case goes this way: "If there are *unconscious* influences determining you, you think your choice is free while it isn't really free. But when you make apparently 'free' choices, the determiners are unconscious. Therefore, your choices aren't free but only seem so." But then one asks, "How do you know these 'unconscious determiners' are there and operating?" and the only possible answer is (since there is no way of observing them), "They must be there, otherwise the choice would be free."

Again, the logic is: The presence of unconscious motivators proves that we feel free when we really aren't. The fact that we feel free (when we really aren't) proves that unconscious motivators are present.

Note, however, that this particular theory further assumes that a conscious act can be mistaken about itself, based on something unconscious. This is a very large assumption; and since there is no way to prove the existence of these supposed "unconscious determiners," it must remain mere speculation, and not science.

On the other hand, by the same kind of reasoning above, the free-will theorist cannot *prove the absence* of determiners in the unconscious without also begging the question. You can't know from any possible observation whether they are there or not; and so the argument would be: "Choices are free because there are no determiners either conscious or unconscious." But how do you know that there are no determiners in the unconscious? "There can't be any, because then the choice would not be free."

The point, of course, is that the controversy can't be settled one way or the other by pointing to hypothetical "determiners" in the unconscious mind. It is to be noted, though, that the free-will theorist does not really *have to* prove the absence of these "unconscious determiners," because, absent *proof* to the contrary, a conscious act is to be taken as being aware of what it is; and in this case,

it is aware of itself as *not* determined.

● Conclusion 4 ●

Since a conscious act is immediately aware of itself, then there is nothing that could cause it to be mistaken about itself; and since the choice is conscious of itself as free, it must be free.

"But this isn't always true," you say. "What about our mistaking a dream for waking life?" That isn't a mistake about the conscious act itself; it is a mistake about whether the information is coming from outside the brain or is already there. Certainly, your experience in the dream is your experience in the dream. You can't be dreaming about one thing and experience yourself as dreaming about something else. That is what I am talking about here.

9.3.3. Evidence from compulsion

Oddly enough, the strongest argument *against* the determinist position is one which looks at first glance to be an argument *for* it. I mentioned that the determinist explanation seems to handle those instances when we feel we "couldn't help ourselves." On the face of it, free choice doesn't seem to be able to do that. One would think, if the free choice theory were true, we would always feel free, because the choice would be aware of itself as free.

But of course, it's not that simple. So be prepared for some intricate reasoning.

Once again we start with something that both sides concede is a fact:

● Second psychological evidence ●

People who are compulsive do what they claim they choose not to do, and so feel not free.

9.3.3. Evidence from compulsion

These are the people who used to be called "neurotics," but the term has dropped out of favor. They are people like alcoholics or addicts, nymphomaniacs (who can't refrain from sex), people with various phobias, and so on. They either do things that they say they don't want to do, but "can't help it," or (as the case with phobics) they can't do what they say they want to do. As I say, no one denies that these people exist.

Some, of course, say that they are just lying; they can actually stop drinking "if they put their minds to it"; or if they just "pull themselves together" they can go out and meet other people, and so on. People who have this attitude toward compulsives spend their time giving them reasons for not drinking or reasons why there's nothing to be afraid of—but the compulsives claim that they know all the reasons and they still can't do what is expected of them.

To me, what shows that these people are sincere in at least *thinking* that they can't help themselves is that they often spend thousands and thousands of dollars to get psychological help. Who would go week after week to a shrink at over a hundred dollars a session if he could just stop on his own?

But what we are interested in is that, given that there are such people, what this says about the question of whether determinism or freedom of choice explains human experience.

Remember what the determinist explanation of choice was: When we *know* what is making us do something, we feel not free; when we *don't know* what is making us do it, we feel free.

● Third psychological evidence ●

In general, compulsives do not know what is making them do what they do.

One of the agonies of this type of person, in fact, is precisely

that, as far as he can tell, he *ought* to be able to do what he can't do; but he tries, and only rarely does he succeed in doing it. But he can't tell beforehand when he'll succeed and when he'll fail. Most of the time he tries *and for reasons totally unknown to him,* he fails to do what he wants to do.

No one, for instance, knows what really makes an alcoholic a compulsive drinker. Is it a genetic predisposition? Is it a difference in the brain? Is it just a very strong habit? Is it a chemical imbalance? Still less do people know what makes for phobias. Was it an early experience, and if so what one? Does it have to do with the brain's chemistry? Is it a question of faulty circuitry in the nerves? No one knows. There are various *theories* on the subject, but no *direct evidence.*

So we can take it (1) that the compulsive does not know what is making him fail at what he wants to do, and (2) he feels not free.

● Conclusion 5 ●

If determinism explains human choices, compulsives would feel free. But they don't.

If you look back at the determinist theory, you would predict from it that compulsives would be the people *most likely to feel free,* because they are the ones who are being determined by factors they are not aware of; and it is precisely this situation that the determinist says accounts for the feeling of freedom.

But you say to a person who has a phobia of the dark, "Look, I've turned the light on. There's nothing in the room. Now I turn the light out, and you've got nothing to be afraid of. Come on in." He will answer, "I can't." You say, "You *know* there's nothing to be afraid of," and he says, "I know." You say, "Then why can't you come in?" He answers, "I don't know; I just can't." He's being

9.3.3. Evidence from compulsion

compelled by something he is totally unaware of; as far as he can see, there's nothing keeping him from going into the room. But he can't do it. *This is precisely the kind of person the determinist theory would say feels free*. But if there's anything he *doesn't* feel, it's free.

Here is a second fact about compulsives that argues against determinism:

● Fourth psychological evidence ●

Compulsives sometimes choose to get help to overcome their compulsion.

This seems unremarkable enough, but look what it is saying. There is certainly *some* sense in which the compulsive is determined, because he is doing something in spite of himself. Something in him is making him do things he doesn't want to do. So he goes to get help.

But this *choice* to go get help is a choice to do the *exact opposite* of what the compulsion is making him do. Now if the compulsion were determining both his actions *and* his choice, how could he make such a choice? Here his choice is *directly against* the compulsion, and so clearly the *compulsion* can't be making him make such a choice. But then what *is* making him choose to get help? Another compulsion? But if that other compulsion is so strong as to make him choose to overcome the original one, why does he have to get help? His very choice to get help has conquered the compulsion with a stronger compulsion. Tell *that* to a compulsive.

● Conclusion 6 ●

If determinism were true, compulsives could not choose to get help to overcome the compulsion. But they do.

That is, this choice to get help implies that the person is drawn in two conflicting directions: he is drawn by the compulsion to do something "in spite of himself," and he is drawn by something else to get help so he can stop doing this. This second "drawing" isn't unconscious, however; the neurotic *deliberately chooses* to see the psychiatrist—and he feels *free* doing this. How could he be compelled against his compulsion? So the choice to get help must be a free one.

● **Note** also that *Whenever* the compulsive tries to prevent the compulsive act (whenever he struggles against it), he *feels* that *this choice* is free, even though he can't carry it out into action. It is the *act* he feels not free about, because it isn't what he chose to do.

● Fifth psychological evidence ●

Compulsives feel their *choices* are free; the compulsion consists in their not being able to carry out the choice.

That is, compulsives feel in control of their choices; the just can't carry them out. They *try* to do what they find they can't do and fail. But what does "try" mean? They make a choice. They have no problem *making* the choice; it's just putting it into practice that's the difficulty. The alcoholic resolves thousands of times to quit drinking; it's just that he keeps drinking anyway.

But if you are a determinist, your theory has to look like this, to take these facts into account: There is (1) the *unconscious attraction* to do the undesired act, which is *forces the act* in spite of the choice not to do it (the person can't carry out the choice); but (2) there is the *unconscious repulsion* against this act which *forces the choice* not to do it. This unconscious repulsion is (a) *stronger than the attraction* with respect to the *choice* (because it forces it, overcoming the attraction) but simultaneous (b) *weaker than the attraction* with

respect to the *act,* because the attraction wins out against it in the act. Nevertheless, (c) the unconscious repulsion sometimes *is* strong enough to force *both a choice and an act* to seek help to get rid of the attraction.

These are very strange attractions and repulsions, to say the very least. How can each overcome the other and be overcome by it in the same context? How can each be simultaneously stronger and weaker than the other one? Remember, "unconscious motivators" were *invented* to *make sense* out of choices, supposing determinism.

● Conclusion 7 ●

If determinism is true, the fact that the compulsive's choice feels free and the action feels not free implies self-contradictory unconscious motivators in the same person at the same time.

The more you analyze what the determinists blithely call a "description" of compulsive behavior, the more bizarre and contradictory these invented "motivators" have to become, and the less sense the theory makes.

● Sixth psychological evidence ●

Compulsives often feel free for a long time and only discover their compulsion by actually choosing to go against it.

It is a common experience for alcoholics to think, "I can take it or let it alone" for years and years when everyone else around them knows they have a drinking problem. Why is this? If you examine what they say, you find they think they are free because they just have no reason for "letting it alone."

What does this imply? They are *choosing* to do what they are *in fact* compelled to do, and feel free because their choice is carried out

in action. So there's no conflict between the choice and the act, and that is what makes them feel free. But when some situation comes up that gives them a very good reason for *not* drinking *and they actually choose not to drink* and then find themselves drinking—*then* they realize they have a drinking problem.

The point here is that the compulsive doesn't discover his compulsion by looking inside himself and finding some attraction that he didn't know he had; *he discovers it by finding out to his surprise that he can't carry out his choice*. The *choice* still feels under the person's control; he just now realizes that his actions aren't.

● Conclusion 8 ●

If determinism is true, the compulsive's feeling of being in control of his choice is as much of an illusion as his feeling of being in control of his acts. But the moment of discovery then implies overwhelming impulses in opposite directions at the same time.

That is, at the moment of this choice, there is the overwhelming (unconscious) motivator that forces the choice (because it feels free) and the overwhelming (unconscious) motivator that forces the act (because he can't carry out the choice). We saw this above. All that this evidence adds is that the person himself becomes aware of the compulsion on his actions, *but he never loses his sense of being able to choose* whatever he wants.

One final nail in the coffin of determinism:

● Seventh psychological evidence ●

Our ordinary experience is that the more we are aware of that is relevant to a choice, the freer that choice feels.

This is the experience of *deliberation*. When we have an import-

9.3.3. Evidence from compulsion

ant decision to make, we try to think of all the reasons for and against the action in question; and the more reasons we find, *the more in control we feel*. People who are forced into decisions before they have had time to think things through become nervous, because *they are afraid that they are acting on impulse, for reasons they are not aware of*.

So common experience is that the more you know about what's attracting you or repelling you, the freer you feel, and the less you know, the less in control you feel.

● Conclusion 8 ●

Determinism predicts that the less we know about what is inclining us to a certain action, the freer we would feel. This is directly counter to common experience.

The reason determinism predicts this is, of course, because it explains the feeling of freedom by *ignorance* of what is motivating you to act. But it is *knowledge* of what is motivating us that makes us feel in control.

● General conclusion ●

Determinism cannot explain human experience. Our choices must be free, even though our acts are not.

That is, we can take it that the theory does not stand up to the facts. First, it goes counter to what we know about the reality of goodness and badness. Second, it goes counter to the immediate evidence of consciousness itself (and therefore, the burden of proof is on the determinist). Third, it is supposed to explain the sense of freedom by ignorance of what is determining us; but the neurotic doesn't know what is determining his acts, and yet feels not free.

Fourth, it has to invent mutually overwhelming unconscious determiners to account for a neurotic's acting in spite of his choice. And fifth, it contradicts the common experience of deliberation.

It is just a bad theory all round.

9.4. Freedom of choice

So the only reasonable position is that our choices are free. Putting this together with what we learned about understanding earlier, as well as our discovery that we do not always do what we choose to do, we can construct the following theory about choice and its freedom:

• **1. Our choices are never determined. They are *always* under our control.** A choice determines itself. As spiritual, it contains itself within itself, and so it itself makes itself to be the choice which it is.

And this is confirmed by our experience. When we choose, we also choose to choose—because we can come to the point of making a decision, and say, "No, I won't decide now; I'll sleep on it first"—which is, of course, to choose not to choose (now). Hence, the choice is in control over itself.

• **2. Our choices are influenced, but only by *consciously known facts.***

The reason for saying this is that the choice is a spiritual act on the level of understanding, as we can see from the fact that we have *reasons* for our choices. These "reasons" are not emotions, but *facts we know*—acts of understanding.

The choice, as conscious, *contains within it* the acts of understanding (the "reasons") on which it bases itself. Even when we choose something "because we are so attracted to it," it is the *fact that we have the emotion* that is the *reason* for the choice, not the emotion itself.

9.4. Freedom of choice

Be sure you understand this. When we say, "I like this sweater a lot, but this other one is more what I need, practically speaking," the attraction to the first sweater is being considered as a *reason* for buying it in spite of its lesser practicality; and hence, it becomes just one fact out of several that you are taking into account in making your choice. It itself does not enter into the choice; it indirectly enters by your recognition of *the fact that* you have it.

● This implies that *you can't choose options you are not aware of* and *you can't choose for reasons you are not aware of* at the time you make the choice.

● 3. The choice has control over how much each known fact is going to influence it.

If this were not so, then we would be back to determinism. When you say, of the sweater, "I don't care if it's impractical; I like it and so I'll buy it anyway," you are discounting the practicality as of lesser importance than the emotional attraction. But you realize that you can just as easily say, "I don't care how much I like it; it's not practical, and I need a warm sweater; so I won't buy it." In this case, you discount the attraction as not important.

This is another reason why I say that there is no such thing as "objective levels of goodness." The choice itself *creates* the goodness by its control over the evaluative judgment.

● This is why *we can choose against what seems the more reasonable or attractive course of action.*

● 4. Emotions and drives (instinct) influence the choice *only indirectly.*

They do this in two ways: either (1) by directing attention away from facts we would otherwise know (making them unconscious and therefore unavailable as influences), or (2) by creating illusions or

hallucinations that make us mistakenly think that certain things are facts when they aren't.

That is, emotions can either create *misinformation* or suppress information. Thus, a person in love "sees" all kinds of wonderful qualities in his beloved that no one else has ever been aware of, and does not notice even glaring faults that every dispassionate person can see. When he chooses to marry this (to him) paragon, he's making a perfectly rational choice *based on the information as he understands it*. The trouble is he has the wrong information, because of his emotions.

The emotion didn't *make* him choose; his choice was still free. But what the emotion did was prevent him from seeing any reasons against the choice and give him all sorts of phony reasons for it—and so, having all the reasons in favor and none against, the person naturally chooses.

—Unless, of course, he suspects what is going on (as he should), in which case, he refuses to choose until he seeks advice from someone not emotionally involved. This ability to refuse indicates that the choice is still free, in spite of the emotion.

• 5. Our acts themselves are always determined, and never free.

They are determined either by choices or by instinct, or by some combination of the two.

Most of the acts we perform are determined by instinct, in the form of habits we have got into; because in most cases, we don't weigh the pros and cons and then make a choice; we simply see the situation and react according to our habitual mode of reacting. You come into a classroom and automatically head for a seat at the back of the room, say. You didn't *choose* to take that seat; it sort of just happened without your thinking about it.

The more important acts of our lives, however, are governed by

our choices. We *deliberate* about them, trying to find reasons for and against them, weighing the reasons, setting goals for ourselves, and choosing.

Occasionally, however, instinct can get out of control of consciousness, and take over. If a habit has become very strong, our choice not to do the act may not have the control over the energy-flow in the brain, and we keep doing the act in spite of our choice. Ask smokers how many times they have chosen not to take a cigarette and have been unable to keep themselves from doing it. Very strong emotions have the same effect.

If this lack of control over instinct by the choice is very marked and long-lasting, then the person is said to have an *emotional problem,* or be *emotionally disturbed,* or *mentally "ill."* Obviously, the natural state of a human being is to be able to control his instinct when he wants to—and only let it control his actions, as above, in trivial matters that he doesn't want to be bothered having to decide about.

8.5. The function of choice

Obviously, the "survival value" or function of choice in the human being is to allow consciousness (which contains itself within itself—and so controls itself) to control the whole being: the body. That is, consciousness as spiritual is self-determining (we will see in the next chapter that this is also true of understanding); but the self-determining act of choice not only determines itself, but determines the body; it is the act by which the living human body (a) determines goals for itself and (b) sets out to achieve those goals: by which the living human body creates itself unto its own image and likeness.

It sounds as if there are many implications and ramifications of this; and there are. But let us leave those until we have considered the relation of thinking and choosing to the human soul, together

with the question of whether human life, as spiritual, ends with the death of the body, or whether it goes on—and if it does, what this afterlife must be like.

HISTORICAL SKETCH

Plato (400 B.C.) was basically a determinist. He held that "knowledge is virtue," in this sense: if a person knows what is good, then, since what is good is also what is advantageous (and the person who really knows what is good would know this), then he can't do what is bad. Immoral actions, therefore, are the result of ignorance. This, of course, only works if it is impossible for a person deliberately to act against his advantage—which is the determinist position.

Aristotle (350 B.C.) is not so clear. He seems to have thought that it is possible to be deliberately bad; but he also held that "happiness"—what he supposed is our built-in final goal—cannot not be chosen by a human being. We don't deliberate about goals, but about the means for getting there, according to him. I think this is wrong, as we will see. I think there is no built-in final goal, and what we basically choose is a set of goals which we define as our final goal.

St. Augustine (400) Christianized a kind of Platonism, with Aristotelian overtones. But he recognized that we are free, and that we can deliberately sin. The way he reconciled this with the philosophical and Theological teachings was that (a) we are not free with respect to the absolutely final goal (the possession of God in heaven): this is given to us, and we cannot but choose it. But we can refuse to recognize it; and we can deliberately put lesser goods in a higher place than objectively greater goods (remember all these people thought that there was such a thing as "objective goodness"), and choose them. And this was the essence of sin.

St. Thomas Aquinas (1250) basically followed Augustine, but gave the theory a more Aristotelian flavor. The "will" (the faculty of choosing) is a "spiritual appetite" that seeks "the good as such," and therefore is only totally satisfiable by the Infinite Good (God), who therefore is our final goal. This is also in Augustine; but the approach and the tone are somewhat different.

During the Reformation, **John Calvin** (1550) held a divine kind of

determinism: Since God knows and causes all our acts, then they are all "predestined," and we can't actually do anything about them. This sort of Divine determinism from then on went in and out of favor; and, oddly enough is back again in certain circles. Not too many years ago, I delivered a paper at a philosophy convention refuting a modern version of just this kind of determinism.

Baruch Spinoza (1650), who held that we are all "modes" of the one Substance which is God, held that "freedom" was freedom from *external* determination, but not from determination by one's own nature. And since God's nature is "necessary" (God has to exist and be infinite), then he is free; and we are "free" when we recognize that we are part of God (and so act by being determined by His nature within us) and are not free when we try to "free ourselves from God's control," because then external forces are actually determining us.

Immanuel Kant (1790) thought that it was impossible to prove that a human being is free or not without begging the question; and so there could be no *theoretical* solution to the controversy over freedom vs. determinism. But he said that, practically speaking, we had to *assume* that we had a spiritual "element" in ourselves which was free, or the moral command simply didn't make sense. Why command us to act if we either can't do what is commanded, or can't help doing what is commanded?

It was because, largely, of Kant that "scientific" circles simply assume that the question of human freedom is one of those "metaphysical" questions which just goes round and round in circles, for which there is and can be no real evidence one way or the other. Unfortunately for the scientific attitude, Kant was wrong.

Georg Hegel (1820) adopted a kind of Spinozism influenced by Kant. We are "moments" of the Absolute coming to be aware of Himself in his "otherness" (us); and He is free, in the sense that He acts by the necessity only of His own nature. Thus, every event in the world (including all our choices) is determined, and is part of the process of the Absolute gradually coming to knowledge of Himself; but this does not mean that we are not free—because, as part of the conscious process, we are aware that we are the Absolute, and that He is free, and hence so are we—in our unfreedom. If this sounds confusing, try reading Hegel. He is enormously profound. Wrong, I think, but profound.

Karl Marx (1850) also held that everything is determined by a dialectical process, but he wasn't having any of Hegel's "Absolute Spirit." No, the determining factor in Marx's dialectic is economics, and control

over the forces of production. This leads to people owning other people and to rebellions and revolutions, according to a determined (and therefore in broad outline predictable) plan. Those who say that Marx's plan hasn't turned out as predicted are the people who haven't read Marx carefully. Where we are today is not so very far from where he said the world would be—except that his timetable was set back (the Marxist would say) fifty or a hundred years because of the introduction of capitalist trade unions.

Obviously, since I think there are aspects of human beings that are spiritual and that we are free, I am not a Marxist. What I am saying, however, is that Marxism is not to be cavalierly dismissed.

B. F Skinner, of the latter part of this century, is a foremost example of a scientist who is a psychological determinist. His real reason for saying that we are determined is that otherwise, a science of behavior (where statistical predictions are made) is not possible—and since it exists, it is possible. What he did not pay sufficient attention to is that people do tend to follow rational interests, even if they are free not to do so; and so *statistically* you can predict what people in the aggregate will do. Skinner went far beyond his evidence when he extrapolated from what pigeons do.

SUMMARY OF CHAPTER 9

There are various senses of "freedom." Some which are *not* relevant to our investigation are "freedom" as spontaneity (not being tied up or forced from outside); "freedom" as liberty (not being "forced" by threat). *Freedom of choice* means not being determined from outside or from inside; determined means that the choice could not be otherwise; influenced means that the choice is made likely. The free-choice theory holds that our choices are influenced, but the influences do not determine them. We can choose what is in fact (and what also seems) the less strongly motivated act. The evidence in favor of this is first, that goodness is not something objective, and so there is no objective attraction that would compel the will. Second, that the choice is a conscious act, recognizing itself as free from determination; and there is no way by which a conscious act could be mistaken about itself, since there is nothing to blind it to itself. Thirdly, though we generally do what we choose to do (and so feel free also about our *acts*), we sometimes do things and feel that we were not free (or compelled to do them).

The determinists hold that the feeling of freedom is an illusion, based on the "fact" that you are not conscious of the influences that are determining you. But there is no way to observe such supposed "influences"; and therefore, they are to be assumed only if they make sense of human behavior.

But in fact, (a) if our feeling of freedom came from ignorance of what is

8.5. The function of choice

determining us, then compulsives would feel free, since their acts are determined by what is unknown to them—but their acts feel not free to them. Further, (b) compulsives make choices (which feel free) not to do these acts, and can't carry them out, and even choose to seek help and carry out these choices, which would imply overwhelming influences in the same unconscious mind at the same time both in favor of and against the same act. But influences overwhelming in one direction cannot be *overwhelming* in the opposite direction at the same time.

Finally, the theory predicts that the more reasons you know for doing something, the less free you would feel, and vice versa. But this is the opposite of experience in deliberation.

Hence, the theory does not account for human behavior.

The free-choice theory, therefore, says that (1) our choices are never determined; (2) they are influenced, but only by facts we are conscious of at the time; we cannot choose options we are not aware of, nor for reasons we are not aware of; (3) the choice controls how much these facts will influence it; (4) emotions can exert influence—but only indirect influence—on choices by creating misinformation; and (6) our overt acts are determined, and never free.

The reason we have choice is to let the self-determining spiritual act "spill over" and determine the whole body by creating (choosing) goals and creating instabilities leading to achieving them.

Exercises and questions for discussion

1. How does the "freedom of choice" the "pro-choice" people are talking about relate to our notion of freedom of choice?

2. But aren't there some times when our choice is really out of our control? Do you mean to say that psychotics can freely choose?

3. Shouldn't we really take a middle ground between not being free at all and saying that our choice is *always* free? We're free sometimes and under some conditions, but not always.

4. Don't compulsions in fact prove that our choices are not always free? The compulsive says, "I couldn't help it."

5. If our actions are never free, then why do we sometimes refer to them as free? We say, "He freely got into that car; no one made him do it."

8.5. The function of choice

Chapter 10

The Human Soul

10.1. Understanding and sensations

Having seen what understanding and choosing are like as acts, we now have to go back and pick up some loose ends we left dangling. The first of these deals with understanding's relation to the sensations it abstracts from, and what its faculty, if any, is.

I said three chapters ago that when instinct makes an association, it turns understanding on; and then understanding "examines" the association and we have the experience of curiosity, before we actually form a concept.

The question here is whether the association or something connected with it (either in the sensation or the brain) determines the particular relation understanding knows (and so the "curiosity" phase is just a kind of waiting for it to happen), or whether understanding determines *itself* using the association. I think the latter is what happens.

The reason I say that is this: If you will go back to the pictures

on page 179, you will note that these same pictures can give rise to all sorts of relationships, a few of which I named on that page. And if you try finding some others, you will observe that the longer you look at them, the more you can find.

Now either of two things is going on: (a) your instinct is associating these pictures by different "routes" in your brain, and each "route" gives rise to the relation you understand, or (b) your understanding is itself "picking out" the relations.

If case (a) is true, then when you consider all of the positive relationships the objects have, this supposes enormous brain power to make the associations that give rise to the concepts you so easily can draw. For instance, once you understand that they are on the page, then you can with no problem understand that they are at the middle of the page, that they are in line, that they don't take up much room on the page, that they interrupt the text, that there is a lot more white space around the pictures than in the text, that they are on the right-hand page, etc., etc., etc.

Each of the concepts involved in these judgments is different. If each of them were the result of a different act of associating these pictures with the page, then we would have instinct busy making all these associations, all below the conscious level (since we aren't aware of re-connecting the perceptions before we can begin to discover a new aspect). It doesn't seem that this squares with our experience; the curiosity with which we examine the pictures seems to be doing the job of finding the relations.

Further, if the "pathway" by which the images are associated is what determines what concept we understand, why don't we get the first concept right away (because the pictures are clearly associated at first, and must be associated along some "path"). But my experience is in showing others these pictures that people have to study them for a while before they understand *any* relation. So it doesn't sound as

if the way the images are connected in your brain is what determines the concept you will abstract.

Finally, and most tellingly, I think, *negative* judgments could not have some nerve-pathway as the association underneath them. If what determined the concept of "not drawn" were an *association* of these pictures with something, what would it be? Obviously, it would have to be with drawn things. But then, to understand that they are *not* drawn, the association would have to fail; that is, there is precisely *no* connection between these objects and drawn pictures. How can an association's not happening give rise to a relationship? We saw this earlier in discussing why understanding can't be an association. What I am adding here is that *understanding cannot have an association as its energy-"component"* either.

So I think the most reasonable explanation for formation of concepts out of associated sensations is this:

● Theory of understanding ●

Understanding is activated by the presence in consciousness of associated sensations. It then *freely determines itself* as understanding some definite relationship, but this freedom to determine is *limited* by the possibilities inherent in the sensations associated.

I think you can see now why I didn't want to make a big distinction between a "intellect" and "will" as "faculties." If the "will" is what chooses, it turns out that you have to choose what to understand; and as we saw in discussing choice, you understand what you are choosing and the reasons for which you are choosing. Not surprisingly, if "intellect" and "will" are spiritual, each contains the other as a "component" of itself—and it becomes a futile exercise to try to distinguish them neatly.

10.1. Understanding and sensations

But to return to the point. As your intellect examines the sensations, it knows that it can understand any relation it wants to among these sensations; but it *can't* understand a relation that *doesn't have a foundation in these sensations.*

What I am saying is that, from the pictures on page 154, you can't get the concept of tyranny—because the pictures have no aspect by which each could be called "tyrannical." So the sensations don't *determine the concept,* but they do determine *the limits within which the understanding can form concepts.* But it is understanding which determines itself, within these limits.

Notice also that it is the *conscious* aspects of the sensations which set the limits to what you can understand. The association has to be *there in consciousness* before you can understand any relation among the sensations associated; and any part of the sensation which is below the conscious level is automatically excluded as an aspect which can be used to establish a relationship.

10.2. The "faculty" of understanding

Hence, it is the *conscious "component"* of sensation, and *only* this conscious "component," which has any effect on understanding. When the association becomes conscious, we can understand; and we can understand what we want about the sensations we are conscious of as associated. The energy-"component" of the sensations has nothing to do with the act of understanding. Understanding is itself only consciousness, and is based only on the conscious aspect of the sensations.

● Conclusion 1 ●

there is no energy-"component" to understanding at all; it is a totally spiritual act. It is related to energy only indirectly.

Understanding is related to energy in that it uses as the limiting

factor of its self-determination the *conscious* "component" of sensations, and the *sensations* happen to have an energy-"component."

Notice that this is also true of choosing. As I said in the preceding chapter, we cannot use facts stored in our memory but not conscious as reasons for the choice; and it is only the alternatives *we are aware of at the time* which affect our choice. We can't opt for a course of action that we are not conscious of.

Once again, the "intellect" and the "will" seem to be distinguishable only abstractly. We can distinguish understanding from choosing in this way: *Understanding determines itself alone; choosing determines the whole being.*

That is, when the spiritual act merely determines *the spiritual act itself,* then this is what I have called "understanding" or "thinking"; and the result of this self-determination is, of course, a judgment. But when the spiritual act "spills out" and determines *the whole person,* (as when you determine yourself to pass a course in college), then this is called a "choice" rather than a judgment.

Or you could look at it another way. When understanding determines itself and makes itself agree with the way things are, this is thinking; when understanding determines itself but wants to make the way things are agree with what it thinks, then this is choosing. Understanding is self-determination as, so to speak, "passive"; choosing is self-determination as "active." Immanuel Kant saw this when he called the will "practical reason."

From this, it follows that:

● Conclusion 2 ●

Understanding and choosing have, strictly speaking, no faculty.

A faculty, you will remember, is a subsystem of the *body* which

allows an act to be turned on and off. But since understanding uses the *conscious* "component" of sensation as what turns it on and off, and since choosing uses *understanding of facts* as what turns it on and off, neither of these as conscious are parts of the body; they are the *spiritual* "component" of sensation.

But of course, since sensation does not occur except as the immaterial act one of whose "components" is the brain's nerve-energy, then it can be said that the brain is a kind of "pseudo-faculty" for thinking or choosing. When the nerves in the brain aren't active, the sensation doesn't occur as conscious; and when the sensation isn't conscious, understanding won't happen.

So indirectly, the brain is a kind of "faculty" of thinking and choosing; but it isn't a faculty in the strict sense. There is *no* faculty in the strict sense.

10.3. The human soul

Now if the human being performs a purely spiritual act (even if that act is indirectly related to energy)c, then it performs an act which is *greater than* any form of energy or any immaterial act (which has to have an energy-"component," which means it is internally limited).

But this means that the act of thinking or choosing cannot be explained either (a) by the brain (which is only indirectly the faculty), or (b) by the sensations (which are immaterial and thus more limited than the thinking which "results" from them). Hence, the act must be due to *the way the body is organized, or the soul.*

● Conclusion 3 ●

The human soul is spiritual, not immaterial.

If it were immaterial (needing an energy-"component") it could not produce an act that was totally free of this limitation.

And yet...

Clearly, there is more than one human being; each of us has a body organized in a human way, but each of us has a greater or lesser limitation on this human organization. And what accounts for different examples of the same kind of body is (as we saw in Chapter 2) the *quantity* of the unifying energy of the body.

But how can a spiritual act be unifying energy, with a quantity? We saw one way when we were discussing sensation: it could "reduplicate" itself once as a form of energy. But we called that sort of thing immaterial, not spiritual.

● The dilemma (the effect) ●

If the human soul organizes the body, it must be energy, and so would seem to be no more than immaterial. But if it is immaterial, it is incapable of performing a purely spiritual act.

The way out of the dilemma—I think—is this:

● Theory of the human soul ●

The human soul does by its nature "reduplicate" itself as the form of energy organizing the body, and so has a quantitative "component." But as spiritual, the human soul *does not need* this quantitative "component" in order to exist.

That is, the human soul *naturally* exists as "also" a form of energy (the way an immaterial act does); but it doesn't *have* to exist in this way; in itself, it is totally beyond the energy which it happens to be.

Animals' souls, since they perform (as far as we know) nothing but immaterial acts, presumably have to have the "energy-component" in order to exist; and so, if they lose it (as when they die), the

soul simply ceases to exist.

But this is not necessary for the human soul. The fact that it performs a purely spiritual act shows that it can act (i.e. exist) without any energy-"component" at all. Hence, it does not follow that when the human body dies, the soul ceases to exist. It can exist without organizing a body—at least in principle.

It should be pointed out, however, that this existing without organizing a body—if it occurs—is an *unnatural* existence for the human soul; its nature is to be a spiritual act which also organizes a body.

● **Note** that *the human soul, as spiritual, is itself contained in the acts of thinking and choosing; it is identical with all its spiritual acts.*

The soul as spiritual and conscious is the "I" that we are conscious of when we think and choose. *Pure* sensation (as in dreams) is not conscious of an "I" that is doing the sensing. Notice that the "I" recognizes itself as *greater than* the act of thinking or choosing that it happens to be performing at the moment. This is because, as conscious, *the soul is aware that it is determining itself to being (spiritually) just this particular act and no other.*

In order to determine itself (i.e. to limit itself to being this judgment or this choice), the act must, of course, be beyond what it determines itself to be; you can't limit yourself unless in some sense you are beyond those limits. And since the human spirit can determine itself to be *any* judgment or choice (you can even choose to be God, even if you can't carry out the choice), then *in itself* it is beyond any limitation whatsoever.

● Conclusion 4 ●

The limitation of the human spirit does not consist in any *prior* limitation on it, but on the fact that it cannot act without somehow determining—limiting—itself.

That is, the human spirit cannot perform, by itself, an absolutely unlimited act, because you can't think without determining the thought using the associated sensations you happen to have, and you can't choose without understanding what alternatives are open to you. So even if, in itself, the human spirit is unlimited, it cannot *act* without limiting itself, and using the immaterial acts of sensations as *the range within which it limits itself.*

THEOLOGICAL NOTE

But since the human spirit in itself has no prior limitation, then it is *in principle* possible (i.e. not a contradiction) for it to perform the absolutely unlimited act. It cannot do this by itself, or by its own nature, because it is constrained by its nature to use the sensations as its range for acting.

But it is possible for God to *lift* this restriction on its activity, and enable it to perform the absolutely unlimited act of "absolute thought and choice" (which are one single act). But this act *is God Himself.* God is nothing but this absolutely unlimited act; this is his very life, this act.

Hence, when Christianity teaches that by "grace" (a gift) we "share the life of God," what this would mean, in the light of the theory we are developing here, is that God removes the restriction upon our spirit, so that it need not determine itself to be just one judgment or just one choice, but is Infinite Thought and Infinite Choice Itself; or in other words, the human soul *becomes God Almighty.*

And just as God "emptied himself," and by "reduplicating himself" in a human way "took on" human nature, so, because of this act, which redeemed us, he "de-empties" or "fills" us with the "fullness" which is His Infinite Reality, and we think the Divine Thought.

But just as Jesus is both Divine and human, so we do not lose our humanity or our individuality when this happens; it is one of the "reduplications" of the act we perform.

10.4. Immortality I said above that the human soul, as spirtual, *need* not go out of existence when the body dies; but that a disembodied existence would be unnatural for it. Does it in fact go

on existing, or does it cease even though it doesn't have to (or does it, perhaps, have a choice as to whether to go on existing or not)?

● Preliminary warning ●

Do not be fooled by "scientism" to think that the following investigation is not scientific.

"But how can you claim that an investigation of what goes on after death is 'scientific?'" you say. "How can you get beyond death and test it and then come back? Science deals with what is tangible and concrete." Oh yes? How tangible are radio waves? In what sense are they "concrete"? How tangible are dinosaurs? All we can see are the bones, and it's a *theory* that these bones belonged to animals.

It would be advisable at this point to reread what was said in Section 1.3. of Chapter 1. Science *starts* with observable evidence; it *concludes* to what is beyond the observable evidence, by finding causes for observable effects. This is true of any science, philosophy included.

So what we are after is the "dinosaur bones" that are evidence that the soul goes on (or doesn't go on) after death: those *observable facts* about human life that show that it is a *contradiction* unless the soul survives death.

With that said by way of preliminary, then,

● **Note,** first of all, *once the human soul "drops" its energy-"component" and becomes purely spiritual (if it ever does), it cannot* naturally *regain it or gain another; in fact, it cannot change at all.*

We saw in the chapter on bodies that change needs the quantity which is the limitation that makes energy energy; and we argued that the function of immaterial consciousness was precisely to give consciousness the energy-"component" it would need in order to be

able to change and be affected by its surroundings.

Hence, if the human soul stops existing as also a form of energy, then it is in equilibrium from then on, and cannot change any more.

Therefore,

● Conclusion 5 ●

If the human soul survives death, it is immortal; it cannot "die" again, because that would be to change, and it cannot change.

This is confirmed by the fact that the human spirit, like any spiritual act, is "simple": that is, it is *not* a *system* of interconnected *parts,* but each form of activity "interpenetrates" all the other forms of the one polymorphous act. Eliminate one, and you eliminate all, because all the other "parts" are "parts" of this one "part," and it is "part" of each other "part." So there is nothing the soul, as spiritual, could "break up into." Hence, it cannot "die," at least as we know death.

Now then, is there any evidence that the soul doesn't just go out of existence when the body dies?

There are several indications that it doesn't.

The four-fold argument that the human soul survives death

● 1. The argument from spirituality: The soul does not need the body to exist. If it went out of existence when the body stopped being organized by it, then in practice it couldn't exist without the body, and hence *it would need what it didn't need*—which is a contradiction. That is, the soul wouldn't "need" the body only in theory; in practice, it would need it, because in practice it wouldn't exist without it.

This is a very weak argument, because it leaves open the possibility that the soul *could* go on existing but just doesn't, or that it has a choice as to whether or not to continue existing. Still, what does "it doesn't need the body in order to exist" mean if not that when the body dies, it doesn't stop existing? The argument is especially weak if one takes into account that the soul's existence without a body would be unnatural, even if possible. Since the unnatural existence would be immortal, then by far the greatest portion of the soul's life (for practical purposes the whole of it) would be spent in an unnatural condition.

So all this proves is what we proved above. The soul *can* exist after death.

• **2. The argument from the nature of life: The nature of life is to continue existing as long as possible.** All the other living acts of a body have as their function the continued existence of either the individual as living or the species—the form of life. Thus, the thrust of life is to continue indefinitely. In beings lower than the human, this thrust is thwarted by the necessary material element that they have.

But if the human soul (which can continue to exist without its energy-"component" and without a body) were to go out of existence when the body died, this would directly contradict its nature as life.

Hence, it would be a contradiction for it *either* to "naturally" stop existing *or* to choose to stop existing. The first would contradict its nature, the second would be a deliberate *violation* of its nature as life.

• **3. The argument from choice: Human self-determination (choice) implies that we have no "built-in" goal for ourselves.** We ourselves choose what our "final reality" is to be like, and that we then set out to achieve these goals.

But if human life were to absolutely cease with death, then the goals implied in choices would not be able to be realized. Hence, it contradicts the nature of choice for human life to end with death.

What this means is this: Either we achieve our goals before we die (and so "become ourselves") or we don't. If we don't achieve our goals, then we are in the unstable condition of being in process toward them—and instability, remember, is an *internally self-contradictory* condition which is only resolved at the end of the process. Hence, a being which is in nothing but process *toward* a goal *that cannot be reached* is a contradiction. But there are no real contradictions, as we saw in Chapter 1.

If we do achieve our goals, however, we immediately set up a "pseudo-goal" of "security," or "trying to hold onto success and happiness." After all, when we are happy and successful, our overriding fear is losing what we've got. This, then, is a *real goal* of the happy and successful person: to stay this way indefinitely. But obviously, if life ends with death, *this* goal can't be achieved, and we have to give up our total self—which is a direct contradiction of self-determination (which implies that our self is under our control).

Therefore, whether you achieve your ambitions in life or not, you are still in a self-contradictory condition if life ends with death. But there are no real contradictions. Therefore, life must go on after death.

● **4. The evidence from morality: Often a person finds that he can fulfill important aspects of his reality only by violating unimportant ones.** That is, it is possible for a person to choose to do something that violates his nature and goes beyond the limitations imposed by his genes. But if he does, of course, he sets up a goal that in some respect cannot be achieved. Hence *he deliberately chooses his own frustration*.

10.4. Immortality

But we find that people who deliberately violate their natures (who lie and cheat and steal and murder) *often can achieve more of their goals and be happier* than those who stay within the limits of their natures. The reason for this is that in this life, *circumstances beyond your control can prevent your fulfilling a goal.* So, for example, if you cheat on an examination, you are deliberately lying and contradicting your ability to communicate; you are claiming to know what you don't know, and so are setting yourself up as someone you aren't. But on the other hand, if you don't cheat, then you won't pass the course, and so you won't get the degree you want and won't be able to pursue the career you have chosen. Your whole life can depend on getting a good grade on this test.

This means that it is *better* to do wrong (be morally "bad"—to deliberately violate your own reality) than to act consistently with what you are. But this is absurd. Why? Because in order to *fulfill* yourself, you must *frustrate* yourself; to do what is *reasonable* (what gets you to your important goal), you must do what is unreasonable (self-contradictory). How can it be good to be bad? How can it be reasonable to be unreasonable?

But if life ends with death, this is the way things are.

Therefore, *there must be a life after death where those who act consistently can fulfill all their goals, and those who deliberately set goals for themselves which they know are in principle impossible to fulfill will be frustrated.*

That is, it doesn't make sense to be moral if you suffer for it, while evil people are the ones who have the best chance of being happy—*unless* life goes on after death, and a life such that those who are moral are fulfilled and those who aren't suffer.

● General conclusion ●

Human life, in its most important aspects, contradicts itself unless the human soul goes on existing after the death of the body.

This means, as I said above, that it is scientifically proved that the human soul is immortal, and continues existing (as a mind) after death. We didn't do any measurements, but you don't have to measure to be scientific. These four pieces of evidence are the "instrument" we have used to look beyond the grave.

10.4.1. Reincarnation? Now then, what about this life after death? Can we say anything about it, based on what we know about life on this side of the grave?

First of all, is the life after death a disembodied life, or is there reincarnation, and we actually live an endless succession of lives in a body?

In the first place, if there is reincarnation, this "reembodiment" would have to be *immediate*. If there were any existence at all *without* a body, it would be impossible to be "reincarnated," because that would involve a change, and a pure spirit cannot change.

Secondly, it would be difficult to see what would be meant by "the same" soul as organizing two different bodies at different times. *Which* human soul you are talking about is not determined by the particular elements and parts that make up the body (the "stuff" that forms the body), as can be seen from the fact that the living body is constantly losing the "stuff" it is "made of" and taking in new "stuff," and yet is the same body—*because* it is organized by *one and the same unifying energy—i.e., soul with its energy-"component."*

Hence, if the *same* soul organized "another" body, it wouldn't *be* another body; it would be the same one, by definition. Unless, of

course, this soul "acquired" a new and different energy-level. But then in what sense is it the "same" soul? Your soul is *different* from mine precisely in that yours has an energy-"component" that is a different *level* of energy from mine. That is, as *human* (i.e. form of activity) we are identical. If the soul were reincarnated with a different biological equilibrium, this would simply mean that it had produced *offspring,* not that *it* returned to existence. After all, my son is the same *form* of unifying energy as I am; he is different because the *quantity* of that energy is different; he (as he would be the first to declare) is not me all over again, but a completely different person.

Again, one might possibly argue that the soul is "the same" in that spiritually it is the same. But spiritually it is consciousness; and your consciousness is different from mine (and "the same" as itself) in that it is one set of interpenetrating acts of consciousness, and mine is a different set.

But then if the "same" soul were to be reincarnated, it would have to *actually have* all of the experiences of its previous life. If it *loses* this consciousness when "reembodied," then it *loses the essence of itself,* and then there would be *no* sense in which one can call it "the same" and mean anything.

Further, if we have to start all over again with a brand-new birth as a baby, and then live and die and start again, *it would follow that human goals would never be achieved* (because each time you would die before achieving them) *and this contradicts one of the most important pieces of evidence for saying that there is a life after death at all.*

Again, presumably the bad person would be reborn as a person in a lower condition of life, *but if there is no objective "goodness," this lower condition is not "objectively worse," and hence is not a punishment.* Goodness and badness depend on what goals a person

has, and whether he fulfills them or not.

Of course, if the person is reincarnated as an animal, then *the essential nature of his soul has changed,* and it is nonsense to call it "the same," because it is now not even immortal, and will cease to exist when the animal dies.

● Conclusion 6 ●

There is no way you can make rational sense out of a series of lives with "the same" soul born many times.

As to supposed evidence in support of the theory, such as "remembrances" of previous lives, it has been shown that people "remembering" under hypnosis, when asked to recall what went on before their conception, *make up* an imaginary life based on things they heard from youth. (The famous case of Bridie Murphy in the 'forties is an example of this. It caused quite a stir at the time, until it was discovered that the hypnotized woman—who described life in an Irish town she hadn't visited—had talked to the real Bridget Murphy, who was a neighbor, and who described the town to her. She could not consciously remember this.)

Hence, there is no real evidence to support the theory, and all kinds of evidence against it. It is actually based on a misconception of the "sameness" of living things.

● WARNING ●

Beware of being fooled by beliefs that you are "comfortable with." We are after what *the facts* are, not what would be nice.

This must particularly be kept in mind in our investigation of immortality. There either is a life after death or there isn't; and it's either of a certain nature or it isn't. The fact that you *want* to believe

that it exists or that it's a certain way doesn't change what the facts are. And since we're all going to verify or falsify our theory by the bitter experience of death, then it makes sense to base your life now on the best *evidence* of what the facts are, rather than believe what would be comforting and just trust to luck that you're correct.

10.5. The nature of the afterlife

If the survival of the soul after death does not imply a series of reincarnations, then it follows that it must be a disembodied, spiritual existence (since it is so manifest that the body decays, and the only thing left is the spiritual "component" of the soul). Is there anything we can say about what this spiritual existence must be like?

It turns out that there is. We already saw that it has to be immortal.

But it can be seen from the evidence from human choice and from violation of one's nature (morality) that the life, whatever it is, must be a continuation of *individual* existence, and not an "absorption" into some sort of "universal being" with loss of identity, as Plato and various Indian philosophies seem to hold. What fulfillment of goals would it be if you lost your identity? If you lose your identity, it makes no difference what you do or what you choose on earth. And the same goes for being moral or immoral. If the individual who violates his nature is not "punished" somehow as an individual, then it makes more sense to violate your nature and reap the benefits here on earth.

● Conclusion 7 ●

So this life after death, whatever it is, must be such that an individual who has goals will be able to fulfill them—unless, violating his nature, he sets impossible goals for himself, in which case, he ought to be frustrated.

Now then, we know that, during life as a body, our spiritual acts are indirectly dependent on energy in the brain; if the energy isn't flowing through the nerves, the sensation doesn't take place, and if the sensation isn't there, thinking or choosing doesn't occur. But of course, when we die, there isn't any energy flowing in the brain. That, in fact, is the criterion doctors are now using to tell when a person has died.

But this would seem to mean that all consciousness would stop at death. But this does not necessarily have to happen. Spiritual consciousness (thinking and choosing) only *indirectly* depends on the brain's energy-flow; it doesn't have an energy-"component" of its own, and so doesn't *need* energy in order to act.

● Conclusion 8 ●

Thinking and choosing is dependent on the brain's nerve-energy *only in our embodied condition.*

What the nerve-energy does is determine which sensation takes place, which sets the limits for the self-determination of understanding or choosing. In other words, the nerve-energy *selects* among the acts of consciousness we now have, by being the faculty which turns consciousness *off*. Since it would be too much to cope with if we were conscious of all our experiences at once (How would we single out the perceptions, and how would we zero in on the important aspects of them?), then the immaterial aspect of consciousness allows selective awareness by means of the energy-flow in the brain.

● Therefore, *When the brain ceases to act, this does not (in human beings) mean that consciousness ceases, but that consciousness has dropped the restrictions that the brain imposes on it*. And this is consistent with the human soul's "dropping" the reduplication of itself that is its form of energy. It "loses" a *limitation, a restriction,*

and becomes a spiritual act, without an energy-"component."

And so we can conclude the following:

● Conclusion 9 ●

At death, when the brain stops, consciousness suddenly "awakens" into a single polymorphous act that contains as "components" of itself every thought, every choice, and the conscious aspect of every sensation we have ever had during life.

The reason the immaterial sensations are included here (while animals' sensations, of course, vanish when the animal dies) is that the conscious aspect of the sensation is *included within* the acts of thinking and choosing, as one of the forms of the polymorphous act. So we suddenly become, as far as our consciousness is concerned, our *absolutely total* consciousness; an act of consciousness which contains every moment from the first one we had in our mother's uterus to the last one we had at death. Or what happens to us is what is supposed to happen to the drowning person; "our whole life flashes before our eyes."

● *It is this act of total summation of all our consciousness that remains eternal and unchanging after death.*

We can add no new experiences, because we no longer are bodies and have no energy; we can lose no experience, because we no longer have brains to shut some experience out of our memory.

Now this act of eternal, total consciousness is, first of all, what distinguishes each of us after we die. I will be an act of consciousness which contains all the forms of consciousness that happened during my life; you will be an act of consciousness which contains all the acts that happened during your life, and so on. Our spiritual acts will differ *by their relation* to the body we had, with its experiences with the world; and this relation *is the contents of the consciousness we have*

because of our life as a body.

Does this act of total, eternal consciousness fulfill the conditions necessary for it to make sense out of human choice and morality?

First of all, it makes sense out of morality very neatly. If a person makes an immoral choice, what this means is that he has chosen to act in violation of what he knows his nature to be. But if he does this, he is trying to do something that his nature will not actually allow him to do (at least as he intends). Therefore, he is deliberately seeking (at least in some respect) to frustrate himself.

For example, the thief wants what he steals to belong to him; but the act of taking it against another's will does not make the thing belong to him, and so he can only pretend it belongs to him, and act *as if* it belonged to him when it doesn't. The murderer wants to end another's life; but he can't; the other is immortal. And so on. There is always *some* aspect of the evil act which cannot be fulfilled, no matter what the circumstances (or the act wouldn't be evil).

Now since the immoral (and self-frustrating) choice is a conscious act, it is a part of the total consciousness that awakens at death, even if it was made years ago, and the person (while a body) has forgotten all about it.

And since it is a *choice,* then the person *eternally has the conscious intention of trying to do something he knows he can never do; or the person is eternally frustrated.*

This makes sense out of the idea that everyone has that a human being should try to act consistently with what he is, and that you should never consciously violate your nature, no matter what the advantage from doing so.

● We have to make another assumption, however, if we are going to make the argument from choice work. If a person has not made immoral choices (i.e. all his choices have been consistent), then these choices *must be fulfilled after death, or human self-determination is*

meaningless.

In fact, the moral person, if this were not so, would be even worse off than the immoral one. The moral person, if his unachieved goals were not fulfilled after death, would then *have* these as goals eternally, but *would not be able to achieve them,* and so would be eternally frustrated, *but through no fault of his own.*

This would make it more rational to court a little frustration while living as a body and fulfill more of the important goals you have (i.e. sin, as long as it gets you where you really want to go); because both the sinner and the virtuous person will be frustrated eternally; but the sinner, having achieved more of his more important goals, would be less frustrated.

So the non-fulfillment of consistent goals makes both acting morally and goal-setting itself nonsense.

● Conclusion 10 ●

All goals which are in principle achievable (all goals consistent with the person's nature) will be achieved at death, and the achievement will be eternally experienced. All immoral choices will live on eternally with the experience of eternal frustration.

That is, a good person will be eternally rewarded with *just exactly the success he has set his sights on*. The "fulfillment" or "happiness" will *depend* on what goals he has set; each and every one will be achieved—but presumably, "goals" he is not interested in will not be achieved. And this fulfillment, since the person is simply a spirit now, will never be able to be lost. The person is eternally happy: he is eternally exactly the self he has chosen to be.

And this is what it means to be a "self": to be able to *make yourself* into exactly the self *you* choose for yourself, and to *be* what you have made yourself forever.

But this is the subject of the next chapter.

10.6. Human nature as "fallen"

But there is still something that really needs a little exploring here. If our life after death (without a body) is eternal and immortal, what does this say about a being whose *nature* it is to be a spiritual act *that organizes a body?*

What I am getting at is what I mentioned in passing a couple of times: It is the nature of the human soul to be a spiritual act that (though it doesn't need it to exist) has an energy-"component" organizing a body; hence, for the human soul to exist *not* organizing a body is possible *but unnatural.*

Yet after death, the human soul exists in this unnatural condition *eternally.* That means that the seventy (let us say) years of natural existence become a smaller and smaller percent of its actual existence as life after death gets longer and longer, and in the limit is a vanishingly infinitesimal part of it. For practical purposes, the *whole* of human existence is spent in the unnatural condition of not organizing a body.

This does not seem to make sense.

Further, we said that we have, in large measure, control over our instinct (our emotions); and that we need this control in order to prevent "programs" genetically built-in (which adapted our ancestors to cave-man life) from causing behavior inappropriate to our actual lives now. Yet our emotions sometimes take over control and force us to do acts that we choose not to do, or blind us to information which we need in order to make rational choices. Yet *the emotions are "components" of the self-same polymorphous act of choice, because all of our consciousness at any one moment is a single act.*

That is, when your emotions "fight" against your better judgment, it isn't really, as St. Paul said, "a law in your body that fights against the law in your mind," but *one and the same act which*

is at war with itself. True, your emotions, as immaterial, have an energy-"component", and your choice doesn't. But this energy-"component" is a *reduplication of the same spiritual act* which is the conscious emotion *and is also one and the same act as the choice itself and as your "reason."* Both of them are the spiritual act of the soul, which is one soul. But how can one act be at war with itself?

This doesn't make sense either.

Let us look for a minute of what you would expect of a body which is organized with a spiritual (and therefore, immortal) act whose nature is to be also a form of energy organizing a body and whose understanding knows the facts and whose choices control and determine the body based on factual knowledge.

First, what would be the role of instinct and emotion in such a being? It would *provide information*: that is, attractions would tell the intellect, "This object suits the organism in its primitive state; do you want to have it?" and repulsions would say, "This object is to be shunned normally; is that what you want?" The intellect would then use this information along with other information in evaluating the object, and once a decision is reached, *the emotion could be shut off,* and would no longer pester the person or insist on fulfillment at the expense of reason. That is, emotions would be there, but under the control of our choices, so that they would only "want" satisfaction if we *thought it good* to do the act which satisfied them.

Second, such a being *would never die, and never grow old.* To grow old (as we now experience it) is to die by degrees, because it is to *lose* the power to perform acts which our *unifying energy still possesses.* We would "grow old" in the sense that we would acquire experience and come closer to our goals; but we would not grow old in the sense of having to give up skills and so on that we had acquired.

Third, such a being *would not be able to be damaged against its*

will. It could sustain damage, *but only* if it were *willing* to let it happen. Otherwise, circumstances beyond its control would determine eternal deprivation (since the *body* could not die). Just as now we can mess up our eternal lives—but only if we choose to do so—so in this "logical" state, where *this* life continues for eternity, the "messing up" to be not self-contradictory would have to be willingly embraced.

One might dismiss the second and third points above as just impossible, defying the laws of physics. But remember, living bodies from the very lowest are defying the laws of physics. A living body has control over its energy, and defends itself against harm; all I am doing in this hypothetical case is extending this control to the level you would expect from a body that is organized with a truly spiritual act.

Thus, the life of such a being ought to look like this: childhood would be pretty much as we now see it, with the person gradually discovering what (a) human capabilities are, and (b) what his own special talents and inclinations are. There would then be a more or less extended period of adolescence when a person would begin to pick out actual goals to be achieved by him and defining his own particular life.

Once one set a goal for himself, *it would be guaranteed that eventually he would fulfill it,* whether it took a year or a thousand years to do so. The only case where a goal would not be fulfillable would be if it is an immoral goal, involving a contradiction in the person's nature, as we saw above. That is, *frustration would always depend only on the person's choice, never on circumstances beyond his control.*

The person would then set up the instabilities in himself that would lead to fulfillment, and set out achieving the goals (possibly on the way acquiring—as we now do—new ones and adding to the complexity of the "ultimate goal").

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Finally, when *all* the goals of the person had been achieved, *he would close off his energy, and become in himself a totally closed system in equilibrium, and stop changing,* and continue to do the sum total of the acts he had chosen forever and ever. He would be eternally the *body* he had created himself to be. That's what you would expect of an *embodied spirit* based on the spirit's eternal nature and control over the body.

What happened?

Oddly enough, I think the "Adam legend" of the Bible provides a mythical version of the correct answer. This is what I think is the explanation, not in story form:

Once the mammalian body had evolved to the point where the brain capacity was great enough for it to be able to be organized with a spiritual soul, the offspring of that "missing link" was given by God a spiritual soul, and the first human being existed.

This first human being was, however, a completely different kind of thing from a mammal, and had much greater control over himself, because he could know what he was, what he could be, and what the world was. I think this first human being was in the state described above, which the Theologians call "original justice."

I also think the *first* human being was given the option of *choosing what the human genetic structure was to be,* within the limits of being basically a mammal. That is, just as each of us can modify his own body within the broad limits set down by our given genetic structure, the first human was the one who had the choice of the *basic* structure of the human body: relation of limbs to trunk, what the hand would be like, where we would have hair, etc., etc.—the basic human "design," if you will. He had much more control of what he was to be (and what we as his offspring would be) than we do. We depend on his choice for what our body is.

But I think that this human, because he had so much control of

himself, refused to accept *any* limitation on what he could do with himself, and wanted to be absolutely his own master, without any limits whatever.

At this point, God intervened, and said, "Because you refuse to accept any limits and any subordination to your Creator, your very body will be insubordinate to yourself; your own mind as embodied will war against your mind as spiritual, and your emotions will escape control from your spirit; and ultimately, your body will escape from you, and you will die. Instead of being an embodied spirit, you will be a rational animal; and since this is your choice of what the human body is, this insubordination is something that will be built into the genes you have designed, to be passed on to your offspring." This is not a legend or a myth I am stating, precisely. I offer it as a *hypothesis* to explain how the human body got into the unnatural condition it so clearly is in. In this connection, I find it significant that *every* major philosophy regards human beings as being somehow in an unnatural condition; some as a reason of a "fall," as I have hypothesized; some as "developing toward" the "real" state (as in Marxism and evolutionism in general); some as because of society—and so on. But no philosophy really says that humans are as we would really expect them to be, whatever their view of what it is to be human.

Hence, there is *scientific evidence* for something like "original sin," which, interestingly enough, is not regarded by the Theologians nowadays as an event that actually happened; they like to think of the Adam legend as a kind of metaphor *describing* the innate propensity of humans to mess up their lives, not as an *explanation* of why we do so. I think it is a lot more factual than that; and I think in fact it explains why we are driven to do what we recognize as stupid and self-defeating—and why we grow old and die.

This is why all of this about "fallen nature" is not in a Theo-

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logical note; it has nothing to do, really with revealed truth (which adds the promise of Redemption, which you can't argue to from the observable data); it is simply something that the facts about human life indicate to anyone who puts his mind to examining them.

THEOLOGICAL NOTE

Notice that the fulfillment of goals after death (as sketched in the previous section) has nothing to do with the thinking of the Divine Thought (the "Beatific Vision," or the becoming divine) that we spoke of in previous Theological notes. That is because such a raising to the Divine is obviously beyond nature, and is miraculous, even if it isn't self-contradictory.

You will also notice (as I mentioned just above) that in the little section on violation of nature (morality) there is no talk of a "redemption" or "forgiveness" of a sin. The reason is (a) that the sin is a conscious act, and conscious acts, once made, are "components" of the total consciousness, and so cannot naturally be "erased." Further, (b) the frustration connected with the sin *is* the sin itself—the impossible goal intended deliberately, knowing it to be impossible; and if the person is free to set such a goal, it is a contradiction, or almost a contradiction, to take the frustration away from him.

Thus, eternal frustration is not a "punishment" by an angry God, who doesn't "want" us to sin, but the simple consequence of (a) any choice's being an eternal act, and (b) wanting to frustrate oneself. Hence, from God's point of view, there is nothing to "forgive," and there is no reason why he should thwart the sinner's "will to unhappiness."

For the sin to be erased as an operative choice would take a miracle. Since humans are embodied spirits, and can change while they are bodies, and since (especially because our nature is fallen) their whole personality is not involved in a sin (since most of the person's "stream of consciousness" is unconscious while in this life), it is *not a contradiction* (a) for a living human body to regret that he has sinned, and (b) to wish to become another person: the person he would have been if he didn't "have" the sin as a "component" of his consciousness.

Hence, it is *not a contradiction* if God were to choose to erase the sin; and Christianity teaches that he does so, if the person loves God for his own sake, and not for what he can get out of loving him.

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But the person must be willing to reject himself: give up the self which he is, and become someone else; because that is what "redemption" from sin entails. Remove any "component" of the consciousness of any spirit, and the whole spirit is wholly different, because each "component" contains all the others as "components" of it, and vice versa.

And, of course, this leap into the unknown ("Who will I be when I become this new person?") is a fearsome thing. One must die in order to live the new life. Note further that this new life is also a sharing in the Divine life, and a thinking of God's thought, as we saw in earlier notes.

Again, note that reembodiment is philosophically out of the question; because once you die, you can't change, and to be relimited with an energy-"component" would be a change. Once again, God *could* relimit the soul by a miraculous, supernatural act—though there is really no reason for him to do so, except that the "Adam" messed up the situation and made us all live partial (even though *psychologically* fulfilled) lives forever. The Athenians laughed at Paul when he spoke of a bodily resurrection.

You can see, therefore, that Christianity is not just an extension of philosophy; it is not, in fact, a philosophy at all, but a person. The Christian becomes someone else, and that person's name is the name of the human being who lives with God's life: Jesus.

HISTORICAL SKETCH

Plato (400 B.C.) held that the soul was spiritual, and in fact was a spirit "trapped" in the body, which limited and "clouded" it. He held a kind of reincarnation. He interpreted understanding as "remembering Aspects" on the occasion of sensations; and this implied a previous life as a pure spirit where we "saw" the Aspects in their purity. But "bad" spirits got trapped into bodies—first into men's, then if they led bad lives as men, into women's, and then into animals'. If, on the other hand, you were a good woman, say, next time round you would become a man; and if you were a good man, eventually you could escape the body altogether and become "Humanity-itself": the Aspect. It meant you lost your individual identity, but for Plato this was no big deal.

Aristotle (350 B.C.) thought that the "mind" in its active sense was not actually a "component" of the human soul; the human soul was only spiritual enough to *receive* concepts impressed on it by this Mind. He

seems to have held that when we die, that is the end of us as individuals; though, of course, this external “active Mind” goes on existing eternally.

St. Augustine (400) took over a kind of Platonism into what was known from Christianity. He held (with Plato) the spirituality of the soul; but he did not hold that there was a previous life, or reincarnation. He interpreted Plato’s desire to contemplate the Aspects as being our nature’s longing for the Beatific vision, which he interpreted as God’s purpose for our lives. (In this I think he was wrong. How can a purpose be a gift?) He held, with Christianity, that we will be reembodied at the last day, when history is all over; but he held that this will be miraculous. Of course, he held that there is a heaven of happiness for good people and a hell of unhappiness for sinners.

St. Thomas (1250) was the one to Christianize Aristotle’s view; and when he did so, it came fairly close to Augustine’s Christianization of Plato. St. Thomas interpreted Aristotle as implying that the “active mind” was in the individual, and hence that the human soul (the form of the body) was immortal; and its happiness consisted in eternally knowing and loving God.

This sort of view was held with variations right from Augustine’s time until about the middle of the last century. But after the Renaissance not too much was made of it.

With **Spinoza** (1650), for instance, the immortality of the soul got merged into a kind of identification with God, where we are “modes” of God anyway. **Hegel** (1820) brilliantly developed this pantheistic view into a tight logical system.

It was **Immanuel Kant** (1790), once again, with his investigation into human knowing, who seemed to have conclusively proved that the question of immortality could not be scientifically settled; it would forever be raised (like the question of spirituality, God, and freedom), and never be able to be answered. People disagreed with Kant, but they seem to have bought his idea that these questions could not be settled by evidence.

Then, somewhere in the last century, particularly with **Karl Marx** (1850) and **Charles Darwin** (1880), survival after death began to be increasingly called into question. We seemed more and more to be just biological; and the biological seemed more and more to be a complicated system of physics and chemistry, to be interpreted in accordance with “natural laws” (i.e. the laws of energy).

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Nowadays, the whole question has been relegated to "religion," which supposedly is nothing but emotionally-based wishful thinking. Arguments that in fact we survive death are dismissed without examination, more or less the way most people dismiss as nonsense the "influence of the stars," though they let people who want to believe in this sort of thing alone. It is a dogma nowadays that there is and can be no evidence in support of immortality.

SUMMARY OF CHAPTER 9

Understanding knows the relationship between associated sensations. But the way the sensations are connected in the brain cannot be the basis of the relation understood, or we could not understand several concepts from the same set of images, and specific negative concepts (such as "different in color") would be impossible. Therefore, only the *conscious* "component" of the sensations is used by understanding.

This means that everything about the act of understanding is spiritual; or that it is a purely spiritual act, without (like an immaterial act) an energy-"component." What corresponds to the energy-"component" is the *conscious* (spiritual) "components" of the sensations; but they are merely *limits within which* understanding determines *itself,* "picking out" the particular relationship to understand at any given time. Understanding, therefore, is the human spirit as determining only itself; choosing is the human spirit as determining both itself and the whole body.

Indirectly, understanding has a faculty, because understanding won't occur without (the conscious "component" of) sensations, and sensations have an energy-"component," and so won't occur without energy in the proper nerves in the brain. Thus, indirectly, the brain acts as a kind of "faculty" for understanding, by which it can be turned on and off.

If understanding is a purely spiritual act, then the human soul must be spiritual, not immaterial; because an immaterial act (needing an energy-"component") cannot produce a purely spiritual act. But the human soul also is the energy organizing the body (the unifying energy), and so does have an energy-"component." The solution to this dilemma is that the human soul *naturally* "reduplicates" itself as a form of energy (with a quantity), but *need not* do so in order to exist (act), as immaterial acts must. Thus, the human being is an embodied spirit.

Since the human spirit can exist without an energy-"component," then (1) it does not have to stop existing when the human body dies. (2) Since it is the nature of life to go on existing if possible, then the human soul must in fact continue existing after death, or it contradicts itself as (a form of) life. (3) Unless life continued after death, human self-determination would contradict itself, because setting up goals creates instabilities (internal contradictions) which are only resolved

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by achieving the goals; and death occurs before achieving many goals, and always before achieving the "goal" of security when one has been successful. (4) Unless life continues after death, then since we can be frustrated in this life by circumstances beyond our control, it becomes advantageous to deliberately violate our nature in order to achieve a goal more important than the frustration implied in the violation. Thus it becomes reasonable to do what is unreasonable.

Therefore, life must go on after death. But this afterlife cannot be another embodied life (a reincarnated one), because there is no way one can make sense out of the "same" soul's "inhabiting" a "new" body.

The afterlife, then, must be just the spiritual life of continued consciousness. This must be unending and eternal, because a pure spirit cannot change. Since the brain now selects which sensation we are to have, then after the brain cannot function, consciousness must consist of absolutely every conscious act we have ever had, all rolled into one polymorphous act; the sensations will be included, since they as conscious are "components" of the act of understanding. This act will continue unchanged eternally. It will also include all non-self-contradictory goals we have set up in this life with consciousness of their fulfillment, and also all self-contradictory (immoral) goals with eternal intention to fulfill them and knowledge that they will never be fulfilled.

Examination of the condition the human being is in as an embodied spirit indicates that we exist in an unnatural condition. An embodied spirit ought not to be able to grow old or die, because then practically all of its life is spent as only part of itself; further, a body determined by a *spirit* as its unifier is essentially *self*-determining, and ought not to be able to be harmed against its will, and certainly ought not to have its senses (emotions) fight against what understanding knows is factually good. But this is how we are. Probably, a rebellion by the first human being when he was choosing the human genetic structure was "punished" by having the energy-aspect of the human rebel against the spirit which organizes it. Thus, there seems to have been something like "original sin."

Exercises and questions for discussion

1. If there is no faculty of understanding as such (since understanding is a spiritual act), then why is it that when a person's brain is injured, he can no longer understand facts which involve the injured area of his brain?

2. If it is essential to the human soul to be the energy organizing a body, then how can the soul exist without doing this? And doesn't this prove that the soul can't be immortal?

3. You can't *prove* that the soul continues after death, because to do so you would have to die and then observe what happens. So your guess as to whether the soul goes on living after death is as good as mine.

4. Many people feel more comfortable believing in reincarnation than in

believing that we have only this one life to determine ourselves. Doesn't that mean that reincarnation is a fact for them, and that we have no business saying that they are wrong?

5. God loves me too much to have me be eternally frustrated; because if he loves me, then my suffering will make him suffer too, and so even for his own sake, he will free me sooner or later.

10.6. Human nature as "fallen"

Chapter 11

Self and Person

11.1. Ideals, goals, and purposes

We have seen, then, that human choice implies that we set goals for ourselves, work to achieve these goals, and finally get total fulfillment of them (if they don't contradict our inherent possibilities—our nature) after we die.

Now a goal is an ideal; it is a concept of the self drawn, not from studying the facts about what we now are, but from relating ourselves to different conditions of body, mind, or circumstances of our life.

That is, an ideal is a concept of myself as still "me," but as *different from the way I am now*. And this ideal becomes a goal when I use this concept as the standard to which the facts about myself must agree and *make myself unstable* until the facts agree with it. Therefore, this standard defines what is "good for me."

● Conclusion 1 ●

What is *good* for a person is (by definition) his *goal*.

And a goal, of course, is a purpose. It is the usual sense of "purpose" in our language. Your purpose in doing something is the goal you want to achieve by doing it.

But if you go back to Chapter 2, we gave there a technical sense of "purpose": the end of a process, or the equilibrium implied in an unstable condition—the equilibrium which removed the instability and got the being out of its self-contradictory condition.

● Hence, as said just above, when an ideal becomes a goal, what happens is that the choice creates an *instability* in the body, which has this goal as the purpose toward which the body's processes are now directed.

● DEFINITION: A *motive* is a freely-chosen purpose; it is the "reason" for the action, in the sense of the *chosen* goal that is sought by the action.

Notice that a motive is *not* the same as "motivation" in the psychologists' sense of the term: what they mean is "whatever influences *behavior* (i.e. actions)"; and there may be emotions and habits, whether conscious or unconscious, which influence or even determine actions independently of choices. These emotions may be rejected by the choice as influences; and if so, are not motives for the choice, even though they motivate the act.

Be that as it may, the ideal, once chosen, now becomes in fact the end of a process; because what the choice does is make the body unstable in such a way that the goal is the end result of the process that is initiated. Thus, if you consider yourself as having a college degree, and finally make up your mind to get one, this choice means that your "good" is now (among other things) having this degree; and you are now in an unstable condition until you get the degree; you now *have to act* to get yourself out of the self-contradictory

condition of not yet being your "real" self. It is in this way that the choice determines the body; by setting up an instability in the brain (a dissatisfaction with the present condition) which is resolved only when the goal is achieved.

It is really part of the fallenness of human nature that emotions and other motivators can also set up instabilities which may be at cross-purposes with the goals you freely chose. When this is severe, the person is emotionally unhealthy.

11.2. The self

But the goal you freely choose is *yourself,* but *as different from the way you now are.* It is your ideal self; but with this difference: it *is to be* the real self. You are a *contradiction* until you actually achieve this goal, which is why you are acting toward it and getting out of your present condition.

Hence, what this "to be real" self is is a *creation of your own,* using your self-determining mind and imagination. But it is more than a mental exercise, because it actually *will* be yourself, because you are going to change yourself until it is yourself (and if you don't succeed before you die, you will afterwards). Hence, either before or after death, it will in fact be yourself.

So what you are—your eternal reality, in fact—is *created by you* by your choices.

• DEFINITION: A *self* is a being which causes itself to be what it is.

You might say that a "self" is a *being who is in possession of himself as such,* since a being which is a self creates the *definition* of what that being is and then makes that definition the reality. You will recall that we defined life as "existence as in control of itself." When life reaches the spiritual level, this control is an actual causality, where the

living being makes itself be itself.

11.2.1. God and the self

To understand selfhood and self-creativity, it will first be necessary to say something about God and the finite self. This is not religion; I am now talking about the scientific conclusions that there is an Infinite Activity which accounts for limited activities, and what the nature of that Infinite Activity (God) is. Religion, remember, uses revelations by God as its evidence (and these revelations happen to come from the same Infinite Act that philosophy talks about—but that doesn't make philosophy religion).

A self creates itself. God, of course, is the Unlimited Self; the Absolute Creator. He not only is absolutely in control of his own reality, he creates (causes to exist) absolutely everything else.

But if God causes me to exist, then how do I freely create myself? The solution is in what you mean by "cause." God *removes the contradiction* in my existence's being nothing but existence while still not all there is to existence (in its being finite); but this does not mean he *forces* it to be this or that finite existence. God *causes* it, but I *determine* it. God's causality does not take away my freedom; this would be to make my choice self-contradictory, and God's causality (by definition) makes it *not* self-contradictory.

But if God causes me to exist, then He must have some purpose in doing so; and then don't I have to fulfill *his* purpose and not my own?

This is another common misunderstanding. Since God is Absolute, Infinite Activity, He can have no purpose, in the strict sense, for anything He does. Why? Because a purpose is a goal toward which one works—implying that one is (a) in an unstable condition (and God is in absolute equilibrium) and (b) one lacks the

reality one will have when at the goal (but God is already infinite activity). No, God's infinite Act can affect *me*; but, since He can't change, nothing can affect Him. Hence, there is no sense in which He can "want" anything from my existence.

God creates me *because He can do it*. That is, He is aware that His Infinite Act is capable of causing finite beings to exist (and to act in various ways). He freely chooses His act to have this effect (even though it makes no difference to the Act itself). Thus, the creature (the finite being) "speaks," by its existence and every act it performs, of God, its Creator, just as perception, as the effect of some outside thing, "speaks" of the reality perceived. The creature is the "glory" of the Creator: His "extrinsic glory."

If you wanted to say so, you could then say that the "motive" or "purpose" God had in creating is His "extrinsic glory." That is, it is the creature *as* caused by His Infinite act. To put this another way, why God created us is, as I said, because He can, which makes Himself the "reason" why He does so, and our existence the *effect* of this act.

But this is "purpose" in an extremely loose sense. It does *not* imply (a) a *goal* for God in creating, nor does it imply (b) that "seeking God" or "doing something special to glorify God" is a goal for the creature. *Whatever* the creature does *is, ipso facto,* the "extrinsic glory" of God, because it was caused by God. Even when the creature blasphemes, and calls God disgusting names, this act is God's extrinsic glory, because the creature couldn't do this (finite) act if God didn't cause the finite act to be done as the creature wanted it done.

Now this sounds all very technical and abstruse—and it is—but I had to go into it, because it is necessary in order to make sense out of finite selfhood. Christian philosophy has been burdened with something that was *thought* to be an implication of Christianity, but

which was not in fact held (as it is commonly understood) by the great Christian Theologians. What I said above is not "Blairian" doctrine, but something that the philosophers of God (including the Catholic ones) have held for centuries, and is a legitimate interpretation of the dogmas of the Church.

And the reason I had to mention it is this:

● Conclusion 2 ●

There need not be any built-in goal given to finite selves by God, their Creator.

That is, the Catechism's answer to the question, "Why did God create you?": "God created me to know Him, to love Him, and to serve Him in this life and to be happy with Him forever in the next" is simply not true, as it is usually understood. In that case, those who are damned and are eternally frustrated have made God fail in achieving His purpose—and hence God Himself is also eternally frustrated; because He had a goal for them which He cannot achieve (because they won't let Him). This makes God finite.

It is time to grow up. If we want to understand life, we can't understand it in the naive sense we had when we were children.

● Conclusion 3 ●

God has *no* goal or purpose for our lives *except the goals we freely choose*, even if those goals are self-frustrating.

That is, God's "purpose" (in that complicated analogous sense above) in creating us as selves is *that we be selves,* which means that we be *self-creative*, which means that *we* make up the purpose of our lives: the set of goals we freely choose. And *that set of goals,* whatever it is, is *ipso facto* God's purpose for us.

11.2.1. God and the self

In other words, God's "plan" for my life is not something I have to discover and follow. God's plan is *my actual life, as made by me*.

This is what is meant by being a self. To be a self is to *make* one's purpose in life, not to *have* one. To put this another way:

● Conclusion 4 ●

the *only* "meaning" your life is to have is *the definition you give it*. Beyond that, your life has no meaning; your life *is* its own meaning. But for you, "to live" means "to be what I choose to be."

11.2.2. Limits on self-creativity

But only God is an absolute self. Finite selves are free to determine themselves, *but only within limits.*

Pure spirits, for instance, can (I speculate by extrapolation) choose what form of activity they want to be; but they have to be *some* form of activity; they can't be infinite activity. Now of course, since they determine which form of activity they are, then *in themselves* they are greater than the form which they choose to be (because they could have chosen to be a different one); but they can't act without *determining themselves* to be some form of activity, because they are finite spirits, not God.

Human beings, however, are *embodied spirits*; we can't make choices without having judgments and concepts, which imply sensations and energy. Our spirituality is tied up with our bodies. Hence, we have a further limitation on our choices.

And, in fact, since human choices determine the whole body by putting it into an unstable condition, *the human choice is to be limited to the possibilities inherent in the body.*

That is, if you try to set up an instability in your body that implies a goal of being able to fly by flapping your arms, that act is

beyond the intrinsic possibilities of your body; you aren't a bird. Hence, you can *choose* to do the act, but because human choices are realized in a body, you can't *carry out* your choice.

● Conclusion 5 ●

the genetic potential of a person's body limits the number of goals that the person can actually in principle achieve—and so limits his realistic choices.

For instance, a man simply cannot bear a child, because this is beyond the limits imposed on his activity by his genetic makeup. A woman can, however; but she cannot impregnate anyone. For a man to choose to become pregnant, or for a woman to choose to get someone pregnant, is for that person to make a choice that simply cannot be carried out.

And this, of course, is what I was talking about when I talked about the "violation of our nature." We can *choose* to do things which contradict the limits inherent in our genes (as when a man chooses to have a "sex change" and then pretends that because he has a hole where he had a penis, he is now a woman), but we can't achieve the goal we set up by that choice.

So we are selves, but our self-creativity is to be *restricted to* the limits imposed by our genes, which are simply "given," and which we must accept. This is what it means to be a finite, embodied self. Only God is in absolute control over himself and can choose anything at all; we can choose whatever we want *within certain limits.* If we go beyond them, we choose nothing but our own frustration.

Obviously, it behooves each of us to discover what this range within which we can choose is, and where our limits are. Not to do so is to court frustration, which, unfortunately, is eternal frustration.

11.2.2. Limits on self-creativity

11.3. Racial and sexual differences

Now the human being is a unit, and the genes are what the unifying energy uses to build the body into a definite unified whole.

It follows, then, that genetic differences make a difference *in the whole body as a whole*. Thus, the black human being is not "the same as the while human being except that his skin is black." He has different sort of hair, different features, different musculature, differences in the skeleton, different reactions to sunlight, etc., etc.—and these differences are *not* "cultural"; they are *genetic*.

The point is that black people are *different as a whole* from white people, but *not wholly different*. The genes of a black person affect the *whole body,* not just some superficial "aspect" of it. Blacks don't *appear* different from whites, they *are* different; and anyone who says that they aren't is a fool who doesn't understand that the human being is a unit.

Now this does *not* imply that blacks are *unequal* to whites. There are some obvious limitations, however, that the genes impose on each race. Blacks can stand more sun than whites, and whites can get vitamin D from the sun with less exposure than blacks.

So the racial genes *do* impose limitations on the "basic humanity" both blacks and whites have. These limitations, however, as can be seen from experience, are insignificant, and really do not restrict activity in any meaningful way.

One of the reasons for thinking that "different in humanity" implies "inequality in humanity" is that it was assumed that there are only two "levels" of limitation in any being or act: that of the form, and that of the quantity; hence, any difference within a given form of existence has been taken as automatically a quantitative difference.

But that is clearly an oversimplification, especially in living beings; there are sub-*forms* in between the basic humanity we all have and individual differences: each of us is a certain race, with definite

racial characteristics in common, and each of us is one sex or the other, with definite sexual characteristics in common with other members of the same sex. It is folly not to acknowledge these, or not to recognize them as *common* and therefore in some sense *formal rather than quantitative* characteristics. Quantitative limitation (as you can see from numbers, sets the individual apart from all others); what is common to many is qualitative, not quantitative.

There is no law that says there have to be only two levels of limitation; in fact, experience confirms that there are more than two. And since each human being is limited to being some race of human being and some sex of human being, no one has any advantage over any other individual in this respect. No race (like the white race, for instance) is "humanity" and other races are "limited cases of humanity." Neither sex is what "humanity really is," making the other sex is "a limited version of humanity." Each race and each sex is a limited version of humanity, but limited *in a different way, not to a different degree*. Limitations in degree are below or within these limits; and individual humans of whatever race differ in degree of ability to act irrespective of what race or sex they belong to.

● Conclusion 6 ●

Racial and sexual differences are real, but they are qualitative, and do not imply "greater" or "less."

● And experience with people of different races shows that *the range of activities genetically permitted for different races is for practical purposes the same*. There is nothing inherently impossible in there being different talents in different races, such that practically all members of one race could do with ease what only the exceptional members of the other race could do. But we have tried to put this into practice, and in fact it has not worked with any race we have

tried it on.

That is, the fact that there is a real difference in the races does *not* imply that blacks "can't do" what whites can do. They have demonstrated that there is no activity that white people can do that they are incapable of doing.

● Conclusion 7 ●

Racial and sexual difference must not be used to prevent people of one race or sex from doing what in fact they can do.

I would think that Blacks and Whites could find their activities unrestricted and still express their racial differences (supposing they wanted to—we are selves, after all) if they adopted a "style" of acting that each was most comfortable with, whether this "style" was genetic or cultural.

This way, difference would not imply "inequality" or role-difference, which is false; but at the same time, "equality" would not imply "sameness," which is also false.

I think the same sort of thing goes even more strongly for men and women. Men and women are different as a whole, but these differences (except in the obvious sexual aspects) do not of themselves imply any inability to act.

Here a qualification must be introduced, however. Men are, as a group, physically stronger than women; and so if there is something that takes exceptional physical strength to perform (meaning that only the strongest of the men would qualify to perform it), then it would follow that extremely few women would meet these qualifications. Those who do should probably be allowed to perform the task. *But if in the name of "equality of opportunity" standards are lowered so that the women who* want *to perform the task can do so, this is an unrealistic view of the reality of men and women.*

What I am saying is that we must not fall into the trap of interpreting Conclusion 7 to mean that because a person is a member of a certain group he *is* as qualified as a member of another group. If a person can meet the qualifications for the job, he can meet them; if he can't, he can't. If the qualifications go with the job (in the sense of actually contributing to its good performance), and this means that some (or even all) people in a certain group can't meet them, then that's part of our human limitation, and it must be accepted. If only a very few in the group can do it, then only those few should be permitted to.

I also think the "unisex" movement is dangerous, metaphysically and psychologically. There *is* a profound difference between men and women, pervasive of their whole being; and to pretend that the differences are "cultural," "superficial," or "external" is to fly in the face of the facts; and it is important for a person to know which sex he is, and not to try to be the other sex. Sexual identity is not lightly to be done away with.

The solution, I think, is, instead of insisting on *role*-differences, to work out a difference in *approach* to things; where the feminine *way* of doing things can be distinguished from the masculine. That is, instead of saying, "This is what women do," what should be taught little girls is, "This is the way women do this."

"submissive," or whatever, and little boys taught aggression. I don't know what it would finally work itself out as; but it should be a "style" that women in general are comfortable with: a style that will be identifiably feminine.

Then, when one grows up, one can choose how much of that style to adopt, consciously expressing the femininity one has to the degree to which one chooses. That would be to be a feminine human self.

And the same, of course, goes for the masculine human self.

Self-creativity is not to be sacrificed to genetic "limitations" which in fact aren't there; but genetic restrictions are to be recognized when they do exist.

11.4. Natural vocation

Our genes not only impose definite limits which we can choose to contradict, they also give our bodies individual characteristics which make certain acts easier and more pleasant than others.

A person five feet two inches tall *can* play basketball, and, if he works hard at it, can even play very well—perhaps better than even the average pro. (In fact, I believe Muggsy Bogues, a basketball pro, is five feet three.) But a person seven feet two, who is coordinated, has a much better chance at it, and finds the whole thing much easier.

Some people can hold vast numbers of images in consciousness at once, and so can understand very complicated concepts, which need, for their discovery, many images associated. Obviously, for such people, thinking is easier and more pleasant than for those who cannot raise more than two or three sensations above the conscious level at once.

What I am driving at here is that individual genetic differences do not make certain acts impossible in principle, but they make them difficult; and they make others easy. Thus, these individual limitations *do not impose an obligation on us* the way the human limitation itself does; it is in principle possible to overcome these limits to a great extent.

- But *the individual characteristics form a "call" or a "vocation" of our nature.* Our nature is indicating a direction which, if we choose it, we will be most satisfied as a whole. There is nothing wrong with not listening to this call. If a short person chooses to make a career of basketball, more power to him. But if a short person chooses to do

what "comes easy" to him, then (a) he will—other things being equal—do better at it, and (b) he will find life more pleasant.

Life, in other words, even for the ambitious, doesn't have to be a struggle. Still less is it a good thing (in itself) to "struggle against your own nature," as some of the medievals would have it. No, each person's nature is calling him to a certain fulfillment; and a person is most integrated if he makes that call his goal in life.

THEOLOGICAL NOTE

Each person has also a Christian vocation: basically, to forget about himself as the center of the universe and be interested in things the way God is interested in them: to take over God's attitude (because God's "attitude" is God's life, which is the Infinite Thought).

But God's attitude toward things is infinite respect for things. He has no purpose of his own for them: he acts purely and simply for their sake. This infinite respect is absolute love.

The Christian, then, is the human expression of the love of God in the world; and it always involves lack of self-fulfillment as the goal of one's acts.

But the "human expression of the love of God in the world" has three senses, which define three "states" of life (any life will of course mix these to some extent).

First, the human expression of the love *of God by* the world. Here, the wonder of God the creator is seen, and the attitude is one of praising and glorifying Him for what he has done. This attitude defines the "Religious" life (that of the contemplative, the monk), who then becomes the representative of the world in its worship of God. Here, God is the "Omega."

Secondly, the human expression of the love God has for his chosen (actual or potential chosen) in the world. This attitude defines the clergy. These people see Christianity as such a treasure, they would like others to see it and benefit from it. God is here Alpha, and the potential Christian the Omega.

Thirdly, the human expression of the creative love God has for the universe he has caused to exist. This sense defines the laity, who have a contribution to make in building some little corner of the world—in

recreating it, Divinely, because of their activity. God is the Alpha, and the material world the Omega.

The question of which Christian vocation one has is the question of which of these different ways of loving-as-God-loves (or which combination of them, and how stressed) most easily "takes one out of oneself," and makes one interested in what he is doing rather than himself as doing it.

There is nothing wrong with not "answering" this call, and remaining a layman, for instance, when one's spontaneous nature would suit one better to the clergy or Religious life. It is just that the whole thing is easier and more enjoyable if one "answers."

11.5. Goals and values

We are, then, creators of ourselves within the limits imposed on us by our genes; and we create ourselves by setting up goals by our choices.

Once we have chosen a goal, however, the job is not done. We now have to get there. If we just "choose" a goal and don't try to achieve it, then the "choice" wasn't a choice, but a daydream, and the "goal" isn't a goal, but an ideal.

We have to *act,* in other words. Now actions occur in the world, and our acts have effects; and these effects are *based on the nature of our bodies and the laws of energy, and are not open to our choice.*

That is, you can't saw wood with a wet noodle, because, even though you have as your goal getting through the wood, the noodle won't cut it. *Thinking* that a given means will achieve a certain goal doesn't make that means achieve the goal.

● Conclusion 8 ●

***Goals* are open to our arbitrary choice, but the *means* by which the goals can be achieved are not: a given route will in fact either lead to the goal or not, independently of what we think.**

In other words, while goals are subjective, we have to *find out the facts* about what means will lead us to the goal. The means are

"subjective" only in that they *relate to* a subjectively chosen goal, not in that you can *make* something be a means when it isn't. It either leads there or not; and this is a fact that you have to understand and submit to; means are, in this sense, *objective*.

● DEFINITION: *Values* are means toward freely-chosen goals.

● Note well ●

This is *not* the sense of "values" that deals with "right and wrong" (morals). This is the sense by which some object is valuable.

Acts that are morally wrong, as I said when discussing goodness and badness, are *objectively inconsistent* with your genetically given reality and have *nothing to do* with your goals or what you consider "good" and "bad." Hence, they should **not** be called "values," because they are to be *respected,* not "used for our well-being" (as is implied when you talk of the "value" of being honest). It is *wrong* to be dishonest *even if you gain the world by it*. Honesty is not a *value*; being honest is an *obligation*. To put it another way: being honest doesn't get you where you want to go; being honest *prevents* you from bringing eternal frustration on yourself. There's a big difference.

So values are to be taken, not in the sense of morals, but in a more economic sense (what something "valuable to you" has); they lead you where you want to go. The point above is that they either *in fact* lead to your goal or they don't; and if they don't, no amount of wishful thinking will make them lead there. In that sense, they are objective, but *personal,* since the goal they lead to is subjectively chosen by the person.

Thus, the set of goals you have implies a set of values: the means

available for achieving the goals. So, if you have as a goal having a college degree, obviously a college is a value for you. You can't get a degree without going to college. If you have as a goal being somewhere else, then a car would be a value—or maybe an airplane, or a bus. Which is *more* valuable depends on which is the *better* means of achieving the goal.

Since values are means toward *freely-chosen* goals, it follows that

● Conclusion 9 ●

Each person's set of values is different from every other person's.

Each person has chosen his own unique set of goals which, taken together, form the purpose of his life. Each of these goals implies a set of values (the means to get there); hence each person has his own set of values. If your goal is to know a lot about music, then a season ticket to the symphony is a value for you. If my goals have nothing to do with appreciating complicated music, then the ticket is not valuable to me at all.

I stress, however, that even though each person's set of values is *personal,* the values are *objective, not subjective.* It is the *goals* that are subjective; the values have to be *discovered.* To pursue this subject further would lead to a whole treatise in itself (on *axiology,* the science of values); and so let me just drop the subject with the little mention above.

11.6. The person We are, then, as I have been stressing so often in this chapter, self-creating selves, which selves, as human, have genetic limits placed on them; and we also set goals for ourselves and have to find the values which lead to these goals.

But we are not alone. It is quite possible for my self-determining and goal-seeking activity to *interfere* with your self-determining

activity. After all, I have to pursue my goals by acting and following the laws of energy—and the things I do can set up blocks for you in achieving your goals.

● **DEFINITION: A *person* is a self *in relation to* other selves.**

For finite persons, this means that other selves can act on the self and change what the self would otherwise be. This is the only reality a relation has: the *difference* it makes in the one related.

● Essentially, what the definition means, then, is that *a self is a person when his own pursuit of his goals can be interfered with by other selves, and when he in turn can interfere with others' pursuit of their goals.*

THEOLOGICAL NOTE

The Theological concept of "person," as traditionally defined, at least, comes pretty close to what I have defined as a "self." The term, as I mentioned in an earlier Note, had to do with the fact that Jesus used three names for the God: the Father, the Son ("The Father and I are one and the same") and the Spirit.

The interpretation of this used the Roman concept of "person"; and as Theology developed, the "person" was taken to be a "subsisting being" (i.e. independent thing) that was "rational" (or intellectual). That implies self-possession and self-control; and so, as I say, this was close to what I mean by a "self."

Nevertheless, I think that my notion of a person fits the Persons of the Trinity, because "they," even though "they" are one and the same reality, are distinct from and related to each other. Hence, they are three persons, and not just three selves.

It is also true that God "relates" himself to this world in three distinct ways: as Creator (Father), as Redeemer (Son) and as Preserver (Spirit). Now, while these are not, strictly speaking, real relations, since He is not affected by His different activity, still *we* are affected *by* His three different "styles" of loving us, and so have three different personal relationships with the one God.

11.6. The person

If you put this together with the self-reduplication I spoke of in the earlier Note, then I think the concepts of spirituality, self, and person as I have developed them are not inconsistent with the Christian mystery of the Trinity, and can perhaps even make it somewhat less dark.

It turns out that human beings who have no conscious awareness of other human beings (as, for example, those children brought up in locked rooms or by animals) cannot, when discovered after a number of years of this, act like human beings. Apparently, to discover what our genetic potential is, we need to see other people acting and recognize the similarity we have with them; then we see what we are capable of.

Hence,

● Conclusion 10 ●

A human being cannot exercise his self-creativity except as a person. He needs others in order to be able to develop himself.

So we not only *are not* alone, we *cannot be* alone and be meaningfully human (i.e. be able to act according to the potential we actually have). And this is why Aristotle was right when he said that "man is by nature a social animal."

11.6.1. Rights With that said, we can go on to mention that there are two basic relationships we can have with other persons: (a) non-interference (and its positive counterpart of compensating someone for services he renders you), or (b) cooperation with others for a common goal (one we work as a team for).

● Conclusion 11 ●

It violates the nature of a person to determine himself in such a

way that his action prevents another person from determining himself.

This seems obvious, but it is based on the fact that the self is basically *self*-determined, not determined from outside. Even the basic limits to human self-determination are genetic, not circumstantial. For one person, then, to determine himself in such a way that he prevents another person from doing so *is for the first person to exercise control over the other's life, which contradicts the self-determining nature of the human person—and so of the agent also.*

● **DEFINITION: *Rights* are the "powers" a person has as a person: that is, no one is to interfere with the acts he has a right to perform.**

Once again, a whole theory of rights would be a treatise in itself; we have just sketched the basis of them in the personhood of human selves.

Note that a person may *use* the acts of another for his own self-development, *but only if the other freely allows him to do this.* Then, the first person is not taking over control over the other's life, because the other *is willing* to let himself be used (perhaps for compensation, for example), and so still has basic control over his life.

Obviously, there are ways in which a person can be "willing" to be used only in a meaningless sense. When a robber aims a gun at me and "asks" me to hand over my wallet, I *choose* to do it, because the alternative is death. Or if a person says, "Give me ten thousand dollars for this glass of water, if you want to drink it," and I am dying of thirst and he has the only water around, I choose to give it to him, but I am not really willing to do so.

11.6.1. Rights

But to pursue this further would take us into the whole field of business ethics.

I will only say a word about the relation of cooperation also. This is different from the rights-relation, because in this case, the goal is not necessarily a purely individual one; it is a shared goal.

● DEFINITION: A *society* is many persons related by cooperation toward some common goal.

Obviously, to pursue this topic would lead us into the area of social philosophy, which is another vast subject. so let us drop this matter here too.

11.7. Love I do want to say something about love, however, to finish out this book.

Since the human being is free, and since he can understand relationships and abstract concepts. As such, he can recognize that *someone else* has a given goal. But since choices are based on judgments a person makes, and not on emotions, then it follows that a person can act *for a goal in someone else's life*.

That is, a person can make the goal of *his own* actions the *benefit of someone else,* without any benefit to himself.

● DEFINITION: An act is an act of *love* when it is chosen because of the good of another person than the agent.

There are some who hold that acting for someone else is impossible, because there can't be any motive for *my* action except what benefits *me*. But this supposes that the motives for my acts are not *facts I know,* but *interests I have,* (which would essentially be drives toward some "objective good" for my organism). I think that

this does not square with an objective analysis of goodness. Some, like Ayn Rand, even go so far as to say that to act for someone else rather than oneself is immoral.[1] The definition I gave above is obviously not "love" in the sense of "sex" or even in the sense of "affection." What is called "love" in the sexual sense is often self-gratification, and sometimes even self-gratification at the expense of the sex partner. In the extreme of this kind of "love" (rape), it is the very opposite of love. "Love" as "affection" is also a form of self-gratification, because you *feel good* when around the beloved, and are indulging your own feelings.

There is nothing wrong with this, any more than there is anything wrong with sexual gratification (when it is done consistently with one's nature); but neither in itself has *the other* as the *reason* for acting, and so neither is real love.

Each can be turned into love when either the sexual attraction or the affection makes us *choose the happiness of the other as the goal of our actions.* Then affection or sex becomes love.

Notice that, since each person is self-determining, then

● Conclusion 12 ●

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[1]To be fair to Rand, she is castigating the notion that *sacrificing* yourself for another (i.e. doing *harm* to yourself for someone else's benefit) is what is really immoral. She accepts acting for others as equals as long as you aren't a simple means toward the other's good. In that sense, I could go along with her. But the thrust of her writings seems to be that the self comes first, which I would deny is objective (though she calls her philosophy "objectivism"). There is no *objective* reason why I am more important than anyone else. There is a great deal that is worth while in what Rand says; but I think she reacted so strongly to the abuse of love that goes by the name of "altruism" (especially in socialistic countries) that she went too far in the other direction.

Love does not impose its own idea of "what is good" on the other person.

That is, love *finds out* what the other person's goals *in fact are* (by asking, perhaps), and works to achieve *those* goals; love does not do "what is good for" the other person, in the sense of "what *I* think is good for her, in spite of what she wants." *This would be not to respect the other's personhood, and be a violation of her reality.*

● Conclusion 13 ●

The effect of love, since it makes the other person's goals the goals of one's own act, is to bring the other "into" one's own life, or to be with the other eternally.

That is, by love, we "possess" the other, not as an adjunct to ourselves, but because we are interested in her as she is in her independent self; and her life becomes—*as* separate and distinct—a "part" of our conscious life. We know her eternally, after we die, and are happy because she is happy.

This must be the case, because her happiness as different from mine is precisely the goal I have in the loving act; hence, that goal cannot be fulfilled unless she achieves happiness, and I know it.

Thus, the way to be with people is to love them. And if you love them, you are with them forever.

Note that I have used the feminine pronoun as the one referring to the object loved, but that is because I am a man, and the most natural first object loved (for a man) is a definite woman—hence, it is the pronoun that comes most comfortably to my mind. Obviously, the masculine pronoun would normally be the one used by a woman in this context. But of course, one can love in the sense I am talking about here, people of any sex (and should love people of all sexes);

and in fact, one can even *love* inanimate objects and "help" them achieve "goals" that are consistent with their greatness (though here one has to do what is "good for them," because they cannot choose purposes). In that sense, one imitates the Creator of All, because that Creator loves (respects) everything infinitely, and helps everything achieve its purpose.

Insofar, I think, as we love our material surroundings, it too will be with us forever as fulfilled by our ambitions for it. This is what I think St. Paul was referring to when he said (in *Romans*) that "all of creation is suffering labor pains"; the world as our eternal environment will also be eternal, insofar as we have goals for it that are part of our goal for ourselves.

HISTORICAL SKETCH

The ancient Greeks had no explicit concept of a self or person. For them, a human being was an individual member of the species, just like an individual animal. The notion that a human being creates himself would have been laughed at by them. This is implied in **Aristotle's** (350 B. C.) notion that we do not deliberate about goals (they are given) but only about the means to get there. They also had no concept of rights. Society existed to "make people good" by forcing them by law to do what was "objectively good" for them.

Rights came into existence in Rome, when the Empire had to hold itself together somehow. The people of outlying areas were made "honorary citizens" (much like our "naturalized citizen" nowadays) and were treated like Romans, though they weren't really Romans.

To do this, the Romans invented the concept of "person," taking the word from the mask actors wore. When you bought citizenship, this was a kind of legal "mask" you put on which made you eligible for treatment like a Roman. We do the same thing nowadays when we treat corporations like legal persons. And the *rights* were the privileges one had because of citizenship (whether you were born to them or bought them). This concept of "person" was then taken over to describe what was behind the three names used for God in Christianity.

The concept of rights was developed in the Middle Ages by, for

example, **St. Thomas** (1250) as *following from* the relation of cooperation (society), rather than from "independent" self-development. At the time (in fact, up until the present), it was not recognized that there are two *distinct* ways people had of relating to each other. There was still the notion that God had a "plan" that each of us was to discover and follow, and that the ultimate purpose of our lives was to contemplate God. Hence, self-creativity was not something that came into people's consciousness.

After the Reformation, when Christianity was no longer just one social entity (there were many Christian churches), the concept of rights as deriving from the social relationship took a new turn.

Thomas Hobbes (1625) tried to establish rights and society on human nature rather than the other way round, and so he speculated about a "state of nature" in which there was no society and everyone owned everything—and so there was a fight to the death to get possession of what you owned and everyone else owned too. He then said that society was based on a "contract" people made with each other, by which they gave their rights to the ruler, in return for having him keep them from killing each other. The king then had absolute rights—even to killing or torturing his subjects—because they had handed over to him all rights.

This didn't set well with people, and in 1670 **John Locke** proposed a different "state of nature," in which people were independent of each other and possessed of the "natural rights" of life, liberty, and property. They weren't fighting with each other, but to secure their rights against accidental violation, they banded together to choose a ruler, whose task was to preserve their rights.

It was Locke, therefore, who saw the "independent" relationship of people to each other (and whose ideas form the basis of modern theories of society and rights, as well as capitalism as an economic system). But once this relationship was discovered, it more or less overwhelmed the "cooperative" relationship, which was now reduced to some form of "preserving self-determination."

The existentialists of this century were the ones who did most with human self-creativity. **Jean-Paul Sartre,** who died not too long ago, held that "we are condemned to be free," and that freedom involves making yourself and your world. He refused to admit any intrinsic limit to self-creativity, however; the only bad thing, for him, was to choose not to choose (i.e. to let someone else make your choices for you). In that case, you became an object, and not a subject. But since other people try to

make me an object, then he held that “hell is everyone else.”

Gabriel Marcel also around the middle of this century, held a philosophy of self-creativity, but with “participation” with others, and “engagement” with them in love; his brand of existentialism was a Christian one.

Martin Heidegger, who lived more or less at the same time, held that “authentic” activity was the act of *Dasein* (which for practical purposes means what I mean by “self”); and it consisted in “being for death,” which boils down to realizing that each moment (which can be your last) has to be lived as it is, and not because you got into the habit of doing things.

Existentialism tends to emphasize absurdity. Rational behavior, for this type of philosophy, is a cop-out, a retreat into abstraction, away from individual self-creativity. But this refusal to accept generalizations about human nature meant that for the existentialists generally, there were no restrictions on what you chose to make of yourself. They didn’t seem to notice that no matter how much you choose, you can’t make yourself a crocodile.

They were right, I think, in what they said positively about self-creativity, as long as you add the restrictions on our activity that our genes impose on us.

SUMMARY OF CHAPTER 11

Since goals are freely chosen, they become a person’s own definition of what is good for him; the choice creates an instability in the person until the goal is reached; and therefore, the goal is the motive for one’s choices and rationally chosen actions.

Since the goal is the “real self,” then what a *self* is is a being which causes itself to be what it is. The fact that we create ourselves by our choices means that God has no preconceived plan for our lives which we must discover and live up to.

We do, however, have limits on our self-creativity; we cannot be what our genetic limits do not permit. If we choose to be something outside these limits, we choose our own eternal frustration.

Not only does each of us have genetic human limitations, but each is limited to being only one race of human being and only one sex of human being. These limitations are qualitative, not quantitative, and so imply no superiority or inferiority. Racial and sexual differences should express themselves in the manner one does things, and should not lead to restrictions on what one may do.

Each of us also has certain individual abilities and interests based on our genetic makeup. These produce a natural “vocation” indicating the kind of life we would be best at and would enjoy most. They do not, however, like the basic human

limitation, imply a command to follow them.

Goals are freely created, but values, the means to these goals, must be discovered, since we can't make something lead where we want it to go just by wanting it to lead there.

If a self's self-development can be interfered with, then the self is a *person* and has *rights,* which are powers to do certain acts without interference by other persons. Since humans cannot recognize their potential, much less fulfill it, without interacting with others, all human beings are persons.

Love is the deliberate choice to act for someone else's goal; it supposes that one uses the other's definition of "good" in doing so, and does not try to impose one's own idea of "what is good for" the other on that persons. When one makes another's goal the goal of one's own choices, then one is with the other for eternity.

Exercises and questions for discussion

1. If I define what is good by choosing my goals, does this mean that I can never know what is good for any other person? It would seem to imply that what is good for him depends on his choice, not any objective fact.

2. So all I have to do is obey God's law and I will become after death whatever I would like to be. Right?

3. Suppose what I want to do in life is God's will. How would I find out his special plan for me?

4. If women are really different from men, doesn't that mean that women have a role in life that's different from men's; and doesn't that get us back to "barefoot and pregnant"?

5. If I can make of myself whatever I choose (within the limits imposed by my genes), then why am I inclined in one direction rather than another?

Exegi monumentum aere perennius.—Horace

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Glossary

Abstraction is the "selecting" from the object of only one aspect (the one to be understood) and the consequent ignoring of all other aspects of the object.
Absolutely unlimited activity (i.e. activity that is neither of a certain type nor of a definite amount, but is infinite both in form and quantity) is called *God*.

An object is *bad* when some fact about it does not agree with our ideal of the way the object "ought" to be.
Biological equilibrium is the *above- ground-state* energy level which a living being tries to maintain through nutrition.
A *body* is a real object consisting of various forms of energy tightly held together by a another form of energy.

A *cause* is an explanation that is also a fact. (I.e. it is the true explanation: the fact that actually does make sense out of the effect.)
Certainty is a condition in which a person knows that he is not mistaken. *Subjective* certainty is a conviction of being mistaken without sufficient evidence to back it up. *Objective* certainty is based on the facts. Certainty is *absolute* when one has evidence that it is impossible in this case to be mistaken. Certainty is *relative* when (a) it is theoretically possible to be mistaken, but (b) one *has no evidence* that one actually is mistaken.
A *change* is an act whereby one and the same body becomes different from itself.

An *accidental change* removes an instability by keeping the same unifying energy and getting rid of excess energy (or acquiring energy to make up the deficit).

A *substantial change* removes an instability by restructuring the body with a new type of unifying energy.

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The *concept* is the *form* of the act of understanding as such; it is both the *relationship* understood and the *aspect* by which the objects in question are related.
Consciousness (a) an act by which a being reacts directly to its own activity; it is (b) an act which reacts directly to itself. It is (c) an act which contains itself within itself. It is (d) an act which is transparent to itself.
A *contradiction* is a statement that is both true and false.

An action or choice is *determined* if it is impossible for it to be otherwise.
Determinism is a theory of human choice and action which says that the strongest set of motives determines both our action and our choice.
Doubt is the knowledge that one is or might be mistaken. *Subjective* doubt is the fear, without evidence, that one is mistaken. *Objective* doubt occurs when one has evidence on both sides of an issue.

An *effect* is a set of facts that need an explanation. It is a set of facts which, taken by themselves, contradict each other. (I.e. the effect is a situation that "doesn't make sense" by itself.)
Energy is any form of activity *which is limited in quantity.*
Equilibrium is the condition in which the *total energy* of the body is compatible with its unifying energy.
An *evaluation* is a judgment of whether or not the facts agree with the ideal.
The *evidence* for something is some known fact which would be contradicted by the falseness of what it is evidence for.
Existence is activity. To be is to do.
An *explanation* is a possible state of affairs which, if true, would render the effect not a contradiction (i.e. would "make sense out of" the effect).

A *fact* is a *relationship among objects.*
A *faculty* is a subsystem of a living body whose function is to perform one of the living operations (properties) of the body.
Falseness is a term that belongs to *statements* (in language). *Falseness* occurs when the statement *does not match the fact.*
The *form* of activity (or existence) is the limitation of activity to being only one *kind* of activity.

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Freedom of choice means that there is nothing *from inside or outside* the being that makes it *impossible* for the choice to be different from what it is.
The *free-choice theory* of human choices says that our *actions* are determined (generally by choice but sometimes by various other influences) but our *choices* are *always* capable of opting for *any* of the known courses of action, whether they are the more or the less strongly motivated ones.

Goals are imagined states of affairs that one intends shall be facts.
An object is *good* when the facts about it agree with our ideal about the way the object "ought" to be.
Ground-state equilibrium is an equilibrium at the lowest energy-level compatible with the particular form of unifying energy.
Growth is the process of increasing in energy and adding parts until the living body reaches biological equilibrium.

An *ideal* is an imaginary construct used as a standard that the facts are expected to conform to.
Imagination is the function of storing and recalling wholes or parts of past perceptions. It can combine parts of one with parts of another.
An act is *immaterial* if it is in itself spiritual, but is (in the same act) also a form of energy, with a quantity.
An action or choice is *influenced* if something makes it *likely*.
Instability is the condition of a body in which the *total energy* of the body is *incompatible* with its unifying energy.
Instinct is the function by which the body responds appropriately to the information it is receiving.
The *integrating function* of sensation is the uniting of all the information coming into the brain at any one time into a patterned whole called a "perception."
The *intellect* is the faculty of understanding.

The *judgment* is the *complete act* of understanding (i.e. the five "phases" we outlined above).

A person has *knowledge* when he is objectively certain. A person has an *opinion*

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when (a) there is objective doubt, but (b) the evidence on one side is stronger than the evidence on the other.

Liberty is the kind of freedom a being has when it is not coerced by threats.
A *lie* is a deliberate attempt to state as a fact something that the speaker thinks is not a fact.
I. *Life* is *existence* (activity) insofar as it is *not controlled by quantity* (even if it has a quantity).
II: *Life* is activity *which is in control of itself.*
Life (primary sense) is the *activity* of the *unifying energy* of the body.
Life (secondary sense)is the behavior or activities a living being performs as living. It is the properties of life.
An act is an act of *love* when it is chosen because of the good of another person than the agent.

The *meaning* of a word is the mental act it stands for.
The *mind* is sometimes loosely used to mean the intellect. A *mistake* or *error* occurs when the judgment of what the fact is does not agree with what the fact is.
An act is *morally wrong* if it is inconsistent with the person performing the act.
A *motive* is a freely-chosen purpose; it is the "reason" for the action, in the sense of the *chosen* goal that is sought by the action.

The *nature* of a body is the body looked on as the "power" to perform the acts which are its properties.
Nutrition is the act of taking foreign bodies or parts of foreign bodies into the system, breaking up these bodies, and using both the energy and the parts to replenish the living body's supply of energy and parts.

An *object* of knowledge is any thing or act that can cause a reaction in a knower.
objective knowledge for a human being is knowing *relationships* among objects he (directly or indirectly) reacts to.

Parts are the subunits of a body, each of which has its own form of organi-

zation; but the parts are all subordinate to and under the dominance of the energy unifying the body as a whole (i.e., the unifying energy).
A *person* is a self *in relation to* other selves.
An act is a *polymorphous* act if one and the same act is simultaneously many different forms of activity.
A *prediction* is a state of affairs that logically follows from the explanation in question; it *must be a fact* if the explanation is the true one.
Process is the act of changing; it is the property which is the change itself.
Properties are the way a body acts because it has both (a) a certain unifying energy and (b) a definite set of parts.
The *purpose* of any change is the equilibrium at the end of the change.

The *quantity* of a form of activity is the limitation of a given form of activity to being *only a certain amount* of this form of existence.

Rights are the "powers" a person has as a person: that is, no one is to interfere with the acts he has a right to perform.

Science is the systematic attempt to know facts that are not directly in evidence.
A *self* is a being which causes itself to be what it is.
A fact is *self-evident* when its denial affirms it.
Sensation is reactive consciousness: that is, acts of consciousness which are reactions to outside energy, or the integration, storage, and retrieval of such reactions.
The *sense faculty* is the whole nervous system, with the brain as its central "processor." Consciousness, however, occurs only with the acts of the nerves in the brain itself.
Sense memory is the function of classifying perceptions or images in order of vividness, with the perception (the most vivid) being taken as "now."
A *society* is many persons related by cooperation toward some common goal.
A *soul* is the *form of the unifying energy* of a living body. It is the *form of life* of the body.
Speculation is finding a possible explanation for an apparently contradictory set of facts.

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Spiritual activity is activity which is either absolutely unlimited (God) or limited only in form and not further limited in quantity.
Spontaneity is the kind of freedom a being has when no *external physical* force is making it act or restraining its activity.

A *theory* is an internally consistent explanation of an effect which "fits the facts" to be explained.
Thinking is any act of the mind that involves understanding.
Truth occurs when the judgment of what the fact is agrees with what the fact actually is. The *judgment* is then said to be "true."

Truth occurs in a statement when the statement states as a fact what actually is a fact.

Understanding is the act of knowing *what the relationship is* among associated sensations.
The *unifying energy* of the body is the energy connecting the parts, making them behave together as a distinctive unit.
Universality refers to the fact that a given concept can be applied to *all* the objects that happen to have the aspect/relation in question.

Values are means toward freely-chosen goals.
Vegetative life is the type of life all living bodies possess; it is characterized by the properties of nutrition, growth, reproduction, and repair of injuries.

A *word* is a perceptible symbol of a mental act, especially of a concept.

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