

A  
(somewhat irreverent)

INTRODUCTION TO PHILOSOPHY  
for  
MEDICAL STUDENTS  
and other busy people

Niall McLaren, M.D.

Future Psychiatry Press

A (Somewhat Irreverent) Introduction to Philosophy for Medical Students and  
Other Busy People

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CONTENTS

Introduction.....iii

Chapter 1: Grappling With The Concepts ..... 15

Chapter 2: Grappling With A Single Mind.. **Error! Bookmark not defined.**

Chapter 3: Knowing..... **Error! Bookmark not defined.**

    1. Epistemology..... **Error! Bookmark not defined.**

    2. Tools of Certainty..... **Error! Bookmark not defined.**

Chapter 4: Philosophy and Science. .... **Error! Bookmark not defined.**

Chapter 5: Ethics as a Postscript..... **Error! Bookmark not defined.**

Glossary ..... **Error! Bookmark not defined.**

References..... **Error! Bookmark not defined.**

About the Author ..... **Error! Bookmark not defined.**

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*Humanizing Madness: Psychiatry and the Cognitive Neurosciences* (2008)

*Humanizing Psychiatry: The Biocognitive Model* (2009)

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**From Future Psychiatry Press**

# Introduction

Since my books have been published, I have had anxious emails from students around the world complaining that there are too many big words in them. One in particular startled me: “Why do you use foreign languages?” he moaned. “Nobody knows them nowadays. It’s hard enough reading this stuff in English, let alone in French.” Actually, the quote he mentioned was Latin but his complaint was valid. I studied medicine and psychiatry with two dictionaries on my desk, one English and the other the old Dorland’s Medical Dictionary. I still have both of them and use them most days. The reason we have so many big words is just because they are precise: yesterday, I had to check on the difference between ‘misconstrued’ and ‘misconceived.’ There is a difference, because we use different words to denote the differences we discern. In Western countries, we have only one word for rice; Indonesian has three and Thai seems to have about a dozen. I’m told Mexicans have about 50 words for chili, but don’t laugh: look at all the words we have for different types of beer.

Most of the words students have trouble with are not taught in medicine; they come from the discipline called philosophy. Unfortunately for medical students and other busy people, if you do not use a word regularly, it is often difficult to remember exactly what it means. This can be troublesome as words are tools; they allow us to explore the full meaning of a concept and understand why it means just that and nothing else. It is more of a problem in psychiatry than in other fields because the concepts we are relying on are often hidden. Even when they are dragged out into the full light of day, they are slippery notions that are difficult to pin down. Partly, this is because medical people are not used to thinking in terms of abstract concepts (there isn’t a lot of abstraction in a microscope slide) and partly because the concepts themselves may not be clearly understood anyway.

So the difficult words are our (sometimes feeble) attempts to isolate and define the precise meaning of an even more difficult concept. These lectures are my suggestion as to how students (and don’t forget, we are all students) can

look at the types of concepts used in psychiatry and similar fields. I am not a philosopher; I have studied philosophy at undergraduate level (and enjoyed every moment of it) and have focused on a number of areas as they relate to the work I do but I do not have the breadth and depth of specialist background a professional philosopher needs. My work is about mental disorder so I don't take too much notice of the concept, say, of a just war, or of the further reaches of the philosophy of mathematics. If you want to know more about them, you'll have to do what I did, and go back to school.

Where do we start? Probably the first word to define is philosophy itself. Like so many important words, it comes from the Greeks: *philos-*, love of, and *-sophist*, a wordsmith or person who uses words to argue a point. Sophists were wandering teachers who taught the sons of the upper classes how to reason and argue their case, which was important for people who tried to govern themselves by reason rather than by force. However, the sophists got a bit of a bad reputation because very often, they turned into smart alecs, using clever wordplay to defeat their opponents rather than winning their case by reason. The modern equivalent would be lawyers who use semantic loopholes in the law to defeat its purpose, or politicians who use a fog of words to evade taking responsibility or to conceal their intention. And here we have your first important lesson in philosophy: *declare your prejudices*. "Oh," you may say, "I'm a very reasonable person. I don't actually have any prejudices." OK, but that's your second lesson: like it or not, everybody has prejudices. The very words you use are loaded with meaning and you need to understand that your listeners are entitled to apply their own meanings to words, or to find hidden consequences in your statements. So my prejudice is this: I believe very firmly in the notion of *noblesse oblige*, which is French for the idea that people in positions of power have a burden of responsibility to do the right thing by their juniors. So a person with a good education or with high verbal facility is under a duty to ensure that he doesn't use his education or his clever tongue to put one over people who didn't have his advantages in life. There's another prejudice (or habit, there's not a lot of difference): I use male pronouns. The reason I do this will become clear as we go along.

Getting back to the modern sophists, there are far too many people these days using their education to pull the wool over the eyes of the general public. This is especially bitter as every smart alec in the world has been educated more or less completely at public expense (alec, I just found in my dictionary, is slang for a stupid person or a fool; a smart alec is therefore a smart or educated fool). In medicine and other specialized areas, it is very easy to use

your education to take advantage of people, so easy that, sometimes, it is difficult to be sure they have made their own decision and not been swayed by the awesome figure talking to them. In psychiatry, which deals in the most difficult areas –and the most frightening – we have a very real burden of responsibility to speak clearly in words our audience will understand, and to be sure that we fully understand the hidden consequences of everything we say to them. As my work shows, this is almost never the case. Psychiatrists have not analyzed their belief systems or their modes of action, but they don't suffer from their own neglect, only the disadvantaged do. We'll come back to this point.

The second major point is that there is no such thing as philosophy. Oh, what a terrible thing to say, but it's true. If you want to build a bridge, there is a particular body of information you have to learn before you start digging your holes. If you want to defend a man in court, there is a body of knowledge called The Law that you have to know in case they string him up. The same is true of surgeons cutting people open but, about philosophy, there is no agreement. The subject matter of philosophy is this: any complex issue, without limit. You can be a philosopher of poetry if you wish, or of the death penalty, or of beauty or religion. The best we can say is that a philosopher is a person who philosophizes; that is, he approaches complex questions from a particular point of view. The point of view is to examine critically the unstated abstract notions hidden behind the facts he is looking at or underlying the explanations he offers, or buried deep in the language he is using. In order to do this, he needs a set of methods and principles (tools, if you must) that allow (or at least don't hinder too much) the process of dissecting an idea or situation to find its basic concepts and, eventually, its justification.

So, a person who sets up shop as a philosopher of the death sentence will not be much concerned with statistics of how many people get the chop, who, where, how and why (although these may be important to confirm a general principle he has discovered). Instead, he will be looking abstractly at the notion of what is the best method of execution (should it be humane or grotesque, private or in public, etc) in order to achieve its goal, whatever that is. He will also look at who should get it under what circumstances and, ultimately, whether we have the right to put somebody to death. Needless to say, all these hidden questions will be intimately interwoven and very, very highly charged, so a person who decides to be a philosopher of the death penalty will actually have a very difficult job. He can also be sure of one thing: whatever he decides, most people will disagree violently with his conclusions. He should also be

aware that if people do agree with him, they probably had a hidden agenda anyway. Finally, he should remain mindful of all the philosophers who have gained their understanding of the meaning of the death penalty from first-hand experience.

This brings us to the next purpose in philosophizing: to convince people, to sway them, change their minds and make them see things from a different point of view but NOT to convert them. A philosopher is never a preacher. His job is to analyze the question from every possible point of view and reach a conclusion that is dictated by the material (and not by his prejudices, politics, money etc). If the world agrees with him, all well and good; he will probably be invited to give lectures in luxury resorts in exotic locations to groups of sleek, well-heeled people who nod approvingly at everything he says before rushing out to lunch to continue doing exactly what they were doing before (making money, drinking, gambling with other people's lives, procuring... the usual stuff the wealthy get up to). But if the world doesn't agree with him (far and away the most likely outcome), the best he can hope for is a job in a small university teaching little groups of irreverent students while slaving over his next paper that might just get him tenure.

If, however, he is lucky and can mumble French while smoking foul black cigarettes, and is equipped with a cosmic disregard for the niceties of society, he may become a media superstar and will earn heaps of money from dictating a stream of books that convince people who want to be convinced that what they have always believed is right. That, however, is extremely rare so, boys and girls, here is your next lesson: philosophy is not a winner. If you want to make money, or get ahead, or be well-known or popular or well-dressed, look elsewhere. On your introductory day at university, you should hurry past philosophy to the economics department, or do an MBA, or even become an engineer or a plastic surgeon, but don't feel sorry for the bearded, bespectacled and uninspiring philosopher standing forlornly by the hand-written sign saying "This way to the secrets of the universe." If he really had any secrets, they wouldn't be in a loose-leaf file.

There is, however, an advantage in being philosophically inclined in medicine or similar fields: if you don't like social chit-chat, or parties, or dinners or that sort of nice thing, learn a few big words and get some interesting angles on the stem cell debate. You won't be invited back. The message is simple: most of the time, most people don't want to be challenged on most topics, especially topics they regard as important. Most people want their prejudices reinforced. The last thing they want is to have them stripped

bare and shown to be brainless, self-contradictory gibberish. People want security, they need it; they crave it just because humans fear uncertainty. We do not like to have our treasured beliefs overturned; they are treasured because they make us feel good. We need our prejudices and deepest beliefs: they are *amicus certus in re incerta*, a certain friend in uncertain times, and the less secure we are in ourselves, the more we need firm, unwavering beliefs to bolster ourselves. Straight away, you see a psychological element intruding in what ought to be a rational area.

Unfortunately, this is a lesson I never learned at university and it cost me dearly. I arrived at an unknown provincial university in the mid-sixties, from a tiny country town, the first person in my entire family to have completed high school. I had a head full of notions of university as a place of liberal scholarship, notions which would have been out of date even in the thirties, when the books I had been reading were written. As it was, I had never even seen the university when I started there, and had never spoken to a graduate (students didn't speak to teachers in those days unless apologizing). I thought everybody would be friendly, helpful and keen to learn by brave self-criticism. How very wrong I was. It turned out that, in respect of open-mindedness, academics were far worse than the genial farmers, shopkeepers and fishermen I had grown up with. Fortunately for me, that was the era of Vietnam so it was easy enough to find people who were opposed to the status quo, except I soon learned they were interested in criticism, but not in *self*-criticism. As a result, my time at medical school was not happy but I leapt into psychiatry thinking this would welcome free-thinking. Once again, I was mistaken. The professors were rigid, convinced, and vengeful. They didn't want anybody questioning them. Their lectures were exercises in narcissism, not adventures in enquiry. They were not interested in new information, they were angered by it and, as I soon learned, they had ways of dealing with people who made them angry.

After I graduated as a psychiatrist, I started the long process of teaching myself but it was not easy. At the advanced age of 34yrs, I was accepted as a joint candidate for a PhD in the department of philosophy and the department of psychiatry at my university but it didn't go well. The psychiatrists were manifestly not interested as they saw no point in anybody questioning the received view. The philosophers were much more fun, they liked the idea of having a psychiatrist in their classes but one thing I learned very quickly: despite my years in medical school, my degrees and my status (chief psychiatrist in a veterans' hospital), I didn't know how to think. I was in a class with teenage students: already, they could go to the heart of a matter much

quicker than I could. Over the next year or two, I caught up with them but then I learned something else: in my rush to catch up with the philosophers, I had lost contact with my psychiatric colleagues. They were no longer interested in anything I had to say. A couple of times, I was actually prevented from finishing lectures, and soon I wasn't invited to give any more. I was shepherded away from medical students and my name somehow slipped off the list of supervisors for trainees (residents).

Was this planned? Did they huddle together and say, "We don't like what this bloke is saying, so let's kick him out of our sandpit"? I don't think so. There was simply an unspoken agreement that the interests of the medical students, the trainees and of the other psychiatrists were best served by everybody learning the truth about psychiatry, and they alone knew the truth.

The message for medical students is this: it might be amusing to poke fun at your professor's dopey ideas, but don't expect any gratitude from him. Thrusting young lecturers don't get up the greasy academic pole by criticizing the Grand Old Men (and women); they get ahead by memorizing the party line and parroting it at every turn. So if you want to get ahead in psychiatry, or medicine, or anything, throw this book away now. If a large office with elegant carpets and gracious potted palms is your goal, if you like conferences and research grants and degrees and gowns, dump this book in the nearest bin (or press delete). Find a get-ahead professor, sit at his feet, tell him what he wants to hear and you too will soon be sliding up that well-known pole. But whatever you do, don't scare him by asking him to look critically at his beliefs. He will hit back, that much is guaranteed.

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To summarize, humans have beliefs. Beliefs are very influential in controlling behavior. Not all beliefs are known explicitly to the individual, some beliefs are implicit. Implicit (unconscious) beliefs are real and effective. An implicit belief is more likely to be irrational, or contradictory, or just plain wrong than one that has been explicitly learned and is clearly understood by its owner. Most people do not like having their implicit beliefs questioned because it makes them look stupid. Humans do not like being made to look stupid and will get even.

Beliefs do not exist in isolation. Every belief we hold has to jostle inside our heads for shelf space with a lot of other beliefs. Eventually, they all sit on top of each other like hats in a shop window display: individual beliefs are, you could say, "nested" in a larger belief structure. We would like to think that each

little belief hangs logically and coherently from a hook on a larger belief, and that from another, on and on until we come to the Really Big Hook from which your entire belief structure hangs. The Really Big Hook might be God, or it might be Survival of the Fittest or, if there are still any Marxists out there, it would be Historical Determinism, something like that. That one big hook constitutes your **ontology**, your fundamental belief system concerning the nature of things as they are. If you hold a particular religious belief system, then your ontology is **supernatural**: humans consist of an animal body and a supernatural soul. In most religious systems, the supernatural entities can intervene in daily life without causing the universe to melt down. If you deny a religious basis to the universe, you hold to one or other form of a **materialist** ontology (words in **bold** are defined in the glossary at the end of this book).

Because there is no direct evidence about the nature of the universe, questions of this type go beyond facts. They are called **metaphysics**, which just means ‘beyond physics.’ Some people would like to think that we can get away from metaphysical questions because they can never be answered firmly but that only shows how dull and boring they are. For philosophers, questions that can never be answered firmly, that go on and on, seemingly forever, are the most interesting type. The most deceptive trap for a scientist is when he is talking about a question he thinks is **empirical** (i.e. one that can be solved by additional facts; or a belief which can be changed by further evidence) but it is, in fact, metaphysical. Physicists and other bright people are now awake to this sort of problem because they tinker with the nature of reality and time and matter and energy, so they are never short of inquisitive philosophers peering over their shoulders. The worst examples of metaphysical questions being dealt with as though they were empirical is in, guess what? That’s right, psychiatry. In the later chapters, we’ll spend a lot more time on this point.

There is no such thing as philosophy. The day job of the philosopher is to look critically at any complex issue to make sure it is not just a case of prejudice or stupidity, or metaphysics masquerading as empirical science (or vice versa). Philosophy is not a science, it is not something that can be memorized and regurgitated during exams: it is all about ideas. It is a mode of enquiry, an attitude or general approach to examining complex issues. During their training, philosophers learn some standard methods of questioning and, from studying the history of ideas, they recognize many famous errors that people have made in the past. They learn to group ideas and how ideas relate to each other but mostly, they learn to enquire and examine and tease ideas apart until they find the full set of beliefs from ontology down to microcosm. The

whole point of philosophy is to stand back and look critically at the question from a distance, comparing different ideas in a field. Generally, this is identified by adding the prefix meta- to the field. So we get metamathematics, meaning a general analysis of what mathematicians do, without getting bogged down in individual sums. Metahistory is an interesting one, it compares different theories of the nature of historical progress. Is history decided by Great Men or is it, for example, the outcome of unseen social forces. This is usually called historiography, but it's the same thing. Metapsychology compares different theories of psychology, but that is usually known as either the philosophy of mind or the philosophy of psychology. People often claim that Freud wrote a metapsychology, but he didn't. He wrote a metaphysical psychology, which is something completely different – and wrong.

One of the techniques philosophers can use is **logic**. Logic is not a science but it is more or less the verbal equivalent of mathematics. Maths is about the relationships between quantities; logic is about the relationships between ideas. Logic is the study of valid inference or, if you prefer, the study of consistent beliefs. It uses particular forms to work out how two ideas are related, whether they are validly related or whether they are inconsistent. Logic is not much concerned with the real world; it is more about possibility than reality. So logicians talk about “possible worlds,” like: Could there be a world in which the Australian cricket team always beats their mortal enemies, the English cricket team? Yes, there could. There is nothing in the notion of always walloping the Poms (rather unpleasant slang for English gentlemen) that breaches any logical rules. Could there be a world in which Mick Jagger sang a song that Mick Jagger didn't write? Yes, there could. Could there be a world in which Mick Jagger wrote a song that Mick Jagger didn't write? No, that would be impossible. Could there be a world in which Elvis is still alive? Yes, that is a logical possibility. Could there be a world in which he is both dead and alive? Well, that depends on how you define the word ‘or,’ as in “Elvis is either dead or he is alive.” Some definitions of ‘or’ are inclusive (“Would you prefer tea or coffee?” “Thanks, I'll have both.”) while some are exclusive (“He is either married or single”) meaning he can't be both at once (being married and acting single doesn't count).

Logic is about relationships so it blurs across to mathematics and to computer sciences, since computers are essentially logic machines. I firmly believe that logic should be part of every high school course, just as maths and English are. It's that basic to life. If you can't tell when somebody is pulling the wool over your eyes, you are at a serious disadvantage. Politicians, of

course, do not want school students studying a subject that tells them when they are being fed a line of nonsense, so they have arranged for logic to be dropped from high school curricula.

There are very few fields of human activity that don't interest some philosophers some of the time. Traditionally, philosophy has concerned itself with The Really Big Questions: the nature and reason for being, the nature of mind, God, ethics and the like. The reason is partly because these are important questions in day to day life, and partly because some people like playing with abstract concepts. Today's abstract concept (the nature of intelligence) becomes tomorrow's hot new technology (artificial intelligence), but, if you need money or popularity, don't think philosophy will do it for you. More likely, somebody else will capitalize on your brilliant philosophical insights and you won't even be offered shares in his company.

Philosophers are very interested in words, because every idea we have must be expressed in words in order to be communicated (there is a very important field called ordinary language philosophy). They want their work to be correct, so they place huge emphasis on the nature of truth, how it can be recognized and so on. This is called **epistemology**. Philosophers expect that if they arrive at what seems to be the truth of a matter, then everybody should fall in line and agree, but this only shows how unworldly they are. Most of the time, most people don't want to be told that what they believe is faulty. They believe it, therefore it can't be wrong. This is true of professors, politicians, police, popes, pimps and pushers alike. It is true of mad men, and it is equally true of philosophers. A philosopher has to be prepared to have his own ideas dissected in public, to have his opponents seize upon his errors and bear them off triumphantly. Any person who says: "I don't think you'll find any errors in my work" is not a philosopher. He may know the language, he may know the jargon and be able to pull his opponent's case to bits with consummate ease, he may even be employed in a philosophy department but, philosophically, he is just another fanatic.

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What should you read if you want to be able to philosophize at your next *soiree*? Essentially, you can read what you like but, if you apply to it the correct, critical attitude, you will find it varies somewhere between mildly interesting but hopelessly out of date all the way down to complete rubbish. Probably the best start is a broad, general history such as Samuel Stumpf's *Socrates to Sartre: a history of philosophy* (about 500 pages), but I'm not sure

if it's still in print. Sure, it's high school stuff but it's the sort of thing you can read and put down again. The purpose is to get some idea who was saying what when, so you can see ideas as having lives of their own. This is important: ideas pop up, wave around for a while, and then disappear again for a couple of hundred years. There's nothing new under the sun. Chances are that if you can think of something, then one of those tiresome Greeks or some long-forgotten monk in a monastery in what is now Syria thought of it, too. You need to understand that the smartest people in history are probably not alive today or, if they are, they aren't in a university. Yes, we have amazing technology (like the nifty little smartphone you're holding now) but the ideas aren't new. You like your iPhone? Have a look at the old Dick Tracy comics from 80 years ago. Just keep reminding yourself: there's nothing new under the sun. Even dualism, the idea that I now believe is the correct approach to human mental life, is the oldest of all.

If you have a quiet week, say over Christmas, you could tackle Bertrand Russell's *History of Western Philosophy*. This is very interesting but it presupposes some knowledge of philosophy and can be quite critical in places without letting you know that other people don't see it the same way. At 750 pages, it's getting fairly long. You might like to try one of the *Teach Yourself* books or *Philosophy for Dummies* but I haven't read them and can't say what they are like. You could also stick with the online versions. *Stanford Encyclopedia of Philosophy* will keep you endlessly occupied because, essentially, it's endless. There are plenty of links to other sections of the encyclopedia as well as external links. They don't have a section on history of philosophy but you can look up each section and read the introductions. Mostly, they start easily and lower the reader gently into the heavy duty stuff, as this section from Medieval Philosophy shows:

“The Main Ingredients of Medieval Philosophy. Here is a recipe for producing medieval philosophy: Combine classical pagan philosophy, mainly Greek but also in its Roman versions, with the new Christian religion. Season with a variety of flavorings from the Jewish and Islamic intellectual heritages. Stir and simmer for 1300 years or more, until done. This recipe produces a potent and volatile brew.”

That's the fun bit but if you want to read of a thousand years of human thought in fifteen or so pages, it's a good start and it goes on to dozens of links. What it says is that ideas travel so, if you want to be educated, you need to

read. Instead of watching the idiot box or playing online games about warlocks and dragons, try reading Islamic or Indian philosophy. Much more interesting, and more use in the long run. I am told by medical students that nobody reads these days, that the attention span of the average medical student is two minutes for the really interesting stuff. I don't believe it is true of students: they haven't changed that much since I was in school. What is says is that medical schools are pressuring their students to memorize facts at the expense of becoming knowledgeable. Remember this: Education is what's left after you've forgotten everything you were taught (cf. Ambrose Bierce, in his *Devil's Dictionary*: "Education, *n*: That which discloses to the wise and disguises from the foolish their lack of understanding." If you don't know of Bierce, you should).

The *Internet Encyclopedia of Philosophy* doesn't have the same scope as *SEP* but its articles are probably more detailed, so it would not be as helpful to a complete novice. *Wikipedia* has a huge amount of information but the usual problem is finding it. *Wikiversity's* section on philosophy is very patchy so far. Maybe it will get better. It seems that a lot of the books on philosophy on Amazon's Kindle are not meant to be taken seriously (e.g. *The Red Sox and Philosophy*). Apart from the classics, any free books on philosophy are probably worth what you paid for them.

While you're reading background information, don't forget your history of science. John Gribbin's *Science: A history 1543-2001* has enough detail and is suitably reverential. He puts about a hundred of the greats in their context and reminds us how easy we have it today. If you can get a copy of Robert Thompson's *Pelican History of Psychology*, first published in 1968, that does the same thing for all those names who kept appearing, arguing and then disappearing. *Freud and the Post-Freudians*, by JAC Brown, helps keep tabs on the endlessly schismatic tribes of analysts who had such a profound influence on Western thinking during the twentieth century. Profound, but a total waste of time: Brown shows incisively how psychoanalysis breached all the rules of the philosophy of science.

At the end of this book I have included a glossary of some of the more typical terms you will find in your studies. It is important to know them because you will find that they keep popping up in different guises. All too often, especially in psychiatry, people announce a brilliant new discovery. For a while, everybody mills around in excitement, convinced that this will be the dawn of a new age but, after a while, it slowly fades until, a few years later, a new one bursts on the scene and the old one is forgotten. They are never new.

Invariably, they are old ideas tricked out in the latest technobabble and they go nowhere. People need to be able to see through the talk of genes or epigenetics or fMRI scans to find the essential ideas lurking behind the sound bites. History lets us see exactly which intellectual corpse the eager researchers are painting with make-up so they can get their new laboratories or their trips to conferences at the luxury resorts. There aren't that many ideas around, so it doesn't take a lot of effort to be able to recognize them. Standing back from the subject and taking a careful, critical look at it is still the best way to avoid being swept off your feet by nonsense. Especially nonsense peddled by professors.

## Chapter 1: Grappling With The Concepts

Until fairly recent times, one of the biggest problems faced by philosophers was the looming shadow of religion. The Church came complete with its own ontology, and churches in general (or synagogues, temples or mosques) are rarely kindly disposed toward competition. Early Christian ontology built on what went before, namely, pagan beliefs, which were intimately related to what we would now call **folk psychology**. That is, every person, no matter how clever or educated or sophisticated, has an immediate and direct knowledge of what it is like to be human: it feels like *something*. A rock, we imagine, doesn't feel like anything, it has no more feeling *of its own* than a bit of finger nail we have pared. But being human is somehow alive and exciting. It brings a knowledge state and a feeling state, so humans can know things and make decisions, and we also have senses and emotions.

All of this adds up to something pretty amazing, which is what the folk psychology version captures: inside each of our heads there is a special something which does all the feeling and sensing and knowing and remembering and deciding that separates us from animals, rocks and dead humans. Most people imagine that the little inner something has the form of a person, so it's usually called a **homunculus**, meaning little man. In this version, your homunculus sits inside your head, checking your visual input on the TV monitors, listening to the loudspeakers from your ears, smelling what you are about to eat and making all the decisions you need to get through you day. The homunculus is the sense of self, the sense of being a me as distinct from your sense of being you which I can't access (also known as the doctrine of privacy). Also, animals have some sort of sense of self (try stealing your dog's favorite toy). We know that animals can sense and can learn simple things but they are pretty limited so we needn't talk more about them.

However, this special something-in-the-head we can all experience directly is special in another respect: nobody has ever seen it. When a person is alive, we are fairly sure his homunculus is busy and on top of things but, when he is dead, he turns into just another lump of meat that needs to be buried fairly

quickly. What happened to his homunculus? What is that essential spark, that vital something that we all know is there but nobody has ever seen? Aha, people decided long ago, it must be magic. If the natural world is the world of trees and water and cows and rocks and weather, then the vital spark must be something from beyond the natural world. It must be *supernatural*, which means it must have come from the Ultimate Supernatural Source, God. So the soul, God's special innervating spark, must arrive some time before birth and take up residence in the head until, at the instant of death, it decides to abandon ship and head back to the Elysian fields. All cultures have some version or other of this notion as their folk explanation of what activates humans, of what separates us from pigs, trees, rocks and steaks.

You need to understand that we define a homunculus by what it does in the mental life, not by where it came from (such as heaven, the life force in your food etc.) or its shape or particular properties. It is defined by its functional role in the mental economy, not by its provenance or any other properties. The homunculus explains human activity; that is his purpose. Modern versions of homunculi (the plural) claim they do not involve magic but they fill the same role, so they explain nothing that the old soul didn't. It doesn't really matter, as the idea has been around forever.

In the main, religions around the world are pretty intolerant of people messing with their patented message but the ancient Greeks were unusual in that, mostly, they didn't mind people devising their own schemes. Thus, several of the early thinkers raised serious doubts about the idea of a magical soul living inside the head. Socrates wasn't at all clear what went on in the head or where it came from but he was concerned with the concept of a good life. He wandered around asking sticky questions but some people didn't like them. Eventually, when he had annoyed enough people, this was held against him ("impiety and corrupting the young") and he was condemned to death. His pupil, Plato, adhered more closely to the notion of a magical soul living inside the body until it was called to higher duties, so he didn't have the same trouble with the bigwigs. Aristotle doubted this view, arguing instead that the soul and body were essentially related so that the one could not survive without the other. At the moment of death of the body, he said, the soul also dies. His concept is much closer to the modern notion of the mind as a product of the brain than to the old supernatural idea, but it didn't mesh with the Christian idea of an immortal homunculus or soul, so Aristotle's idea fell in a hole for nearly two thousand years.

In the Abrahamic religions (Jewish, Christian and Muslim), the soul was

created perfectly by God and implanted in the fetus, probably at the instant of conception. There it remained until the body was no longer suitable for it, and it returned to live forever in harmony with its Creator. That was the original plan; the major religions also accept the idea of the Fall from Grace so that naughty souls went to a bad place where they were handed over to demons to be tormented for eternity as punishment. In this concept, religion has four elements: explanation, inspiration, exhortation and consolation.

In the first place, religion explained the nature of the universe and how humans could do what they did. The explanation came both from the experience of being human (feeling and knowing) and also from watching humans at work and at play, doing things that other animals clearly couldn't. Chief among these were the quintessentially human attributes of speech, nobility (often in short supply), awareness of beauty, art, etc. The bad bits (war and assorted savageries) could be explained either as God's children being naughty because of their Fall from Grace, or as the result of demonic intervention. In a religion, everything has an explanation. In the first place, it explains the folk psychology experience of something vital occupying the inner space behind our eyes. Further, religion inspired people to do better, in their public and private lives, by publicizing the approved local version of the creation and other uplifting moments in religious history. Exhortation was simply the power of religion to insist people follow the rules or suffer the consequences (now and in the future), while consolation was important for people who had not the slightest knowledge of how the universe worked and often had reason to feel they had got a pretty raw deal. If the poor believed that, in the end, all their oppressors would get it in the neck, they were more likely to keep in their place, pay their taxes and not bother the wealthy.

Backed by the full power of the Church, the religious explanation of human experience remained in place for many centuries. People who questioned it rarely went back for a second round. However, in the early part of the seventeenth century, people started to wonder if there might be more to the world than "that's the way God made it." Armed with his new telescope, the philosopher and naturalist, Galileo Galilei (1564-1642), questioned one of the most fundamental beliefs of the Church, the notion that the world is at the centre of the universe. Compounding his sins, he also suggested the heavens weren't perfect. This earned him what was, by their standards, a fairly mild visit to the Inquisition. Suitably chastened, Galileo recanted but, from the Church's point of view, the damage was done, the rot had started.

Soon after, the French polymath, Rene Descartes (1596-1650) began his

program of inquiry into the nature of mind. By a process of systematic doubt, he concluded that the existence of the mind or soul is the only certain thing in our lives. As humans, our senses, our memories and our knowledge can be wrong in every respect except this one: that we exist. Simply by asking the question “Do I exist?” we prove incontrovertibly that we do. Even the last man alive would know that he is alive. If he didn’t exist, he couldn’t ask the question. Everything else in life could be an illusion but the fact that our souls or minds exist cannot be denied: to each individual, it is a real thing. However, Descartes was fully aware that the mind or soul is a special sort of real thing, one which nobody can see. So he arrived at his conclusion, known ever after as “**substance dualism.**” On the one hand, we have the body, which is an ordinary lump of physical substance (it can be localized, seen, cut up and it definitely smells). In this respect, the human body is just a clever physical machine, more or less the same as all other animals have. Descartes was sure that we could give a full account of animals in terms of their physical machinery. However, motivating and controlling our human machine is an entity made of a different sort of non-physical or soul substance. This is the divine spark, put there by God until it is called away. That is, the mind is a real thing (able to move our limbs and tongues) but it is invisible, formless, weightless, colorless, odorless and tasteless. Thus, unlike chimps, the living human is made of two substances, the material substance of the body and the soul-substance of the homunculus.

Immediately, everybody knew there were problems with this idea, namely, that if the soul has no physical properties, how could it interact with the body? How can something that can go through walls pull on strings in the body to move the arms? So we arrive at the classic “mind-body problem” which has kept philosophers in jobs for centuries. In modern terms, we would phrase it this way: Over here, in the physical realm, subject to the laws of thermodynamics and the laws of the space-time continuum, we have an ordinary biological machine of remarkable similarity to that given to chimps (in fact, we have something like 98% of our DNA, if not more, in common with chimps). If the soul is not a physical entity, and is not subject to the same laws, how can it interfere in nature without causing serious and eventually fatal imbalances in the matter-energy equations that govern the natural universe? Clearly, it cannot, which has led people to reject any and every idea that has a dualist element in it. They see this problem, of mind-body interaction, as the defining silliness of any and all dualist models, because dualist models inevitably lead to breaches of the laws of nature.

In modern times, the most vehement rejectionists have included the American philosophers, Daniel Dennett and John Searle. Dennett in particular loathes and detests dualism as prescientific malarkey designed to fool the masses, religious mumbo-jumbo that distracts us from our real task of explaining behavior in natural terms. Science, they say, is about rational explanations of the phenomena of life, so something that can never be seen or found or isolated is forever beyond the reach of science. So, over the years, there have been many attempts to make sense of the human experience within a scientific framework. Before we talk about them, we should look briefly at what is called the Western scientific framework or ontology.

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Starting just before the time of Galileo, in a number of centers around Europe, some strikingly original thinkers decided that the explanation of the universe given by the Church didn't match the facts they observed quite as well as it should. For example, Galileo himself observed sunspots and what we would now call a supernova, meaning the celestial sphere was not fixed and perfect; despite everything the Church had said, he had clear proof that the heavens changed. The Danish astronomer Copernicus amassed huge amounts of evidence to show that the earth could not be the center of the universe, i.e. the universe was heliocentric, not geocentric. William Harvey showed how blood circulated, the first microscopes showed a totally new world waiting to be described, and so on. From this arose the idea that it was no longer good enough to study the classics to find out about the world, the classics were (horror of horrors) more often wrong than right. The new attitude was that facts were all that counted; in the new science, facts always trumped opinions.

So we gained the concept of an empirical science exploring a material (non-supernatural) universe. Now that it seemed God did not interfere daily in the workings of the world, it meant that any conclusion about the nature of the universe could always be overturned by newly observed facts. The entire scientific tradition changed, from the scientist as the person with the best knowledge of the Bible and the classic texts, to the person who could fit the newest facts into the boldest conjectures or theories. In fact, even the name changed: people who looked at the natural world were no longer known as 'natural philosophers' but as scientists (Latin *scientia*, knowledge, fr. Latin *scire*, to know).

For human mental function, the question was simple: is the "vital spark" (which the Church called the soul) a supernatural element or should it be

explained in the same, empirical terms as were making such progress in explaining the phenomena of the natural world? With time, the mainstream churches made grudging accommodation with the burgeoning field of natural science, retreating slightly as new discoveries reinforced the notion that the world is just a heap of rocks populated by some clever machines. The next major blow to the religious view came in the mid-nineteenth century, with the publication of Darwin's *Origin of Species*. Actually, the theory of evolution was co-discovered by James Wallace, of whom we hear very little, but that's another story. So, as industry and science transformed our views of the universe, people began looking to the last great holdout of religious belief, the soul. Could this also be explained in the same terms as, say, steam trains and the telegraph? Needless to say, the Church wasn't inclined to admit defeat and fought a rearguard action which is still going on today. Interestingly enough, in Descartes' original writings, in which he had characterized the human body as a non-miraculous, purely physical machine, some people have detected hints that he was heading toward a materialist explanation of the soul but held back because of his (well-founded) fear of the Inquisition. After he saw what had happened to Galileo, Descartes withdrew from publication a book in which he supported the heliocentric view.

It is difficult for us to understand the intense intellectual and emotional shock people experienced following the publication of Darwin's work. We have grown up in a world of constant change, where scientists are given the very greatest respect because they do the intellectual heavy digging that industry then translates into major technological improvements in life style. So, these days, when people try to argue that science will eventually explain the mind, nobody pays much attention: change is the norm, stasis requires explanation. It is the spiritualists who are reeling under the battering of rampant materialist science. But it wasn't always so.

Darwin didn't directly address the question of the soul but, intellectually, there was no doubt where he was heading. In the second half of the nineteenth century, biological science began making huge advances. Louis Pasteur showed that diseases were caused by tiny beasts, not by magic spells, and Rudolph Virchow began the process of putting pathology on a scientific footing. Santiago Ramon y Cajal began to tease apart the ultimate mystery, the brain, and so on. When the remarkable Hermann von Helmholtz developed a rational basis for investigating living organisms, philosophy had to come to terms with the new science. Ideas were on the move, and one of them was the notion that science could reach further and further to explain the ultimate

mystery of life, the “vital spark” which the Church still claimed as its own.

In Leipzig, in Germany, a young physician called Wilhelm Wundt was the first to combine Helmholtz’s methods with the study of the mind. Wundt (1832-1920) trained as a physician, then worked under Helmholtz for some years. Apparently, he then decided to enter the church, so he studied philosophy. However, he had the novel idea of combining Helmholtz’s scientific research methodology with the study of the mind, so he left the church to open a laboratory in Leipzig in 1879. This entered history as the first purely scientific psychology laboratory. Wundt was apparently a very inquisitive person and applied the new methods to anything that caught his fancy. He had a large number of students, many of whom went on to become famous psychologists in their own right. In particular, they studied the physiology and phenomenology of sensation, blurring the borderland with philosophy, which had always had an interest in the nature of experience. So began the generation of the “armchair philosopher” (actually an armchair psychologist), as people sat around in comfortable universities, trying to work out from their direct experience the nature of sensation. From this activity (or inactivity) came the notorious quote: “I’m having an orange after-experience” (if you look at a green light, it leaves an orange after-image). The goal was to understand these matters in materialist terms but, of course, they didn’t have the technology. That didn’t come for another hundred years (we now explain after-images in terms of depigmentation of the retinal photoreceptors; introspection is useless). However, and despite the interest Wundt was generating, introspection of the mind didn’t go away. So, in the last years before World War I, an American psychologist decided a revolution was in order.

John B Watson (1878-1958) was a young and impatient psychologist who realized that all the armchair introspection was going nowhere. The problem, he shouted to anybody who would listen, was that all this talk about a mind or soul or whatever was a load of hooey that was distracting psychology from its real goal, of understanding behavior. There was no point trying to understand the mind because nobody had ever found one. The reason nobody had found one was because it lay outside the area of application of Western materialist science - if it existed at all. There were no rational or empirical methods by which the soul could be investigated, so the goal of a scientific psychology necessarily shifted, from unobservable internal experiences to externally verifiable behavior.

In a polemical paper published in 1913, he proclaimed the “behaviorist

revolution,” castigating the direction of psychology as a hunt by the blind for the unobservable. A few years later, by which time he was president of the American Psychological Association, he put flesh to his manifesto. He had heard of the work of the Russian physiologist, Ivan Pavlov, but only at third hand. Pavlov had developed a technique of investigating physiological changes which he called ‘conditioning.’ On next to no solid information, Watson became convinced he could build a general psychology using just Pavlov’s technique. Thus the world welcomed **behaviorism**, the first truly anti-spiritualist science of human conduct. Behaviorists set up a program to give a materialist explanation of human behavior, where materialism means “wholly of the natural world.” In very short time, behaviorism took off – and so did Watson. A few years later, he was dismissed from his university because of his unbecoming conduct with his secretary, so he went to Madison Avenue, where he made a fortune in advertising.

There are, however, two problems with this story. The first was that the great Pavlov himself didn’t believe it was possible to use his laboratory technique to create a general psychology applicable to all human behavior. He didn’t even think it was possible to use it to explain all dog behavior. Right to the end of his long and productive life, Pavlov denied that he was a psychologist or that psychologists would ever have any success in their radically materialist program (this is deeply shocking to psychologists, who have always believed Pavlov was one of them). There is no doubt that Pavlov was a thorough-going materialist himself, but he believed that the brain itself would give the clues for a theory of human behavior, and he knew that the science of the 1920s and ’30s was a long way from that point.

The second problem with the comfortable psychological myth is that, somewhere along the line, Watson’s evangelistic fervor (and he was an overwhelming character) swept a bit wider than perhaps he had intended. His opposition to the spiritual element as magic also came to incorporate the notion of dualism as Aristotle had understood it. Perhaps it was because of the religious way people were raised in those days, or perhaps it was because of the failure of the Wundtian methods of investigation, or maybe just because there was no technological precedent, but Aristotle’s idea of a natural or non-magical dualism was dumped in the rubbish bin of history, along with the magical soul. People began looking for any hint of dualism in order to discard it (which, as I will explain later, was a mistake that still echoes today). On both sides of the political spectrum, a harsh, dehumanizing scientific ethos came to dominate the intellectual scene, including the Soviet Union where it quickly identified with

radical socialism and thence spread back to Europe.

About fifty years after Pavlov's death, psychologists began to realize the significance of his prediction that they were wasting their time trying to build a science of psychology on his physiological technique of conditioning. To me, it is astounding that it took them so long. One of Pavlov's last papers, written and published in 1937, in the *Psychological Review*, one of the most widely read and influential psychological journals, is entitled: "A physiologist replies to the psychologists." This states in crystal clear terms his reasons why he believed it was futile for academic psychology to use conditioning as the basis for a general psychology. However, this paper was too shocking to the psychologists, so they totally ignored it. It did not enter the history of psychology: indeed, it was as though it had never been written. This is a sublime example of what the philosopher Thomas Kuhn described as simply refusing to see, of which more later.

Notwithstanding the physiologist's dire personal warning, the tradition of Pavlovian or classical conditioning theory continued to dominate academic psychology and daily practice for another half a century. Somewhere in the 1980s, it ran out of steam, and psychology drifted for a while until it popped up with a "new science" called cognitive-behavioral therapy. At the same time, Skinner's Radical Behaviorism in the US was entering its terminal phases. Skinner, as you will recall from your college courses, was the man who put hungry rats in boxes and rewarded them with food when they pressed bars or did other fancy tricks. He was so certain that he had uncovered the secret of predicting and controlling all animal behavior, including the human animal, that, in 1972, he wrote a best-selling book called *Beyond Freedom and Dignity*. This argued that all human behavior, in its entirety, could be understood in terms of the same principles that drove hungry rats to press bars for food. If we really want to control and predict behavior, he said, we have to move beyond thinking in mentalist terms such as freedom and dignity, because they are artifacts. The book sold millions and was required reading for all psychologists and anybody with any sort of scientific or intellectual pretensions. This is remarkable, as it was pure pseudoscience. However, it became Skinner's swansong. Over the next decade or so, people rapidly lost interest in radical behaviorism. By the time Skinner died in 1990, he was very much yesterday's figure. But his work is important in one respect: his was far and away the most thorough-going attempt to write a non-mentalist psychology. He took the idea of dispensing with mentalist concepts further than anybody – and he failed. He didn't fail because of any personal shortcomings but because the project was

unattainable. It is not possible to have a non-mentalist account of human behavior.

So cognitive-behavior therapy (or CBT, as the in-crowd know it) took over in American universities just as it had in Europe, quietly overlooking the fact that it is a frankly mentalist account of human behavior. Now this was a bit of a contradiction because psychologists had spent about 75 years loudly telling everybody that all talk of the mind was primitive, non-scientific rubbish, especially when it was psychiatrists talking about egos and ids. Yet here they were, solemnly pronouncing that there is a mind after all, and that it can be investigated and its problems managed by scientific methods, including talking. However, it wasn't just any old talking, especially the silly notion of talking about the Unconscious; they were talking in a controlled manner to make people better by correcting their beliefs and bad habits. So it had to be science – didn't it? No, not in the slightest.

CBT, which is a very limited technology and not a theory at all, is simply recycled mentalism couched in modern-sounding terms. So, these days, psychologists don't talk about mental pain, they say their clients exhibit cognitive dissonance. People don't have hopes or any other vague, mushy notions, they have life-goals (previously ambitions) and behavioral programs (habits), maladaptive responses (bad habits) and negatively-reinforcing nihilistic response patterns (really bad habits). Cognitive behavior therapy is not a theory of mind (because psychologists still don't like talking about minds), it is a tricked up version of the old moral therapy, where caring people point out the errors of the client's ways and remind him always to count to ten before punching the policeman. Of course, they never really got rid of all the other trappings of behaviorism, the relaxation training, the questionnaires, the daily programs and life charts and reinforcement schedules, because it is all designed to conceal one crucial fact: that psychology really doesn't have a theory of the mind. You could say that it has no *-ology* of the *psyche*. A hundred years after Watson boldly threw down the gauntlet and more or less ordered his profession to follow him into the beckoning uplands of a non-mentalist, scientific psychology, they are still poking around in the scrub of a mentalism that isn't. Watson was adamant: there is no way that materialist Western science can come to grips with an entity that nobody can see, locate, measure, weigh or trap in a bottle. In short, he said, the mind is a myth and we have to chuck it out of our science.

So they tried, they tried very hard for three generations but guess what? The mind is back. My gosh, he's a slippery little homunculus but he's not called the

mind, of course, he's now known as the cognitive schema or some such term but whatever it is called, he is still doing the same job as a mind. The cognitive schema is still an invisible, colorless, odorless, tasteless, weightless, insubstantial and very slippery thing that nobody can locate in space; that lives inside the head and pulls the strings or presses the buttons that result in observable behavior. It still comes into existence at some stage before birth and vanishes at the instant of death. And it still laughs and slips away when we try to grasp it with the clumsy tongs of materialist science. In real terms, psychology has made no advances since Aristotle.

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While all this was happening, Freud's psychoanalytic theories were gathering support among psychiatrists. This was especially true in the US after a number of prominent Jewish analysts fled there in the 1930s to escape the Nazis. Like the behaviorists, Freud also put a huge emphasis on the scientific nature of his work but that was the limit of their similarity. Freud's theories were frank mentalism, i.e. they started with the reality of a mind and went from there without ever looking back. Humans were to be seen in mechanistic terms, albeit heavily concealed under the confusion of the ego defenses, but there was no hint of spirituality in his ideas. Everything - morality, enjoyment, religion, duty, creativity, affection - was to be seen in terms of the then bizarre notion of the human mind as a festering, seething cesspool of violent and mostly disgusting drives. However, the problem with his Byzantine theories is that they had no inherent limit. Anybody could, and many did, develop Freud's ideas in any direction they wanted, but there was nothing in the theory itself to say they were wrong. Starting in the late 1950s, and accelerating rapidly thereafter, a reaction developed against psychoanalysis on the basis that its wild, unfettered mentalism was, for want of a better word, plain loopy. To quote the philosopher, Karl Popper, there was no scientific **demarcation criterion** between psychoanalysis and fantasy.

Popper (1902-1994) was born in Austria and began his career in the philosophy of science at an early age. He was very familiar with psychoanalysis from his teenage years (he had known a lot of the original analysts in Vienna before he left for safety in the UK) and immediately used it as an example of pseudo-science. What he wanted was a firm and reliable border between science and **metaphysics**, the classic field in which empiricism doesn't work. Metaphysics is the organized set of beliefs and opinions about the universe and humanity's place in it (applied ontology, you could say), which are not open to

empirical confirmation or refutation. If, for example, you firmly believe in the Easter Bunny, then there is no evidence that will convince you the Easter Bunny doesn't exist. In 1922, at the remarkable age of twenty, Popper realized that, intellectually speaking, psychoanalysis was on a par with the Easter Bunny: there was nothing anybody could say or do that would force a committed analyst to admit his theories were wrong. There was so much intellectual leeway and just plain sloppiness built into the theory of psychoanalysis that it could never be proven wrong. Therefore, Popper concluded, psychoanalysis was no different from a religion or a fanatical political system, such as Marxism or his other pet hate, Nazism. Whatever else, psychoanalysis certainly wasn't science.

Fifty years later, psychiatrists began to realize the truth in Popper's opinion. Quietly, they decided they'd better drop psychoanalysis because it was going nowhere and it was becoming downright embarrassing. Influenced by the rabidly antimentalist behaviorist psychologists who were then holding court in universities throughout the US, they decided that what Watson had said many years before was correct: Western science had no means of coming to grips with the slippery notion of a mind. Therefore, they had no option but to discard all talk of the mind in psychiatry. But how could they do this? How could there be a 'science of mental disorder' that didn't have a model of mind? They could have jumped the fence into the world of philosophy and adopted one of their new, materialist models of mind, except nobody in psychiatry in those days had the faintest idea what they were. Fortunately, there was an old idea that had been hanging around for a hundred years or more, the notion that mental disorder just is a disorder of the brain. That is, the mind doesn't enter the equation. Suddenly, the problem disappeared and so psychiatry threw itself into the era of brain chemicals, of fMRI scans, of ECT (electroshock) and drugs, drugs and more drugs. It gave up all talk of human mental disorder as a matter of the mind, replacing it with the notion that mental disorder is not mental at all, just a fancy sort of neurological disease.

This has two interesting corollaries. Firstly, it says that mental problems cannot have psychological causes but the bold new biopsychiatrists didn't worry about that loose end. Their theory could be applied to one and to all: any mental disturbance of any kind was necessarily chemical in nature. Therefore, a man whose business had gone broke, a soldier who had been tortured, a woman whose wastrel husband had abandoned her and the children, or a child whose drunken, brawling parents neglected him, all had a physical disease of the brain and all should be given drugs. Nobody had to talk to them. What a relief:

patients' problems could be diagnosed by handing them a questionnaire or, better still, seating them in front of a computer terminal and leaving them to tick the boxes. It meant that psychiatrists, terribly busy people that they are, didn't have to listen to all those tiresome stories and have patients weeping or ranting around their luxurious offices. It meant they could get on with the hugely lucrative business of turning mental patients into neurology patients.

Second, for psychiatrists who held strong religious views (and there are more than you might think), it meant that there was no conflict between mental illness and the notion of a perfect, divinely-anointed soul sent from heaven. It wasn't the soul that was failing, it was the body letting the soul down, i.e. God's bespoke soul remained perfect and without flaw (compare this with Galileo, who found that God's universe wasn't created perfect). Therefore, as is true of surgeons and other real doctors, there was no conflict between their religious beliefs and their daily practice. After the humiliation of their years in the wilderness of psychoanalysis, psychiatrists gratefully moved closer to the rest of the medical fraternity (it would be interesting to know how a devoutly religious psychiatrist felt in the 1950s, having to learn all that irreligious psychoanalytic stuff, but there probably aren't many left from that era).

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Unfortunately, there is a catch to this comfortable story. It has to be understood that the notion that mental disorder is just brain disorder is not an idea floating free in intellectual space. It is not a stand-alone idea that owes nothing to other ideas. You cannot say: "Two plus two equals four, salt is NaCl and by the way, mental disorder is just brain disorder." People are entitled to object; they are entitled to ask: "Fine, but what's your justification for making that claim?" What they mean by that is something like: "What are the nested beliefs on which that claim depends for its intellectual authority? State them explicitly so that I can see if there are any faults in your reasoning." This points to another feature of Western science, that nothing is accepted on authority. Religion is accepted on authority, political power is accepted on authority (if you know what's good for you), the cricket umpire's decision is accepted on authority, but any nuisance is entitled to ask of any scientist making any claim: "What's your warrant? Put up your evidence or shut up."

The corollary to this is that all scientific claims have to be made in public and anybody and everybody can have a go at duplicating them, or disproving them. In the main, a scientific claim carries no weight until somebody else has duplicated it, preferably by a different method. There is no such thing as an

unsubstantiated scientific claim. But the claim “mental disorder is just brain disorder” is an unsubstantiated scientific claim. It is a *metaphysical* claim, meaning a claim which cannot be decided by empirical evidence. However, the way orthodox psychiatrists use it, it is a metaphysical claim masquerading as a scientific or empirical claim. Once again, it is the type of claim for which Popper derided the Freudians: there is no evidence that could convince a committed biopsychiatrist that he is wrong (again, you see there's nothing new under the sun). Now, you have to put aside any thoughts that this claim may be very reasonable, or that it makes sense or it's very tidy, or that it does the major world religions a favor. All that counts in science is this: is there any conceivable evidence that could prove that claim one way or the other? If there is not, then it isn't a scientific claim. It is a metaphysical claim and anybody who acts as though it is a proven truth, who acts as though it is a scientific fact, is embracing it for **ideological** reasons. An ideologue is a person who holds strong metaphysical views and refuses to consider they may be wrong. We tend to reserve the term for people who hold very strong, unwavering political views but it also means a fanatical religious believer. Ideologues are not nice people. At best, they are intolerant and domineering but, at their worst, they are homicidal, if not genocidal. There is no room in science for ideologues. Are biological psychiatrists ideologues?

To answer that, we will need to make an excursion through some ideas about the mind. First, we can define science: **Science** is a rational, empirical endeavor directed at understanding the matter-energy relationships throughout the universe. It is rational because it is rule-governed, and the rules are freely available to anybody. The rules are determined in advance: if you want to investigate the life at the bottom of your fish pond, there are certain things you can do and certain things you can't do. For example, you have to follow particular procedures in a set order and you have to keep detailed records that must be published for somebody else to duplicate your work. There is no secrecy in science: all scientific information has to be shared. That applies even in secret military laboratories, because somebody else on the project will have to inspect the process and criticize it (this is partly why German science, then the world's best, ground to a halt under the Nazis: nobody was allowed to criticize something Hitler liked).

Science is empirical, meaning it is about facts. There are no opinions about those facts that cannot be overturned by further evidence. This means that the scientific project never ends. Somebody can always find a new fact somewhere, and the race is on again. It is an endeavor because it has no central

plan and no defined goal: nobody knows where science will be in ten years' time. Huge numbers of people are involved, most of them pursuing some childhood dream despite the drudgery, but there isn't a predetermined master plan. Somebody gets an idea, everybody rushes after it, the main idea goes nowhere but, in an obscure laboratory far away, some bright young thing realizes a critical point that everybody else has overlooked, and a new rush develops. Science does not go in straight lines. The impression of a grand highway leading from ignorance to light is just an impression (put about, in the main, by ideologues).

Science is directed at understanding the matter-energy relationships throughout the universe. That is, it is locked into understanding the natural, material universe. There is a gigantic firewall between science and any supernatural ideas. Science deals with facts using objective tools; anything that cannot be grasped by those tools lies outside the scientific arena. Hence the historical difficulty of Western science in dealing with the mind: there are no independently verifiable, objective facts of the mind. By definition, the mind is subjective, which places it neatly but firmly on the other side of that firewall. There, it can amuse the religious, the ideologues and philosophers while the scientists get on with finding a cure for the cancers that kill the religious, the ideologues and philosophers, just as effectively as they kill nice people.

There is one problem with this neat way of cutting the universe into rational and irrational bits: not everything that is rational can be investigated under a microscope. For example,  $2+2=4$  is perfectly rational but it cannot be investigated using the materialist scientific methodology. You think it can? OK, try putting these in a centrifuge:

“Acceleration of the gross annualized per capita national deficit on a log scale.”

“Your action is insulting to our national heritage and any repetitions will be deemed acts of war.”

It doesn't work, believe it. There cannot be a non-mentalist explanation of human behavior. So the definition of science has to be widened, thus: Materialist science investigates the matter-energy relationships throughout the universe *and the informational states controlling them*. Now we have thrown the net over computers and other rational machines, the only question is whether it is good enough to deem the human mind a “rational machine.” Sometimes, it seems pretty irrational.

So, when biological psychiatrists claim that “mental disorder is just brain disorder,” are they making a scientific claim or are they just being ideologues?

Let's dive back into history again.

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By the second half of the nineteenth century, the whole intellectual world was in ferment. Politically, the reverberations of the French and American revolutions were still rolling around the world. In Europe, radical socialism was a rising force, tending to combine with anarchic republicanism and provoking vicious reactions from (you guessed it) reactionaries. In science, the rapidly developing fields of electricity and chemistry were transforming the laboratory and industry, while biology was still reeling from Darwin's explosive work. Art, finance, exploration: the world was booming. In philosophy, revolution was threatening. People were no longer so intimidated by the church and were prepared to push the boundaries as far as they could. A split, which is still with us, began to develop between the world of Continental philosophy and the Anglo-American schools. Under the influence of the German Georg Hegel, European philosophy turned to the idea that the world could be understood just by exploration of one's inner experience. From this, after about 150 years and mountains of print, arose what is now called the Continental or phenomenological school of philosophy. This is diametrically opposed to the Anglo-American tradition which is concerned with analysis. It is my opinion that phenomenology is one of the outstandingly successful con jobs in intellectual history. I have outlined my case in Chapters 4 and 5 of my book, *Humanizing Psychiatrists* (published in 2010), so, with relief, we can cut the Continent loose and let it drift noisily over the horizon. Unfortunately, we are a bit late: the cancer of phenomenology has well and truly metastasized to the rational world.

This side of the water, a new tradition developed, very much part of the Enlightenment tradition of rule-governed, objective intellectual inquiry. When science began to split from philosophy, some time in the seventeenth century, the rump didn't wither and die. Instead, it went from strength to strength, developing in new and completely unexpected directions. Essentially, Anglo-American philosophy consists of rigorous analysis of a wide range of topics, the common feature being an objective, abstract and rule-governed inquiry into the nature and meaning of activities and entities. For example, there is a very broad field concerned with meta-analysis of language. What is language? How do we communicate? How is meaning encoded in sounds or in scrawls on pages? How does language relate to the brain, to society, to history and to machines? It's a huge and growing field which has direct entry to such fields as

semantics, semiotics, computers and IT, artificial intelligence, and so on. Very interesting, but also fiendishly difficult.

Another field is the philosophy of science, which is about what can be studied in science, how it should be studied, how science progresses and, of course, the ethics of science. We will come back to this in a separate chapter. Logic, of course, goes from strength to strength, partly because of its central role in IT. The study of knowledge and understanding has become a specialty in its own right: **epistemology**. *The Cambridge Dictionary of Philosophy* defines it as "...the study of knowledge and its justification, specifically a) the defining features, b) the substantive conditions, and c) the limits of knowledge and justification." What can we know, how do we know, what can we believe, what is the nature of belief? All of these are questions for epistemologists, but all philosophers have to be familiar with them. Metaphysics is still with us, as are ethics and many new, applied fields: the philosophy of education, of the environment, of war (still), of government, of law and so on. All of these fascinating fields share the English-speaking tradition of rule-governed, objective intellectual inquiry (there are still continental schools of rational inquiry, but they struggle to be heard over the din of phenomenology).

Still, the central preoccupation, if not fixation, of philosophy is the human being. What is the nature of the controlling element in human affairs? How is it formed, where does it come from, how does it relate to the body, and so on. These questions will be considered (note I didn't say 'answered') in the next chapter.