The two philosophies: health, disease, medicine and psychotherapy

What is this book about?

During the last 50 years modern science has provided explanations for many previously unexplained phenomena. Of those that remain unexplained, four are particularly pertinent to this book. First, up to a third of patients who attend their general practitioner (GP) have ‘medically unexplained symptoms’. The term ‘medically unexplained symptoms’ is self-explanatory. Such patients report symptoms in the absence of any diagnosed disease, which, more importantly, cannot be explained in terms of an underlying physiological abnormality – called pathophysiology. In addition, there are so-called functional diseases that cannot be explained in terms of pathophysiology, including chronic fatigue syndrome, irritable bowel syndrome and repetitive strain injury.

Second, for diseases that are understood in terms of their pathophysiology, it remains unclear how those diseases originate in the first place. We know that diseases such as cancer, heart disease and asthma arise out of a combination of genetics and lifestyle factors. In many cases the environment ‘switches on’ disease-causing genes that are otherwise inactive. In addition, research shows that events that occur in the womb and in early childhood can influence disease onset decades later. We do not know what exactly it is that is being ‘programmed’ by these early events to cause later disease. We do not know why or how environmental factors switch on disease-causing genes so that they express the biochemical changes that lead to disease.

Third, there is no adequate explanation for the effectiveness of psychological effects on mental or physical disease. There are two parts to any therapy: the part that the therapist has been trained to deliver and that is believed to be the cause of therapeutic outcome, and what might be labelled ‘the other part’. The ‘other part’ is known by a variety of names. In medicine it is called ‘the art of medicine’. Good communication is believed to be an important part of this art of medicine. In psychotherapy the ‘other part’ involves the therapeutic
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bond, therapist effect and expectancy, namely common factors of all therapies that together form the contextual model. In complementary medicine there is recognition that some therapists have that little bit of extra something that provides better outcome compared with their peers. Additionally, the ‘other part’ of therapy appears in topics such as the placebo effect, the non-specific effect and the human effect. The ‘other part’ of therapy can be defined as the part that contributes to improvement in psychological and physiological outcome, but without being the primary intent of the psychological or medical intervention.

From a clinical perspective, the ‘other part’ of therapy can be important. The ‘other part’ explains at least 80% of the improvement that occurs when patients take antidepressants; it accounts for about 90% of improvement from psychotherapy (some suggest even more); and in the case of complementary and alternative medicine it accounts for between 80% and 100% depending on the therapy and controversial conclusions of those working in this field. Despite its importance, the ‘other part’ is neglected. Any understanding of therapy is based on the logic that therapy is correcting something that is wrong. The intended parts of all therapies do just that: they are based on the rationale that something is wrong and the therapy corrects that something. However, in the case of the ‘other part’ of therapy there is no clear science of ‘that which is wrong’. For example, in the placebo effect, what is wrong that is being corrected? Without an understanding of the mechanism on which the ‘other part’ is operating, there can be no great advance in our ability to exploit what may be an important therapeutic mechanism.

The fourth phenomenon for which there is no clear explanation is how some of the body’s control systems work. The body’s control systems consist of two kinds: those where the reference criterion or set point is fixed and those where the reference criterion or set point varies. Those control systems with fixed reference criteria (called homeostatic control systems) are easy to understand. The genome specifies what the set point should be. The control systems with varying reference criteria (called homeodynamic control systems) are not easy to understand. Something must be controlling the reference criteria. Something, for example, controls the level of inflammatory biochemicals in the body, increasing and decreasing these levels on the basis of external threat or relaxation. In addition, for many diseases the reference criterion of a control loop is set at an incorrect level – for example, too much inflammation. There must be something that controls the body’s control systems.
This book sets out a theory that provides an explanation for all four of the above unexplained phenomena. There is something that controls the body’s homeodynamic reference criteria and that simultaneously manages the many different and sometimes competing control systems. This something can become dysregulated and, when it becomes dysregulated, the dysregulation leads to medically unexplained symptoms and functional diseases as well as acting as a precursor to the diseases with known pathophysiology. Finally, this something is influenced by psychological inputs, and it is here that the ‘other part’ of therapy has its effects. In addition to explaining the four phenomenon above, the theory explains why there is a correlation between mental states such as depression, fatigue and anxiety, why these mental states correlate with the immune system, and why there is limited specificity between mental states and either immune parameters or neurotransmitters. The theory explains why repeated acute or chronic stress leads to the physiological and psychological changes, provides a rationale for psychologically mediated therapeutic effects, including placebo effects, and provides a rationale for the effect of psychological aspects of lifestyle on health. Finally, the theory provides a rationale for the cause and management of several diseases or conditions whose treatment is controversial or problematic: repetitive strain injury, attention-deficit/hyperactivity disorder, chronic fatigue syndrome, depression and food intolerance.

Any new theoretical idea must be consistent with existing data. This book contains a review of data from a variety of areas of research; taken together they provide evidence for the theory that is being presented. However, a new theory cannot be corroborated only on the basis of existing data. A primary aim of this book is to stimulate new, theory-driven, empirical research.

The book has the following structure. This chapter deals with underlying assumptions and the basic ideas of the theory. Chapters 2 and 3 develop the theory by focusing on mind–body interactions – research on psychoneuroimmunology, and the relationship between personality/mood and disease is reviewed. Chapter 4 provides an account of network theory. Chapters 5, 6 and 7 provide an account of the origins of poor health and disease. Chapter 8 reviews research on psychologically mediated effects on health, and Chapter 9 examines mechanisms for these effects. Chapter 10 examines lifestyle and health and shows how patterns of living can contribute to better or worse health. Chapter 11 provides a brief evaluation of the theory.
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Two philosophies

This first chapter concerns a basic assumption about how the body works. Two different philosophies underpin all therapeutic interactions and, historically, these two philosophies have been antagonistic to each other. One of the philosophies treats the body as an active, self-healing system that heals itself under the right conditions. The other treats it as a passive system that is healed only by the intervention of an active therapist. Of course, there may be a compromise: that the body is both an active and a passive system.

Until a few hundred years ago, all medical and health treatments in the world were guided by one of several traditional medical systems, of which the most influential were:

- hippocratic medicine (i.e. the medicine that developed from the writings of the ancient Greek Hippocrates, and which formed the basis of medicine in the West and near East for the following two thousand years);
- traditional Chinese medicine (developed in ancient China and formalised about 2,100 years ago); and
- ayurvedic medicine (developed in India about 3,500 years ago).

In the last couple of hundred years, an entirely new form of medicine, modern Western medicine, was developed that had a fundamentally different philosophy. Modern Western medicine gradually replaced the traditional medicines and is now the dominant form of medicine in all developed countries and most developing countries. It is the dominant form, even in those countries where a traditional medicine is practised alongside modern Western medicine. The term complementary and alternative medicine (CAM) is used to include all traditional medical systems, as well as more recent ones (such as homeopathy and chiropractic). CAMs provide the contemporary alternative to modern Western medicine.

Although modern Western medicine has, in the main, been very successful, several recent, parallel, scientific developments suggest that some of the ideas in these traditional medicines – or at least a modern variant on those ideas – have something important to offer to our modern understanding of human health. In brief, the philosophy of modern Western medicine is that therapy corrects that which is wrong. The new philosophy (or old philosophy of traditional medicine), is that the body is capable of healing by itself and so therapists should focus on enhancing that self-healing process. If both philosophies have some value and both apply to one and the same
Two philosophies of reality about the human body, this raises an obvious question: how can the two philosophies be integrated?

**The mechanical analogy**

Where to start? An obvious way to start is with the earlier traditional medicines, but there is a very good reason for not doing this. The reason is that the ‘scientific mind’ and hence the modern mind is far more sympathetic to modern Western medicine. This chapter therefore starts by examining the assumptions of modern Western medicine, and then contrasting this philosophy with that of traditional medicine.

The philosophy of modern Western medicine can be traced back to Aristotle's ideas of causality. The idea of cause and effect, of one billiard ball hitting another and causing it to roll, has been central to the development of Western science. However, although there are many contributors to modern medicine, it is often not philosophy but advances in technology that contribute to new ways of thinking. Modern medicine owes something to the development of clockwork and the subsequent mechanical revolution. The earliest medieval clocks were made by village blacksmiths. They were crude, but they worked. Gradually the technology of clock making improved so that during the Renaissance skilled clock makers developed the art of clockwork to a high degree of sophistication, including the construction of mechanical automata – mechanically constructed clockwork toys that looked like humans and animals and were able to move their arms and legs. Clockwork is an example of a mechanical device. Weaving machines and steam engines are all mechanical devices of one sort or another, and they were part of the mechanical revolution that occurred throughout Europe.

The mechanical devices and machines did not just change the physical world in which people lived; they also changed the way people thought about the world. People used mechanics as a way of understanding the world, and soon mechanical principles were applied by scientists to a range of problems. Galileo Galilei (1564–1642) applied mechanical principles to the movement of the planets round the sun. God is the celestial clockmaker, who makes the planets work according to mechanical principles. Isaac Newton (1642/3–1727) developed the mathematics of mechanics and so made precise predictions about the way mechanical systems work, both for the planets in the heavens and for machines on this earth. (Newton was born in 1642 by the Julian calendar in use at the time, but in 1643 by the Gregorian calendar that we use now.)
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It was inevitable that the idea of mechanics would also be applied to the body. The mechanical interpretation of the body was prompted in part by the developing practice of dissection whereby the body could be understood as a physical rather than metaphysical entity. William Harvey (1578–1657) was a member of the Royal College of Physicians of London who made the daring suggestion that the heart pumped blood round the body. Harvey provided a mechanical interpretation of an organ once considered the seat of emotions. Like Galileo, who was forced to recant, Harvey received considerable criticism (see Box 1.1). Harvey's idea of applying mechanics to living animals was revolutionary and at odds with other ideas at the time.

Although Harvey was criticised, his ideas gained support over time, and the idea of the body as a mechanical system gained credibility. Over a century later, an Italian anatomist, Giovanni Morgagni (1682–1771), was able to establish that disease was due to pathology – i.e., some structural difference between the healthy and diseased body. Morgagni's ideas were developed further by several others to suggest that the pathology could be identified by abnormalities of tissues. The English physician James Smyth (1741–1821) published a fifty-page essay in 1790 entitled *Of the different Species of Inflammation, and of the Cause to*

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**Box 1.1 Theoretical assumptions determine the way we perceive health and disease**

The following is a quotation from the Venetian physician Parisano. It is included here in part because it provides an example of how scientists do not see (or hear) things that are inconsistent with their underlying theories. Harvey was criticised by Parisano, who believed in the philosophy of Hippocratic medicine.

We have no problem to admit that, if the horse swallows water, we can perceive a movement and we can hear a sound. But that a pulse should arise in the breast that can be heard, when the blood is transported from the veins to the arteries, this we certainly can’t perceive and we do not believe that this will ever happen, except Harvey lends us his hearing aid. But above all, we do not admit such a transport of the blood … If blood is transported from the veins of the lung … into the branches of the arteries, how could a pulse be felt in the breast, how a sound? I am completely innocent of such subtle speculations. Above all, Harvey has it that a pulse should arise from the movement of the blood from the heart into the aorta – no matter from which ventricle. He also claims that this movement produces a pulse, and, moreover, a sound: that sound, however, we deaf people cannot hear, and there is no one in Venice who can. If he can in London, we wish him all the best. But we are writing in Venice.
Two philosophies which these Differences are to be ascribed. The idea of tissue inflammation was developed in France by Philippe Pinel (1745–1826) and later by Xavier Bichat (1771–1802). In each case, these early researchers were able to show that there was a specific relationship between pathology and disease. That is, particular diseases were associated with particular (i.e., specific) forms of physiological abnormality.

The idea of specificity of disease gradually became accepted and, by the middle of the nineteenth century, the German pathologist Rudolph Virchow (1821–1902) was able to show how abnormality could be identified at the level of the cell, confirming that disease was due to abnormalities at a micro-level that then led to the grosser abnormalities that were observable to the naked eye. Virchow’s dictum that there is no non-specific disease was a direct challenge to those who were using Hippocratic medicine: every disease had its own individual form of pathology.

By the latter part of the nineteenth century, the specificity argument had been won. Like a clock, the body is made of parts, and the parts together make up the completely functioning organism/clock. Each part exists independently, just in the way that the cogs of a clock each have an independent existence. Each body has a heart, lungs, stomach and so on, which through dissection can be separated from each other. Each is a ‘module’ that is linked to the others but has an independent existence. Parts of the body or parts of the clock sometimes go wrong, and when they go wrong they need to be repaired. The repairs are specific to the part that has gone wrong. For example, if a clock has a broken cog, then it is the broken cog that needs repair, not the spring. If the spring is broken, then it is the spring that needs repair rather than the cog. Similarly, errors in the body are specific. If the heart has a faulty heart valve, then it is the heart valve that needs repair or replacement, rather than the bones of the foot. This approach to the body is modular: disease occurs in specific modules.

Modern medicine is based on one fundamental principle: that diseases are caused by specific problems where the physiology has ‘gone wrong’ – the technical term used is pathophysiology. Pathophysiology consists of error in the body machine, that is, failure of a part to operate correctly. Some of these failures are catastrophic (e.g., if the heart stops beating) whereas others are an inconvenience (e.g., a broken leg). However, in all cases, a specific problem or group of specific problems exists. The problem may be widespread throughout the body, as in the case of blood poisoning, but still the principle of specific cause remains. In sum, each disease is associated with a unique pathophysiology, and the aim of medical science is to discover the pathophysiology.
Once the pathophysiology of a disease has been discovered, then the next challenge is to find a treatment that corrects the pathophysiology. Modern medicine treats specific pathophysologies with specific treatments. Modern medicine treats the body like a broken clock: find out what is wrong and make it right. Treatment is specific to the pathophysiology. Pathophysiology requires specific therapy to put it right.

The idea of specificity is absolutely crucial to modern medicine, and was used in the nineteenth century for distinguishing ‘true’ medicine from quackery. In the nineteenth century purveyors of ‘snake oil’ would sell often innocuous though sometimes harmful substances that were purported to cure all illnesses – from cancer to leprosy. The idea of a ‘cure-all’ therapy goes against the principle of specificity, and so cure-alls are treated with a good deal of scepticism by the medical community.

The idea of specificity also leads to an important development in the way medicine is practised. Specificity implies medical specialities. Nowadays some medical doctors specialise in particular parts of the body or particular systems that could exhibit pathology. So, for example, cardiologists specialise in the heart, pulmonologists in the lungs and endocrinologists in the endocrine system. In each case the specialist specialises in a particular part or ‘module’ of the body, as the underlying assumption is that, although the different modules are connected, each can be treated as an independent entity. Modern medicine is based on a modular approach to the body. If the GP cannot be certain of a diagnosis, he or she will refer on to a specialist (called the consultant), and the specialist will then decide whether the particular part or system specialised in is at fault – and if so treat it.

Where does this leave the general practitioner? The GP is a generalist who knows a little about all the specialties but refers on to the specialist when that little is not enough to treat the patient effectively. This ‘broad but not very deep’ view is not very flattering to the GP, and there have been several attempts to carve out a ‘specialist’ domain for the GP, including that involving good quality communication. Of course, all medical doctors can practise the art of medicine and use good communication. The problem is that the GP is taught the science of modern medicine, but many of the patients seen by the GP do not fit the model of modern medicine. Between 15% and 30% of patients seeing their GP have medically unexplained symptoms (MUS) (Kirmayer et al., 2004), and although treatment appears to have no effect, good communication leads to a reduction in symptoms (Thomas, 1987). Although MUS patients do not fit the assumptions of modern medicine, they are treatable, but by the art or ‘other part’ of medicine, not the science of modern medicine.
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In sum, the mechanical analogy gives rise to the idea of specific pathology, of modularity, of specific treatments for those specific pathologies and of clinicians, some of whom specialise in the treatment of different specific pathologists.

There is one further point we need to cover about modern medicine. The science of modern medicine is based on analysis. Imagine that the cog of a clock is faulty. It is possible to be more specific and identify the precise part of the cog that is faulty – it may be a worn spindle or a broken tooth, but it will be some specific part of the cog. Analysis means taking things apart examining something at a ‘micro-level’, i.e., seeing what the smallest parts are doing. In the same way, the science of modern medicine is based on the idea that finding out about the smallest parts provides the key to understanding how the system as a whole works. Notice that in the history of medicine, the idea of pathology starts with anatomical abnormality, then progresses to the idea of tissue abnormality, and finally to cellular abnormality. The human genome project and the search for genetic abnormality provide a final step in this story of looking at smaller and smaller parts. Analysis is also referred to as micro-analysis, which means that the smaller you go, the more you understand the function of a system. In the case of the human genome project, the hope is that by understanding human genes, the smallest part of information in a cell, it will be possible to understand how those cells develop pathology – and how to cure that pathology. The reasoning behind this is that the body is controlled by its genes, and if the genes can be controlled by a therapy, then it will also be possible to control disease.

The ecological analogy

The traditional medicines are based on an analogy derived from ecology. Ecological systems are self-regulating – they are systems in balance. For example, consider the relationship between foxes and rabbits. Foxes eat rabbits. Any increase in the rabbit population leads to the foxes having a more readily available source of food, so this will lead to the fox population increasing. As the fox population increases, the rabbits find it more difficult to escape from a fox, so then the rabbit population decreases. As the number of rabbits decrease, so the foxes go hungry and they breed less. The fox and rabbit populations ‘balance’ each other.

This principle of balance was well known to the philosophers who developed traditional medical systems two to four thousand years ago and they used this principle as the basis for understanding health. The body is a system in balance. Certain things put the body out of balance,
The two philosophies and the lack of balance then causes disease. Restoring health involves getting the system back into balance again.

The three main traditional medicines (Hippocratic, Chinese, Ayurvedic) differ concerning what exactly it is that is in or out of balance, but in all cases there is no one-to-one relationship between particular diseases and a particular kind of imbalance. Instead, a group of diseases may be associated with an imbalance, but even within that group a disease may be caused by some other imbalance. The result is that there is no specificity between the underlying cause and its consequence of disease. So, for example, lack of liver Qi in traditional Chinese medicine may lead to stomach complaints but equally it may lead to respiratory complaints and fatigue. The cause of disease is non-modular.

Although there is no specificity between imbalance and disease in traditional medicines, there is an important relationship between people and imbalance. All traditional medicines suggest that certain types of people are more prone to particular types of imbalance than others, so the underlying treatment principle is to treat the person not the disease. In sum, modern medicines can be said to treat the disease; traditional medicines to treat the person.

Modern medicine is based on the principle of analysis. By contrast, traditional medicines can be said to use the principle of synthesis. Rather than trying to understand the body at the micro-level, the traditional medicines examine how the whole system works together in relation to its environment. Instead of examining the parts of the system, traditional medicines try to gain an understanding of the system as a whole. Of course, there can be problems in this holistic understanding because, at the very least, the different traditional medical systems suggest different kinds of holistic system.

The concept of emergentism is commonly associated with both synthesis and holistic understanding. The basic idea behind emergentism is this. Micro-analysis shows how the individual parts of a system work, but it does not show how the system operates as a whole. It sometimes happens that when all the parts function together, new properties ‘emerge’ that cannot be deduced from the properties of the parts in isolation. For example, the parts of a car each have their own properties, but the property of movement is something that occurs only when the parts are put together. The idea of emergentism is often cited in defence of the synthetic approach – and to provide a counterargument to the micro-analytic approach that has been so successful in modern science (the idea of emergentism is explained in more detail in Chapter 4).