Question answered: 1

By stating that 'a little learning is a dangerous thing' the author is implying that it is safer to know nothing about something than to know a little about it and form the misconception that you actually know more than you do.

There are, however, many situations in which a little learning can be extremely beneficial. A basic knowledge of first aid can help to save a person's life, even if it is the mere bandaging of a wound. The fact that the individual may not be aware of the need to elevate an injured limb is of negligible importance in comparison to the little knowledge they had of the need to call for an ambulance and to keep the victim calm and reassured.

In other circumstances, an individual who has witnessed a baby being delivered on television, will be better equipped to assist in the emergency delivery of the baby than someone who has not had the same exposure to this 'little knowledge'. They may not be at all as experienced as a midwife but, in emergency situations, it is better to have a little knowledge than none at all.

The matter that determines whether or not learning is dangerous is the way in which the individual uses their knowledge. As long as they do not become too overconfident of what they have learnt, and do not use it to the harm of others, their knowledge is not dangerous. However, if someone viewing a heart transplant on television believes they are now equipped to perform one themselves, then in this case, the '<u>little</u> learning' has become a danger, particularly if they have no concept of human physiology or surgical procedures. It is essential that knowledge is used cautiously and sensibly and never to the disadvantage of others. In this way, a 'little learning' will not be dangerous.

Examiner comments

This response benefits from being clear, simple and focused. It provides a narrow interpretation – that a little learning is problematic when it makes one overconfident – to give a simple but structured argument.

The counterargument is effective, using good counterexamples and sensibly not trying to bring in additional knowledge. But it does not support a properly balanced consideration of the statement and contrasting views.

The last paragraph fails to realise that while the initial statement refers to a little learning, the final part of the question asks to what extent general learning can be a dangerous thing.

Mark: 3.5A

Question answered: 2

Belief, according to Plato, is the justified truth that we accept. Thus, if we believe in something, in this case the natural sciences or laws, we accept these laws as justified truth. Hence, Karl Popper puts forward a theory, whereby he states that if a hypothesis in natural law cannot be falsified or proven wrong, then it is accepted as the justified truth that a scientist can believe in. This theory of falsificationism, at least for Karl Popper, ensures that there is a degree of certainty in understanding and comprehending natural laws. The laws are said to be certain because it has not been possible to refute or dispute them. Hence, it is said to be safe to accept these laws as truth.

However, Popper's theory cannot be applied in certain circumstances or conditions to fully understand and accept natural laws. This is because not all hypotheses in science (which may be true) can be refuted through experiment. For instance, in the field of astronomy, scientists cannot travel to space and actually observe how the solar system and our galaxy respond to experimental manipulation. It is impossible! With reference to Popper's theory, most of the scientific laws on astronomy postulated by scientists cannot be accepted as our justified truth. Does that mean our Earth is not a sphere just because no one has actually seen or observed it? Or, the claim made by Copernicus that the planets' orbitals are an ellipse and not perfectly circular cannot be accepted? This simply proves that there must be other scientific methods which can be used to accept and understand scientific laws.

This brings my argument to the basic scientific method called 'naïve inductivism' which is applied by many scientists to explain natural laws. In this basic scientific method, careful observations are made using our senses, the visual, olfactory, auditory, taste and touch that is. From careful and detailed observations, data is collected and a generalization is made from repeated experiments. These generalizations are made based on inductive reasoning. Hence, a theory is formulated and is then used to explain and make future predictions of natural laws using deductive reasoning. Nevertheless, I must acknowledge that this method has its own weaknesses and flaws. For instance, can our senses be fully trusted? Different scientists have different ways of interpreting those senses. Some may even choose to accept which senses they believe the most. Hence, defeating the purpose of an independent truth.

In conclusion, both these types of scientific methods can be used to explain natural laws, depending on the purpose and conditions that go with it.

Examiner comments

This response misconstrues Popper and Plato, setting the tone for a logically structured but rather confused argument. It brings in relevant but misunderstood terminology, fails to explain the statement and does not explain what 'other scientific methods' must be available.

The conclusion is confused and unstructured, offering incorrect definitions of relevant terms and wandering off topic with a discussion about relying on the senses.

Mark: 2.5A

Question answered: 3

This statement implies that the living body can not be treated as a mechanism but must be viewed as something different. One could argue, however, against this statement as the living body functions through different mechanisms i.e. pumping of the heart. With respect to medicine, it is necessary for the majority of cases to treat the living body as a mechanism. For example when diagnosing a patient's illness, the doctor has to take into account the symptoms of the patient and various other factors. By diagnosing on the basis of symptoms, the doctor is treating the body as a predictable mechanism as the symptoms have been matched with the corresponding disease or illness.

On the other hand, however, just as we are saying that the body is predictable it can be just as unpredictable and the mechanism definition of the living body seems useless. It is apparent that the living body responds to countless stimuli. This means that the body can not be viewed as a mechanism, as a mechanism is predictable and the living body is not.

In order to resolve this apparent contradiction it is necessary to take all the arguments into consideration. By doing this we can see that in fact the conclusion of this argument lies very much between the two extremes.

The living body is an extremely complex collection of mechanisms which interact and work with each other on an incomprehensibly complex level. Furthermore these mechanisms are influenced by countless factors that present themselves in everyday life. The result of these mechanisms working together is a living body. It is necessary to underline that as yet, science has not discovered and understood all of the mechanisms by which the living body functions, therefore, I believe we can not treat the body as a mechanism until this is the case.

Examiner comments

This response does not follow the same order as the question, but does address all aspects of the question. It explains that as the living body responds to countless stimuli, it is unpredictable and so cannot be treated as a mechanism.

The opening paragraph presents a good counterargument, that the body is composed of different mechanisms and that it is often necessary to treat the body as a predictable mechanism to be able to make a diagnosis. But the argument loses force by making unsupported assertions, e.g. that the living body is not predictable. The third paragraph does not add to the argument.

The conclusion touches on the idea that complexity and unpredictability are due to so many components interacting, but overall it is weak as it only states that, as not all of the components of the body are currently understood, we cannot treat the whole body as a predictable mechanism.

Mark: 3A