

“What are the limits of knowledge?”

This is the question posed by “Philosophy Now” magazine and invites readers to respond in 400 words. I include my attempt below and thought it might be a good question to raise in an organisation like U3A which is dedicated to the principle of “Life-long Learning”. A.C.Grayling in his book “The Meaning of Things” suggests that Liberal Education – the process of acquiring knowledge – is a vanishing ideal in the West. Education, he thinks is aimed “not at the development of individuals as ends in themselves, but as instruments in the economic process.” The Greek thinker Heraclitus (Remember him? You can’t step in the same river twice!) thought that learning is a means to an end, and the end point is understanding. Both Heraclitus and A.C.Grayling conclude that understanding is the ultimate value of education. Bertrand Russell (Knowledge and Wisdom) concluded that an unprecedented rise in knowledge has not resulted in a parallel rise in wisdom! So, as Robert Peston would say – “Lots to discuss.”

Knowledge is for the human an understanding of, or information about a subject gained by experience or study. The definition also includes knowledge being known by one person, or people generally. It is a mental state, so knowledge exists (or resides) in the mind and requires a belief – the acceptance for example that something is true. In 1900, Lord Kelvin, who invented the international system of absolute temperature declared to a meeting of the British Association of Science that “there is nothing new to be discovered in physics now”, and there were many in the audience who agreed with him. We know he was wrong about physics; by 1905 Einstein had presented the world with his Theory of Relativity, and the rest, as they say is history. The paradox of knowledge seems to be that the increase in our knowledge about a particular subject always seems to point to the extent of our ignorance. A.C. Grayling points to three general areas of human enquiry in which there have been spectacular advances in knowledge – science, history and

psychology. Logically, the more we know should lead to an end point where we know everything, but it doesn't seem to work that way.

Two attributes of Homo-Sapiens are imagination and curiosity – Einstein thought that imagination was the more important of the two; knowledge has limits, but imagination embraces our entire world and beyond. Imagination is the driver of ideas and the development of problem-solving skills. The power of imagination is the foundation of creative activity, so scientific, cultural and technical creations are the product of human imagination.

There may be limits to the capacity or the capability of the human brain to understand certain kinds of knowledge. For example, our knowledge does not extend to a theory unifying general relativity with quantum mechanics, and even the best physicists admit they don't know what makes up 95% of the physical universe. Currently we are unable to account for how human consciousness arises from matter which operate according to the laws of physics and chemistry. Lord Martin Rees when he was Astronomer Royal suggested that there may be facets of the universe of which we are oblivious. AI and Quantum Computing may allow us to push the boundaries further and further, but Lord Rees compares our relationship with knowledge to monkeys trying to understand Darwin! Knowing, understanding and believing something to be true may be applicable to science, until it is replaced by another theory. For example, in 1929 Edwin Hubble discovered the idea of the expanding universe, which Einstein described as “the greatest blunder of my life!”

Philosophy draws a distinction between empiricism and rationalism. Empiricism holds that knowledge is gained only from sensory experience, whereas rationalism asserts that reason is the ultimate source of knowledge. We are also faced with the problems of how knowledge is expressed through language. For it to be understood it must correspond to an

individual's experience of the world. According to John Locke, the meaning of a word is determined by the ideas it represents and these are based on the experience of the individual.

Knowledge, in so far as it applies to humans is bounded in the individual only by the extent that we actively try and gain understanding both of the world and ourselves. If knowledge is, as I have suggested a reflection of human imagination and curiosity, then these two human characteristics define the limits of knowledge. If our imagination and curiosity know no bounds, then knowledge has no limits.