Parable of the flat fish
Eddington, p. 95.

A race of flat-fish once lived in an ocean in which there were only two dimensions. It was noticed that in general fishes swam in straight lines, unless there was something obviously interfering with their free courses. This seemed a very natural behaviour. But there was a certain region where all the fish seemed to be bewitched; some passed through the region but changed the direction of their swim, others swam round and round indefinitely. One fish invented a theory of vortices, and said that there were whirlpools in that region which carried everything round in curves. By-and-by a far better theory was proposed; it was said that the fishes were all attracted towards a particularly large fish a sun-fish which was lying asleep in the middle of the region ; and that was what caused the deviation of their paths. The theory might not have sounded particularly plausible at first; but it was confirmed with marvelous exactitude by all kinds of experimental tests. All fish were found to possess this attractive power in proportion to their sizes ; the law of attraction was extremely simple, and yet it was found to explain all the motions with an accuracy never approached before in any scientific investigations. Some fish grumbled that they did not see how there could be such an influence at a distance; but it was generally agreed that the influence was communicated through the ocean and might be better understood when more was known about the nature of water. Accordingly, nearly every fish who wanted to explain the attraction started by proposing some kind of mechanism for transmitting it through the water.

But there was one fish who thought of quite another plan. He was impressed by the fact that whether the fish were big or little they always took the same course, although it would naturally take a bigger force to deflect the bigger fish. He therefore concentrated attention on the courses rather than on the forces. And then he arrived at a striking explanation of the whole thing. There was a mound in the world round about where the sun-fish lay. Flat-fish could not appreciate it directly because they were two-dimensional; but whenever a fish went swimming over the slopes of the mound, although he did his best to swim straight on, he got turned round a bit. (If a traveller goes over the left slope of a mountain, he must consciously keep bearing away to the left if he wishes to keep to his original direction relative to the points of the compass.) This was the secret of the mysterious attraction, or bending of the paths, which was experienced in the region.

Key concepts

I. Sciences
   1. metaphysics/philosophy
   2. philosophy of nature
   3. physics
   4. mathematics
   5. geometry

II. Issues relating to metaphysics
   1. What is the world of nature? What is the cosmos?
   2. What is reality?
   3. Is the cosmos eternal? Did it have a beginning in time?
   4. Does it exist necessarily or contingently?
   5. Where does the cosmos exist?
   6. appearance/reality phenomenon / noumenon
   7. state of being

III. Issues relating to philosophy of nature
   1. the nature of space
   2. the nature of time
   3. the nature of matter
   4. motion
   5. universal laws of nature

IV. Issues relating to knowledge
   1. truth /objective knowledge
   2. concepts / mental constructs
   3. object / objective
   4. appearance/reality phenomenon/noumenon
   5. apriori knowledge
   6. empirical /experiential knowledge
   7. scientific method/observation
   8. fact
   9. perspective / point of view

V. Issues relating to physics
   1. objective world
   2. physical reality / matter
   3. physical space
   4. empirically observed space
   5. the aether
   6. frame of reference, speed of the observer
   7. time / duration
   8. light / light waves / electromagnet waves
   9. mass / inertia
   10. force / gravity

VI. Issues related to mathematics and geometry
   1. Euclidean geometry / non-Euclidean geometry
   2. metrics / measuring systems
   3. mesh systems

VII. Issues relating to space
   1. physical space
   2. objective space
   3. absolute space

VIII. Issues related to time
   1. appearance / reality
   2. objective time
   3. universal time
   4. proper time
   5. simultaneity
   6. past, present, and future
   7. absolute time