

Unit 9: Linear relationships (4) Cause <--> effect

Consolidation: 6

Title: Why is the earth round? *underline the title*

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Nowadays we can board a ship and sail beyond the horizon without falling off the edge. Actually, this has been possible since the earth was formed some 4 billion years ago. However, not until about the year 1450 it was accepted that the earth is an almost perfect spheroid. People believed it was a disk and that this disk formed the centre of the universe. But why is it a spheroid and not a disk?

In science ~~there is made~~ <sup>is made</sup> a difference between 'final cause' and 'physical cause'. Final cause is based on purpose or design: a wheel is round because a rectangular wheel makes transportation a hell. Physical cause is mechanical: a stone thrown up in the air will eventually come down because the gravity pulls it back to earth.

On this last cause, the physical cause, ~~is based~~ <sup>is based</sup> the effect of round planets. The gravity force that pulls the stone back to earth also pulls a spinning fluid into a spheroid. When the earth was formed it was not a vast ball of stone but a collection of dust particles, water molecules and many other elements. Actually, it could have become a disk at that time, if the gravity forces would have behaved differently! Luckily the youthful earth was spinning and enough material was present to generate a gravity force. And thus ~~was formed~~ <sup>was formed</sup> a nice round ball, called 'earth' by people who thought for thousands of years that they were living on a disk!