

Halling View Spring 2014
The Church Clock and Three Phases of Physics

The tower clock is powered by a system of weights which are raised once a week by turning a handle – which is quite hard work. If the clock is not wound regularly, it stops. This illustrates the common sense or Aristotelian version of physics. Things stop moving unless some force keeps pushing them. That is why you have to put petrol in your car or keep on pedalling when you are riding your bike. Common sense religion blends nicely with common sense science. If you need some force to make things happen and keep on happening, it is not hard to think that the force in question might be God. God keeps things running. He makes them happen. He can make them happen differently if He wants to (perhaps in response to prayer). This is the common sense view. Aristotelian Physics lasted for thousands of years and most of us still live most of the time as if Aristotle got it right.

Isaac Newton, however, discovered that this common sense view is wrong. Moving objects don't need the application of force to keep them moving. They just keep moving unless some force causes them to slow down, speed up or to change direction. Friction is usually the reason why moving objects on earth just slow down and stop if no force is applied to keep them moving, but, in a vacuum, moving objects just keep on going. Newton's theories are the basis of classical physics and basic engineering. You can see the clock mechanism in the church tower, a wonderful piece of Victorian engineering, based on the principles of classical physics. If it weren't for friction the church clock would just keep on running without ever needing to be wound up. A classical scientist, working on Newtonian principles, might think of the whole universe as a giant mechanism. Everything that happens would be dependent on what went before in a possibly endless chain of cause and effect. The universe would be internally consistent. Everything that happens would in principle be predictable. There would be no need of any force applied from outside the universe to make things happen. Your snooker balls would just keep rattling round the table until they disappeared into the pockets without any need for a man with a cue after the first break. Some classical scientists, thinking along these lines, develop a kind of naive arrogance. It looks to them as if there is no place for God in the universe. He is not necessary. No external forces are necessary. Maybe God created the universe in the first place and wound it up, but He isn't involved in its every day running. On this view, there are no miracles and prayer is largely pointless. Even the classical scientist, however, would probably want to pause before writing off art, music, romance, human creativity and religion as fully explained by physics. The rainbow means much more than a demonstration of the way light rays of varying frequencies are refracted by water droplets.

And now I'm going to cheat. Because it's difficult to see all four faces at the same time to put them right, sometimes you see a different time depending on where you are standing when you look up at the clock. This makes me think of Einstein and Relativity Theory. Much, if not everything, depends on the perspective of the observer. Reality is very much harder to grasp than Aristotle or Newton imagined. There is always uncertainty, always unpredictably. Weirdly, it is impossible to know when a radioactive nucleus will decay, but it is possible to measure the half life – when half of any given sample of nuclei will have decayed. You can predict when half the nuclei in a sample of Uranium will decay, but you can never know which half until it has happened and been observed. Quantum Theory and Relativity Theory give us a much less predictable universe, a universe which still makes sense, but which is much harder to make sense of. The way things are apparently depends on the observer, but most events have and have had no human observer. Could the indispensable Observer be God, the one without Whom there can be no physical reality? Given the essential mysteriousness of reality uncovered by modern physics, maybe we should be more humble. If the universe depends on the Mind of God and if our minds maybe united with His Mind by love, miracles are perhaps not so unlikely and the effectiveness of prayer may be very far from improbable.

Be that as it may, what Halling Church really stands for is not principally the mysteries of this world which are rightly and profitably investigated by Science, but the Truth of eternity revealed by Jesus Christ our Lord, which is available to anyone who approaches in faith scientist or not.

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Good Friday: 10.00 Family Service at St Michael's 12.00 Three Hour Devotion at St John's.

Easter Day: Holy Communion 8.00 Jubilee Hall, 9.30 St Michael's, 11.00 St John's.