fund/notes nothing chapter 2 mysteries The Day Time Began

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Commentary by PSN in blue

The day time began by Paul Davies

"Nevertheless, cosmologists have not explained the origin of the universe by the simple expedient of abolishing any preceding epoch. After all, why should time and space have suddenly 'switched on'?" p. 49.

If space and time are made subject to quantum principles, they would be subject to quantum fluctuations, and thus be capable of switching on without need for prior causation.

Space time is an aspect of gravitation, but quantum mechanics and the general theory of relativity,
ie, theory of gravitation, are thus far incompatible. The quantum theory of the origin of the universe is therefore on shaky ground.

p. 49-50.

Also, many quantum physicists argue that quantum properties are not manifest macroscopically.

In recent years cosmologists have proposed models of the universe involving many big bangs, perhaps even an infinite number of them. p 51.

Space and time can be "smeared" or "blurred" together. In a theory proposed in 1982 by Steven Hawking and Jim Hartle, this spearing means that closer and closer to the initiation of the big bang, time is more likely to adopt the properties of a space dimension. The transition os blurred by the uncertainty of quantum physics. In their theory, time does not switch on abruptly, but emerges continuously from space.

One must resist the temptation to imagine that the laws of physics ... somehow exist before the universe." On the other hand, "this does not mean that the laws of physics came into existence with the universe. If they did …
p. 52

then we cannot appeal to the laws to explain the origin of the universe."

Almost all physicists accept that the laws

of physics have some independent reality, so it is possible to argue that the laws of physics are logically prior to the universe they describe.
p. 53