Orbits and the rotating universe



One of the most important reasons for the great equilibrium in the universe is the fact that celestial bodies follow specific paths. Stars, planets and satellites all rotate around their own axes and also rotate together with the system of which they are a part. The universe functions within a finely-tuned order, just like the wheels in a factory.

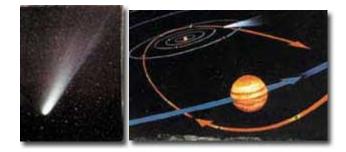
There are more than 100 billion galaxies in the visible universe and each small galaxy contains approximately a billion stars. Furthermore, each big galaxy contains more than a trillion. <u>16</u>Many of these stars have planets and many of those planets have satellites. All these celestial bodies follow the most finely calculated paths and orbits. For millions of years, each one has been moving in its own path in flawless harmony with all the others. In addition to these, there are also a great many comets moving along in their own pre-determined paths.

In addition, the paths in the universe are not restricted to a few celestial bodies. The Solar System and even other galaxies also exhibit considerable motion around other centres. Every year, Earth, and the Solar System with it, move some 500 million km from where they were the previous year. It has been calculated that even the slightest deviation from celestial bodies' paths could have drastic consequences which might spell the end of the entire system. For example, the consequences of the earth's deviating from its course by a mere 3 mm have been described in one source as follows:

While rotating around the sun, the earth follows such an orbit that, every 18 miles, it only deviates 2.8 millimetres from a direct course. The orbit followed by the earth never changes, because even a deviation of 3 millimetres would cause catastrophic disasters: If the deviation were 2.5 mm instead of 2.8 mm, then the orbit would be very large, and all of us would freeze. If the deviation were 3.1 mm, we would be scorched to death. <u>17</u>

Another characteristic of heavenly bodies is that they also rotate around their own axes. The verse which reads "[I swear] by Heaven with its cyclical systems," (Qur'an, 86:11) indicates this truth. Naturally, at the

time when the Qur'an was revealed, people had no telescopes with which to study bodies millions of kilometres away in space, advanced observation technology or our modern knowledge of physics and astronomy. It was therefore impossible to establish that space had "**its oscillating orbits**," (Qur'an, 51:7) as described in the verse. The Qur'an however, revealed at that time, provided clear information concerning that fact. This is proof that this book is indeed Allah's Word.



Like many other comets in the universe, Halley's comet, seen above, also moves in a planned orbit. It has a specific orbit and it moves in this orbit in a perfect harmony with other celestial bodies.

All celestial bodies—including planets, satellites of these planets, stars and even galaxies—have their own orbits that have been determined with very delicate computations. The One Who established this perfect order and maintains it is Allah, Who created the entire universe.

16. World Book Encyclopedia, 2003; contributor: Kenneth Brecher, Ph.D., Professor of Astronomy and Physics, Boston University. 17. Bilim ve Teknik (Journal of Science and Technology), July 1983.

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