

## CHAPTER 30

### WHEN DID HUMANS ACQUIRE A SOUL?

#### **SCIENCE CANNOT PROVE OR DISPROVE SCRIPTURE, AND SCRIPTURE CANNOT PROVE OR DISPROVE SCIENTIFIC HYPOTHESIS**

There are many religions in the world, a few more widely accepted than the others, and each has its own version of the origin of the earth, the heavens, and of humans. For some believers, what scientists describe as their belief poses no problem, as either the religious description is considered to be allegorical or the hypotheses are considered to be in different realms. For some religions, however, notably fundamentalist Protestant Christianity and conservative elements of Catholicism, Judaism, Islam, Hinduism, and other faiths, the scientific view and the religious view are held to be incompatible, and the scientific view even heretical. What are we to make of this?

There are basically three issues to address: **the realm of what science does, the definition of the word “theory,” and, most fundamentally, the question of what we choose to accept to structure our world.**

#### **WHAT SCIENCE DOES**

Scientists observe, experiment, and analyze the mechanics of how things work. Philosophers and theologians ask why. We can tell you the mechanics of how a clock works and what uses it might be put to, but there are societies on tropical islands for whom the day is simply the period between sunrise and sunset, and the seasons change little if at all. In our sense, they have little concept of time: they eat when they feel hungry, they do not count birthdays, and work (building a house or a boat) is done when it is done. They do not plan for the future. They do not have words such as “want”; if they want, they take. If individuals from these islands were to ask a scientist why one would bother to fractionate a day, the scientist would not be the appropriate person to answer. A philosopher would do better. Similarly, most scientists would say, “I can tell you how I understand the evidence to indicate the mechanics of how we came to have so many species of animals and plants on earth today. If you say that God willed all this to happen, this is fine. I cannot test the hypothesis that God willed evolution to happen. Therefore it is not a subject to which I can respond. I can discuss with you how I think He did it.

As the philosopher-physician Maimonides said, “A miracle is not something that could never happen without the intervention of God. A miracle is something that could always have happened, but did not until God chose to make it happen.”

At this point we must accept the fact that there are differences in detail. The Judaic versions of Genesis (there are two, Genesis I, 1-27<sup>13</sup> and Genesis II,

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<sup>13</sup> **Genesis 1**

**The Beginning**

<sup>1</sup> In the beginning God created the heavens and the earth.

<sup>2</sup> Now the earth was <sup>[a]</sup> formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.

<sup>3</sup> And God said, “Let there be light,” and there was light.

<sup>4</sup> God saw that the light was good, and He separated the light from the darkness.

<sup>5</sup> God called the light “day,” and the darkness he called “night.” And there was evening, and there was morning—the first day.

<sup>6</sup> And God said, “Let there be an expanse between the waters to separate water from water.”

<sup>7</sup> So God made the expanse and separated the water under the expanse from the water above it. And it was so.

<sup>8</sup> God called the expanse “sky.” And there was evening, and there was morning—the second day.

<sup>9</sup> And God said, “Let the water under the sky be gathered to one place, and let dry ground appear.” And it was so.

<sup>10</sup> God called the dry ground “land,” and the gathered waters he called “seas.” And God saw that it was good.

<sup>11</sup> Then God said, “Let the land produce vegetation: seed-bearing plants and trees on the land that bear fruit with seed in it, according to their various kinds.” And it was so.

<sup>12</sup> The land produced vegetation: plants bearing seed according to their kinds and trees bearing fruit with seed in it according to their kinds. And God saw that it was good.

<sup>13</sup> And there was evening, and there was morning—the third day.

<sup>14</sup> And God said, “Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years,

<sup>15</sup> and let them be lights in the expanse of the sky to give light on the earth.” And it was so.

<sup>16</sup> God made two great lights—the greater light to govern the day and the lesser light to govern the night. He also made the stars.

<sup>17</sup> God set them in the expanse of the sky to give light on the earth,

<sup>18</sup> to govern the day and the night, and to separate light from darkness. And God saw that it was good.

<sup>19</sup> And there was evening, and there was morning—the fourth day.

<sup>20</sup> And God said, “Let the water teem with living creatures, and let birds fly above the earth across the expanse of the sky.”

<sup>21</sup> So God created the great creatures of the sea and every living and moving thing with which the water teems, according to their kinds, and every winged bird according to its kind. And God saw that it was good.

<sup>22</sup> God blessed them and said, “Be fruitful and increase in number and fill the water in the seas, and let the birds increase on the earth.”

<sup>23</sup> And there was evening, and there was morning—the fifth day.

<sup>24</sup> And God said, “Let the land produce living creatures according to their kinds: livestock, creatures that move along the ground, and wild animals, each according to its kind.” And it was so.

<sup>25</sup> God made the wild animals according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds. And God saw that it was good.

<sup>26</sup> Then God said, “Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, <sup>[b]</sup> and over all the creatures that move along the ground.”

<sup>27</sup> So God created man in his own image, in the image of God he created him; male and female he created them.

15-23<sup>14</sup> which differ in the order of creation), accepted in most details by Christians and Muslims, describe Creation in seven days, with what we would call evolution occurring in the last four days. Most scientists would argue that the last four days of creation were in fact the better part of one billion years.

Other than the assumption that one version is allegorical, misleading, or misinterpreted, this disagreement is not easily resolved, and it is inappropriate to attempt to persuade a reader to accept one or the other interpretation. The attitude, however, represents a fundamental difference in how one looks at life, and what one accepts as truth. We all accept as comprehensible what is familiar to us as children, and understand the workings of newer inventions and changes in society in terms of what we previously understood. The same is true for what we accept as the most solid basis for evidence. For humans, sight is the most important sense. If you hear an animal's call in the night, you may not know whether the sound is that of an insect, frog, or bird. However, sight of the creature making the sound will allow you to make what you consider to be certain identification. For a dog, scent takes precedence over sight. When I was a child, my dog would wait for me after school. He would see me from a distance and look inquisitively. If I did not make a sign of recognition, he would wait until I came closer, then come up and sniff me. Only then would he be convinced that I was home. We also know, from optical illusions, that sight can be easily tricked, and juries must frequently contend with witnesses' differing versions of the same incident. In these cases we can force our intellects to take precedence over our senses, but it is not easy.

These allegories bring us to our major point here, the growing strength of rationalism in 17th and 18th C. Europe and North America. In most religions during a major part of their histories, there is only one truth, and this is presented through a gospel or other work of divine origin. However, its meaning is sometimes ambiguous, and the change of society—for instance, increasing urbanization—may render agrarian images difficult to understand or even reveal errors. A priesthood is called upon to interpret the ambiguities.

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<sup>14</sup> <sup>15</sup> The LORD God took the man and put him in the Garden of Eden to work it and take care of it.

<sup>16</sup> And the LORD God commanded the man, "You are free to eat from any tree in the garden;

<sup>17</sup> but you must not eat from the tree of the knowledge of good and evil, for when you eat of it you will surely die."

<sup>18</sup> The LORD God said, "It is not good for the man to be alone. I will make a helper suitable for him."

<sup>19</sup> Now the LORD God had formed out of the ground all the beasts of the field and all the birds of the air. He brought them to the man to see what he would name them; and whatever the man called each living creature, that was its name.

<sup>20</sup> So the man gave names to all the livestock, the birds of the air and all the beasts of the field. But for Adam <sup>[i]</sup> no suitable helper was found.

<sup>21</sup> So the LORD God caused the man to fall into a deep sleep; and while he was sleeping, he took one of the man's ribs <sup>[i]</sup> and closed up the place with flesh.

<sup>22</sup> Then the LORD God made a woman from the rib <sup>[i]</sup> he had taken out of the man, and he brought her to the man.

<sup>23</sup> The man said, "This is now bone of my bones and flesh of my flesh; she shall be called 'woman, <sup>[k]</sup> ' for she was taken out of man."

The concept of the infallibility of prior highly respected sources may even extend to secular documents. For instance, the 2nd Century Hellenistic physician Galen provided a guide for medicine that applied for 1200 years. Even if later anatomists identified obvious errors, the supremacy of Galen was never in doubt. The rationalization was as follows: Most cadavers offered for dissection were those of condemned criminals. As criminals, they were by definition deformed. Surely the anatomy would be as Galen said if one did a dissection of an upstanding member of society.

The challenge to this argument came from many sectors. The great 16th C anatomist, Andreas Vesalius, argued for studying what one saw and mocked following the teachings of Galen in a spectacular fashion that must have deeply offended most of his colleagues (Fig. 30.1). William Harvey, in 16th C England, used a combination of experimentation and deductive reasoning to demonstrate the true function of arteries and veins, thus clearly illustrating errors by Galen.

Two other very important elements were the growing strength of Protestantism and the continuing exploration of the earth. Protestantism, in addition to arguing that each individual could interpret the Scriptures without the intervention of a priesthood, was now an established alternative, and presented several somewhat different interpretations of the meaning of the Scriptures. Explorers, who included interpreters, linguists, and priests, brought back stories of societies with very different stories of creation. The physicists who helped them plan their voyages, by analyzing the nature of motion and force (so that the sailors could design and use sails more effectively) and the motion of the planets (to help them find their way home) were applying these same findings to our planet and beginning to question whether the sun could really stand still, as in Joshua, and whether the earth was truly the center of the universe.

The rise of Protestantism as a religious and political, hence military, force meant that it was no longer possible for states to be the standard-bearers of a single religion. If a state was to govern a large population and not be perpetually at war, it would be obliged minimally to tolerate the existence of followers of a different religion. This movement culminated in the resurrection in Europe, after 1400 years, of a vision of a state as secular, an idea legitimized by the American Constitution and the French Revolution. Competing interpretations of sacred works were available for comparison. The many sources of alternative interpretations meant that it became possible to suggest that a higher standard for truth was analysis and logic. For the first time, people were suggesting that if logic and analysis contradicted Scriptures, it was possible that Scriptures were wrong.

This remains a fundamental difference. Scientists, by virtue of what they do, give precedence to logic and analysis in interpreting the mechanics of how the world works. Fundamentalists of many faiths insist that the exact description of how the world works is given in a holy work, received, as it were, as an email attachment from God, perfect and unalterable, even in translation. Thus if Joshua (Joshua 10: 13-14) says that the sun stopped in the heavens, it did; this is not a figurative statement.



*Figure 30.1.* Vesalius' insult of his colleagues. Whereas normally the professor gave the lecture while a preceptor performed the messy and smelly work of dissection, in the frontispiece of Vesalius' *Anatomy* he is illustrated as performing the dissection (here labeled "AV"), while the professor is mocked by having a skeleton placed in his position. In this manner Vesalius not so subtly argued that one must respect facts and observations rather than ordained wisdom handed down from the ancients

The final issue, as is discussed in more detail in Chapter 1, page 11, is the meaning of "theory". In common parlance, "theory" may mean little more than "guess": "Why is the sky blue?" "My theory is that the air is colored blue." This latter statement is identical to "My guess is that the air is colored blue" (and is wrong). To a scientist, "theory" has a much more restricted meaning. "Theory"

defines an upper level of a highly structured series of levels of certainty, as defined by Popper. Fundamentalists and rationalists clash over this definition, as in the sense of “Evolution is only a theory.” Fundamentalists interpret the word in the popular sense of “guess”, while rationalists use it to imply a level of certainty near that of, for instance, being able to calculate the hypotenuse of a right triangle if one knows the length of the other two sides.

## REFERENCES

Barbour, Ian G, 2000, *When science meets religion*, Harper, San Francisco.

Maimonides: Maimonides, *Guide to the Perplexed* (Chicago: University of Chicago Press, 1989), 2:25  
For a miracle cannot prove that which is impossible; it is useful only as a confirmation of that which is possible,— <http://www.sacred-texts.com/jud/gfp/gfp.htm> Part 3, Chapter 24)

<http://bibleontheweb.com/Bible.asp> Genesis 1 (New International Version) New International Version  
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## STUDY QUESTIONS

1. What does science do, and what does it not do?
2. What is a theory to a scientist?
3. Name one authority whose word you would trust. If you did not trust this authority, how would you verify the word of the authority?