

Advances and Lessons from Galileo Galilei

- 1) Experimental methodology was greatly improved, one might say even founded by Galileo to give impetus to modern science.
- 2) Galileo was the first to both utilize and publicize the use of the telescope for the purpose of studying the heavens, going beyond all previous mortals in examining the universe from our humble perspective.
- 3) The confrontation between Galileo and the Church offers us a cautionary tale in two regards.
 - a) We gained an increased appreciation for the freedom of inquiry and an increased awareness of how authoritarian or totalitarian political or religious structures can resist such inquiry. Knowledge challenges our capacity for wisdom and threatens us with change, a fearful thing for some, particularly those in power and/or with inflexible ideologies. Galileo was confronted by both of these factors.
 - b) Our caution was increased in reading ancient religious texts as science references. To seek answers about nature's workings, Galileo and others simply studied nature through observation and experiment. The Catholic Aristotelian intellectuals arrayed against him were continuing the medieval tradition of seeking answers from authority, most notably Aristotle's writings and the book of Genesis. (They had other, political, problems with Galileo as well.) But Aristotle's writings on nature have long since been shown to be lacking (but he did get the shape of the Earth right.), and Genesis was written by one or more individuals at a time and place not yet touched by science, itself just beginning to develop in Greece. Genesis exhibits its basis in the history and mythical traditions of the cultures of its writer(s), most notably Hebrew, Babylonian, and Sumerian. There was no scientific tradition in these cultures at this time (ca. 6th century b.c.e.). Reading science out of Genesis with 20th century eyes, as exemplified in the literature of the pseudoscience of "scientific" creationism, can only lead to misunderstanding and a muddling of both scientific and religious thought.