

MAGAZINE ARTICLES LIST

SCIENCE AND RELATED SUBJECTS

Thought-provoking selections to enhance your understanding and appreciation of science and its impact on your life and the world. Do not attempt outlines on articles not found in this list.

Compiled by Dr. Gary Mechler

For OUTSIDE ACTIVITY (OA) Credit

STRUCTURED (FORMAL) OUTLINES PLEASE.

Summaries accepted, but for less credit.

(See blue course outline or Introductory Notes as examples of structured outlines.)

Approximate maximum point values given in parentheses.

Articles assigned as homework are not eligible for OE Credit

If you don't find there the article you seek at the Periodicals section of the Pima College Library, contact me. See me for articles in *Skeptical Briefs* and *The Skeptical Inquirer*. Please see me about any online articles that are no longer available.

Viewed online, the following section titles act as bookmarks. Just click on the title that you'd like to check out to jump to that section.

- I. [HISTORICAL ASPECTS](#)
- II. [SCIENCE in EDUCATION](#)
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- VI. ["SCIENTIFIC" CREATIONISM and INTELLIGENT DESIGN \("ID"\)](#)
- VII. [SCIENCE, RELIGION, HUMANISM, & SOCIETY](#)
- VIII. [THE EXPLORATION AND DEVELOPMENT OF SPACE](#)

HISTORICAL ASPECTS

"Hypatia", *Women in Mathematics*, Osen, Cambridge Press, 1974, pp. 20-32. (6 pts.)

"Islamic Astronomy", Gingerich, *Scientific American*, April 1986, pp. 78-83. Also available online at http://faculty.kfupm.edu.sa/phys/alshukri/PHYS215/Islamic_astronomy.htm (9 pts.)

"Galileo and the Specter of Bruno", Lerner & Gosselin, *Scientific American*, November 1986, pp. 126-133. (8 pts.)

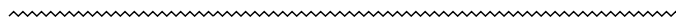
- "The Age-of-the-Earth Debate", Badash, *Scientific American*, August 1989, pp. 90-96. (8 pts.) See other age of earth articles in Scientific Creationism section below.
- "Greek Science", Penguin Books 1944, short essay from *Greek Science*, Benjamin Farrington, (2 pts.)
- "Origins of the Spectral Sequence", *Sky & Telescope*, Kaler, Feb 1986, pp. 129-134. (6 pts.)
- "William Herschel and the Making of Modern Astronomy", Hoskin, *Scientific American*, February 1986, pp. 106-112. (8 pts.)
- "Discovery of the Expanding Universe", Parker, *Sky & Telescope*, September 1986, pp. 227-230. (5 pts.)
- "The Roots of Science in Ancient China", Fisher, The National Science Foundation's *Mosaic*, March/April 1982, pp.9-15. (9 pts.)
- "Lunar Eclipses that Changed the World", Schaefer, *Sky & Telescope*, December 1992, pp. 639-642. (6 pts.)
- "Righting Galileo's 'Wrong'", Raymo, *Sky & Telescope*, March 1993, pp. 4,5. (2.5 pts.)
- "Triumphs from the ancient world's first think tank", Casson, *Smithsonian*, May (June?) 1985, pp. 158-168. (7 pts.)
- "Native American Astronomy", Aveni, *Physics Today*, June 1984, pp. 24-32. (8 pts.)
- "The Revolt Against the Lightning Rod", Seckel and Edwards, *Free Inquiry*, Summer 1986, pp. 54, 55. (4 pts.)
- "The Science of Knowing God: Astronomy in the Golden Era of Islam", Ahmad, *Mercury*, March/April 1995, pp. 28-30. (4.5 pts.)
- "Fall in the House of Ussher", Stephen Jay Gould, *Eight Little Piggies*, 1993, pp. 181-203. (9 pts.)
- "Calendar", David Ewing Duncan, *Smithsonian*, February 1999, pp. 48-58. (9 pts.)
- "Conjunctions that Changed the World", Bradley E. Schaefer, *Sky & Telescope*, May 2000, pp. 28-34 (9 pts.)
- "Behind the Curve," E.C.Krupp, *Sky & Telescope*, September 2002, pp. 68-70 (5 pts.)
- "Flattening the Earth," Jeffrey Burton Russell, *Mercury*, September-October 2002, pp. 34-37 (5 pts.)
- "The Copernican Myths," Mano Singham, *Physics Today*, December 2007, pp. 48-52. Overstates his "myths," but remains informative on this crucial development in history. (10 pts.)

SCIENCE in EDUCATION

- "Starry-Eyed and Blissfully Ignorant", Mechler, *Los Angeles Times*, January 1, 1982, p. 5. (3 pts.)
- "Start by Educating Your Kids for the Next Century", Perot, *Tucson Citizen*, November 30, 1988, p. 15. (3.5 pts.)
- "Students Feel, But Apparently They Don't Think", Richard, *Arizona Daily Star*, May 3, 1988. (2.5 pts.)
- "Why Johnny Can't Think", Lear, *Omni Magazine*, Mind Column, February 1987, p. 30. (3 pts.)
- "Not Just for Nerds: How to Teach Science to Our Kids", *Newsweek*, April 9, 1990, pp. 52-64, including boxes. (7 pts.)
- "The Crisis in Pre-college Science and Math Education", Glenn Seaborg, *The Skeptical Inquirer*, Spring 1990, pp. 270-275. (4 pts.)
- "Why We Need to Understand Science", Sagan, *Parade Magazine*, (0 pts.) NOTE: This was read in an early assignment. It is included here for completeness.)
- "Science - Who Cares?", C. Sagan, *Parade Magazine*, June 2, 1991, p. 16-21. (4.5 pts.) NOTE: This is the follow-up article to his "Why We Need to Understand Science" article you read for an early assignment.

- "Science and The Humanities are Wedded, not Divorced", Weininger, *The Scientist*, January 8, 1990, pp.15,17. (2.5 pts.)
- "Improving Science Teaching: The Textbook Problem", Padian, *The Skeptical Inquirer*, Summer 1993, pp. 388-393. (4 pts.)
- "Jack Horkheimer, Star Hustler", Seabrook, *The Skeptical Inquirer*, Summer 1993, pp. 408-415. (5 pts.)
- "What's Wrong with Science Education? Look at the Family.", by Raymond Eve, *Skeptical Inquirer*, Spring 1991, pp. 296-299. (4 pts.)
- "Does Truth Matter? Science, Pseudoscience, and Civilization," Carl Sagan, *Skeptical Inquirer*, March/April 1996, pp. 28-33. (9 pts.)
- "Fear of science dangerous, shackles us to ignorance," Robyn Blumner, *Arizona Daily Star*, November 27, 1998. (3 pts.)
- "The Luck Factor," Richard Wiseman, *Skeptical Inquirer*, May/June 2003, pp. 26-30. (8 pts.)
- "The Evolution Wars," Claudia Wallis, *Time*, August 15, 2005, pp. 27-35. (11 pts.)
- "The Dark Ages of Social Science," Lee McIntyre, *The Humanist*, May-June 2007, pp. 10-12. (6 pts.) Brief overview: The thinking of science I have taught you is extolled in this article and used by the author to serve as an example of the scholarly level the social sciences should be at. Unfortunately, politics and personal attitudes sometimes interfere with social science research.

SCIENCE in SOCIETY



Global Warming subsection

- "Human Impacts on Climate," American Geophysical Union, December 2003, http://www.agu.org/sci_soc/policy/climate_change_position.html Outline this along with the brief position statement by the American Astronomical Society supporting the AGU position statement. <http://members.aas.org/scriptcontent/Custon/Climate.html> (Together worth 3.5 pts.) Note: You can link directly from this pdf file to these papers by clicking on their web addresses above. If you print this list out and then type in the URL, remember to type "_" (underscore) where you see blanks in the address.
- "Defusing the Global Warming Time Bomb," James Hansen, *Scientific American*, March 2004, pp. 68-77. (11 pts.)
- "Global Warming: Past, Present, and Future Temperatures: the Hockeystick FAQs," On the [website](#) of the Union of Concerned Scientists (5½ pts.)
- "FAQs on Global Warming," On the [website](#) of the Union of Concerned Scientists. (7 pts.)
- "Abrupt Climate Change," On the [website](#) of the Union of Concerned Scientists. (5.5 pts.)
- "Global Warning: Bulletins from a Warmer World," An excellent three-part overview article by various authors, *National Geographic*, September 2004, pp. 3-75. (20 pts.) (Note: Tho many pages, there are also many photographs.)
- "The Science Debate Behind Climate Change," Michael Coren, [online](#) at CNN.com, April 8, 2005. (5 pts.)
- "Plan B – How to Stop Global Warming," by Bryan Walsh, TIME/CNN online, posted January 4, 2008. This is a review of noted environmentalist Lester Brown latest book. Short but clear look at the reality of our situation. Might be unsettling, especially when you get to the last paragraph's topic. (2½ pts.)
- "Mother Earth: Check, please," Tony Long, "The Luddite" column in *Wired* magazine online, posted July 6, 2006. Available [here](#) or ask for hard copy. Sensible discussion of what a concerned layman is to do in trying to figure how seriously we should take global warming and what we should do about its effects. (4 pts.)

Deserving his own section of criticism is Michael Crichton, famed science fiction writer and author of *State of Fear*, controversial science fiction book involving evil scientists taking over the world by scaring governments with the fear of global warming.

Crichton's Thriller *State of Fear: Separating Fact from Fiction*, [online](#) at Union of Concerned Scientists. (6 pts)

and another critique of Crichton's book:

"Bad Science, Bad Fiction, And an Agenda," Chris Mooney, book review in *Skeptical Inquirer*, May/June 2005, pp. 53-55. (7 pts.)

"Michael Crichton's State of Confusion," RealClimate: Climate Science from Climate Scientists, Posted December 14, 2004. This damning article is followed by many responses. Note lament at end regarding Crichton himself. (6 pts.) Note that this has a number of links. If you follow up on any, include remarks about them as well, increasing the possibility of earning more than the 6 pts. stated.

"Global Warming: Hurricanes and Climate Change," on the [website](#) of the Union of Concerned Scientists.

"Global Warming Impacts by Region, Full Report from Environmental Defense, [Online](#). (20 pts.)

"Global Warming Impacts by Region, Executive Summary from Environmental Defense, [Online](#). (6 pts.)

"The Big Thaw," Tim Appenzeller, *National Geographic*, June 2007, pp. 56-71. (7 pts.)

"Global Climate Change Triggered by Global Warming, Part 1," Stuart D. Jordan, *Skeptical Inquirer*, Vol. 31, No. 3, May/June 2007, pp. 32-39. Position paper of the Center for Inquiry's Office of Public Policy. In short, a bunch of skeptics who actually "get" the science. (7 pts.) OR you may use [this link](#) to get the entire (Part 1 + Part 2) report (for 11 pts.) online

"*Ibid*, Part 2," Stuart D. Jordan, *Skeptical Inquirer*, Vol. 31, No. 4, July/August 2007, pp. 37-40. More of the position paper of the Center for Inquiry's Office of Public Policy. (4 pts.) OR use the link immediately above to get the combined report online.

"The Physical Science Behind Climate Change," William Collins *et al*, *Scientific American*, August 2007, pp. 64-73. Why climatologists are so highly confident that human activities are dangerously warming the earth. (12 pts.)

"Global Warming Human Fingerprints," Online at http://www.ucsusa.org/global_warming/science/Fingerprints.html or see me for hard copy.

Two Recent Summary Reviews of Global Warming:

"Global Climate Change Triggered by Global Warming," Stuart Jordan, *Skeptical Inquirer*, Part 1, May/June 2007, pp. 32-39. And Part 2, July/August 2007, pp. 37-40. Also available online at the Center for Inquiry website, dated December 2006, at <http://www.cfidc.org/opp/jordan.html> Gist: This is the position paper for an organization of skeptics. The editorial about the paper (p. 4 of the May/June 2007 issue) concludes with, "One mark of a truly scientific mind is the willingness to change one's views as better evidence arrives. That has been happening. That attitude of openness to new data is recommended to everyone, including today's remaining global-warming skeptics." (11 pts.)

"The Physical Science behind Climate Change," William Collins *et al*, *Scientific American*, August 2007, pp. 64-73. Gist: The highly respected *Scientific American* answers the question, "Why are climatologists so highly confident that human activities are dangerously warming the earth?" (12 pts., including 2 for summaries of future consequences and what needs to be done at the end of the article)

"The debate's over: Globe is warming; Politicians, corporations and religious groups differ mainly on how to fix the problem," Dan Vergano, *USA Today*, June 14, 2005, p. A1. (8 pts.)

"Climate-change deniers betray planet," Paul Krugman, *New York Times*, published online on AzStarnet.com, July 1, 2009. The author is well known for being one of the top columnists of the New York Times. He also holds an academic position at Princeton University. He won the 2008 Nobel prize in Economic Sciences. Pay attention to this man. He raises the age-old problem of trying to delineate where bone-headedness becomes a danger. Short

column. (2.5 pts.)

End, Global Warming subsection

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"Don't Listen to Those Pesky Scientists," Chris Mooney, Committee for the Scientific Investigation of Claims of the Paranormal, March 8, 2004, <http://www.csicop.org/doubtandabout/marburger/> (This is a critique of President Bush's science advisor's response to the criticisms of many scientists that the Bush administration is distorting scientific evidence and opinions. For a major example of such criticism, read the next paper. We live in strange times.) (8 pts.)

"Letter to members announcing report of investigation into some of the ways the Bush administration has violated the scientific process," On the [Website](#) of the Union of Concerned Scientists, February 19, 2004. (4 pts.)

"Police 'Psychics:' Do They Really Help Solve Crimes?" Joe Nickell, Committee for the Scientific Investigation of Claims of the Paranormal, <http://www.csicop.org/specialarticles/police-psychics.html> (4.5 pts.)

"Doubt might be a benefit to zealots like Paul Hill," Leonard Pitts Jr., *Arizona Daily Star*, Op Ed, September 7, 2003. (2.5 pts.)

"The Antiscientific Left," (Reviews of two books), George Fish, *Skeptical Inquirer*, March/April 1995, pp. 48-50. (4 pts.)

"Out There: From 'Independence Day' to 'The X-Files,' America Is Hooked on the Paranormal," (cover story), Rick Marin, *Newsweek*, July 8, 1996, pp. 48-55. (7 pts.)

"Science: The Feminists' Scapegoat?", Walker, *The Skeptical Inquirer*, Fall 1993, pp. 69-72. (4 pts.)

"What TV Could Do For America", Sagan, *Parade Magazine*, June 4, 1995, pp. 12-14. (3 pts.)

"Weird Science", Jaroff, *Time*, May 15, 1995, (2.5 pts.) (Note: on the low quality of science on television)

"Democracy, Religion, and the Enlightenment", *The Humanist*, Nov/Dec 1991, pp. 9-14, 45. (10 pts.)

"Real Patriots Ask Questions", C. Sagan & A. Druyan, *Parade Magazine*, September 8, 1991, pp. 12-17. (4.5 pts.) (Note: no credit if assigned as homework)

"Superstition 55, Science 0", book review of *How Superstition Won and Science Lost: Popularizing Science and Health in the United States*, author: John Burnham, reviewer: Robert Baker, *The Skeptical Inquirer*, Summer 1990, pp. 418-421. (3.5 pts.)

"A Psychologist Studies the 'Shameless' Talk Shows, and She's Angry", Emory, *Skeptical Inquirer*, July/August 1995, pp. 12-14. (3.5 pts.)

"Basic Choices and Constraints on Long-Term Energy Supplies," Paul B. Weisz, *Physics Today*, July 2004, pp. 47-51. <http://www.physicstoday.org/vol-57/iss-7/p47.html> (8 pts.)

"Thoughts on Long-Term Energy Supplies: Scientists and the Silent Lie. The world's population continues to grow. Shouldn't physicists care?" Albert Bartlett, *Physics Today*, July 2004. Note: This is a companion opinion piece to the previous "Basic Choices" article, but is not available online. I have copies of either or both articles for you. (4.5 pts.)

Also by Dr. Bartlett...

"*Scientific American* and the Silent Lie," Albert Bartlett, *The Physics Teacher*, December 2006, Vol. 44, pp. 623-624 or NPG Internet Forum, [posted ~January 2007](#). Overstates his point, but it is a good and important one. Read this and better understand the world. (2.5 pts.)

"Why Anxiety Over Low Fertility?" John Seager, *The Population Connection's* newsletter "*The Reporter*," Fall 2004, pp. 4-7. Available from instructor; also available [online](#). (5.5 pts.)

The next two articles are on political and religious ideological thinking, which can at times be analogs to pseudoscientific thinking—you may outline both for 6 pts.

"We believe whatever we want; facts don't matter," Leonard Pitts, Op Ed column, *Arizona Daily Star*, January 3, 2005.

(2.5 pts.)

"Who can know what's true when ideology rules?" Jim Kiser, Op Ed column, *Arizona Daily Star*, January 16, 2005. (3 pts.)

"World in the Balance," NOVA. (PBS) This is a 2-parter, 1 hour videos each on DVD. The DVD is on Reserve in the West Campus Library for viewing there. Part 1 is "The People Paradox." This is on the paradox that while overpopulation is stressing our planet and creating poverty, some countries are experiencing seriously declining populations. These divergent trends are both stressing their societies. Part 2 is "China Revs Up." This is a great backgrounder on major economic issues affecting us *now*, that are posed by China's great economic advances and requisite demand on natural resources. Wondering why the price of oil started moving up in 2005? These may be harder to outline than articles, so just write down all significant and interesting points of information and ideas and concerns expressed in these programs. (7 pts. each program.)

"Scientific Fringe Takes Advantage of 'Balanced' Reporting," Chris Mooney, Science Writers (newsletter of the National Association of Science Writers), Fall/Winter 2004-2005, pp. 4-8. (First published in the *Columbia Journalism Review*, Nov/Dec 2004 under the title, "Blinded by Science: How 'Balanced' Coverage Lets the Scientific Fringe Hijack Reality" A good look into science and journalism and how our understandings are sometimes being misled by journalism in America. Available from me. (11 pts.)

"Which alternative treatments work?" *Consumer Reports*, August 2005, pp. 39-43. (7.5 pts.)

"A Coming Energy Crisis Is Being Ignored," Tom Halsted, *The Washington Spectator*, July 1, 2005, Vol 31, No. 13. Note: If the writer may seem too negative to you, write your countering thoughts after your outline. (7+ pts.)

"Design for Confusion," Paul Krugman, *The New York Times*, August 5, 2005, Op Ed piece. (2.5 pts.) On right-wing strategies to sow public confusion in economic and scientific areas.

"Full of Holes," Michael Shermer, Skeptic Column in *Scientific American*, August 2005, p. 30. (2.5 pts.) Here's the scientific update on the questions, how well does acupuncture work, how does it work, just how scientific is this ancient practice from China? This is readily available in the WC library, from me, or [online by clicking here](#)

"The Evolution Wars," Claudia Wallis, *Time*, August 15, 2005, pp. 27-35. (11 pts.)

"Is America Flunking Science?" *TIME Magazine*, February 13, 2006, This title comprises 3 articles relating to science and society. 1) "Are We Losing Our Edge?" (Abstract: "The U.S. still leads the world in scientific innovation. But years of declining investment and fresh competition from abroad threaten to end our supremacy."), (9 pts., including sidebars) 2) "The Political Science Test," (Abstract: "Bush said science would guide his decisions, but those in the lab see ideology intruding on their work."), (3 pts.), 3) "Don't Believe the Hype. We're Still No. 1," essay by Charles Krauthammer, (Abstract: "What the doomsayers don't say: America is a marvel of creativity.") (2.5 pts. for essay), (14.5 pts, total)

"Onward Science Soldiers," Victor J. Stenger, *Skeptical Inquirer*, July/August 2007, pp. 11,12. (2.5 pts.)

"'Later' is so yesterday for environment's future," Thomas Friedman (*New York Times* columnist), *Arizona Daily Star*, December 18, 2007. (2.5 pts.) Friedman eloquently instructs when we should act on global warming and on the environment generally.

"We must act now to preserve species," Thomas Friedman (*New York Times* columnist), *Arizona Daily Star*, December 26, 2007. (2.5 pts.)

"Peak Oil. Are We There Yet?" Lindsey Grant, NPG Footnote, November 2007, NPG 111. Get copy from instructor or [get it online](#) (4 pts.)

"Peak Coal," Lindsey Grant, NPG Footnote, December 2007, NPG 112. Get copy from instructor or [get it online](#) (4 pts.)

## **SCIENCE VS. PSEUDOSCIENCE and SUPERSTITION**

"The Elusive Open Mind: Ten Years of Negative Research in Parapsychology", Blackmore, *The Skeptical Inquirer*, Spring 1987, pp. 244-255. (10 pts.)

"Anecdote and Coincidence in Parapsychology", Alvarez, *The Skeptical Inquirer*, Summer 1982, pp. 72-75. (2.5 pts.)

- "A Consumer's Guide to Pseudoscience", Trefil, *Saturday Review: "Currents"*, April 29, 1978, pp. 16-21. (10 pts.)
- "The Fine Art of Baloney Detection", Sagan, *Parade Magazine*, February 1, 1987, pp. 12-13. (4 pts.)
- "Fooling Some of the People All of the Time", Singer & Benassi, *The Skeptical Inquirer*, Winter 1980-81, pp. 17-24. (9 pts.)
- "Occult Beliefs", Singer & Benassi, *American Scientist*, Volume 69, January-February 1981, pp. 49-55. (12 pts.)
- "The Perennial Fringe", Asimov, *The Skeptical Inquirer*, Spring 1986, pp. 212-217. and "The Uses of Credulity", deCamp, *ibid*, pp. 215-217. (Do both for 5 pts.)
- "Time-Life's Descent Into the New Age", Frazier, *The Skeptical Inquirer*, Summer 1989, pp. 412-415. (4 pts.)
- "Doubt and Certainty", Shapiro, *ORIGINS*, Bantam Books, © 1986, pp. 30-52. (15 pts.)
- "On the Nature of Physical Laws", Anderson, *Physics Today*, December 1990, p. 9 (3½ pts.)
- "Are They (extraterrestrial aliens) Coming for Us?", Sagan, *Parade Magazine*, March 7, 1993, pp. 4-7. (4 pts.)
- "The Persistent Popularity of the Paranormal", Lett, *Skeptical Inquirer*, Summer 1992, pp. 381-388. (7 pts.)
- "The Roswell Incident and Project Mogul", Thomas, *Skeptical Inquirer*, July/August 1995, pp. 12-14. (4.5 pts.)
- "Channeling and Faith Healing—SCAM OR MIRACLE?," Carl Sagan, *Parade Magazine*, December 4, 1994, pp. 10, 11. (3.5 pts)
- "Does Truth Matter? Science, Pseudoscience, and Civilization", *Skeptical Inquirer*, March/April 1996, pp. 28-33. (9 pts.)
- "Whom Am I Speaking To?," Lewis Jones, *Skeptical Briefs*, December 2002, p. 10. (2.5 pts.)
- "Facing Mars" E.C. Krupp, *Sky & Telescope*, August 2003, pp. 86-88. (3.5 pts.)
- "Police 'Psychics:' Do They Really Help Solve Crimes?" Joe Nickell, Committee for the Scientific Investigation of Claims of the Paranormal, <http://www.csicop.org/specialarticles/police-psychics.html> (4.5 pts.)
- "Ritual Killing and Pseudoscience in Nigeria," Leo Igwe, *Skeptical Briefs*, Newsletter of the Committee for the Scientific Investigation of Claims of the Paranormal, June 2004, pp. 1,2. (3 pts.)
- "Magical Thinking," James Alcock, *Skeptical Briefs*, September 2004, pp. 10, 11. (3.5 pts)
- "Night of the Crusher," *Science News*, July 9, 2005, vol. 168, pp. 27-29. (Psychological insight into beliefs in supernatural demons and alien abduction.) (6 pts.)
- "Lunar-tics," Jack Hitt, *The New York Times*, February 9, 2003. (6 pts.)
- "Full of Holes," Michael Shermer, Skeptic Column in *Scientific American*, August 2005, p. 30. (2.5 pts.) Here's the scientific update on the questions, how well does acupuncture work, how does it work, just how scientific is this ancient practice from China? This is readily available in the WC library, from me, or [online by clicking here](#)
- "The Evolution Wars," Claudia Wallis, *Time*, August 15, 2005, pp. 27-35. (11 pts.)
- "Happy Birthday, Hysterics! The Roswell Incident Turns 60," Seth Shostak, SPACE.com, posted online July 12, 2007. (2.5 pts.) Gist: The author brings up an astute, but little discussed, scientific perspective on the famous Roswell case and the whole UFO pseudoscience, for that matter: UFOs—So what if they're real? What has ever come out of them? How has the world been affected? This article is both insightful and amusingly written. Click on the URL to teleport yourself right to it. [http://www.space.com/searchforlife/070712\\_seti\\_roswell.html](http://www.space.com/searchforlife/070712_seti_roswell.html)

Articles packet for ~20 pts. "The Secret," a DVD and book, a mystical, naive, unimpressive approach to the concept of luck. Made popular by Oprah Winfrey's book club

Review of popular book, "The Secret," written by Rhonda Byrne and promoted by Oprah Winfrey. Author tries to make connections between quantum mechanics and life attitudes. Reviewers are most unimpressed, however.

"Secrets and Lies," Mary Carmichael and Benjamin Radford, *Skeptical Inquirer*, May/June 2007, pp. 21,22. (3 pts.)

"The (Other) Secret," Michael Shermer, "Skeptic" column in *Scientific American*, June 2007, p. 39. (2.5 pts.)

"Critics of 'The Secret' bemoan claims," Tara Burghart, published by Associated Press (AP) online on Yahoo, June 23, 2007. (4 pts.)

Related closely to the purpose of the questionable book, *The Secret*, is the notion of luck. Life is 10% what happens to you and 90% your attitude towards what happened, as the saying goes. The following are two good articles on the subject of luck and how to make it.

"The Luck Factor," Richard Wiseman, *Skeptical Inquirer*, May/June 2003, pp. 26-30. (8 pts.)

"Clever Ways to Create Your Own Luck," *Bottom Line Magazine's Daily Health News* (email), March 14, 2007 (1.5 pts.)

"The Earth and Stars in the Lunar Sky," William C. Keel, *Skeptical Inquirer*, July/August 2007, pp. 47-50. (3.5 pts.) Gist: Much has been made by ignorant conspiracy theorists of the fact that the stars did not show up in the photos taken by astronauts on the moon. But the ultraviolet camera could see them.

"Full-Moon Fever," "Spectrum column, Richard Tresch Fienberg, *Sky & Telescope*, September 2007, p/ 8. . (2.5 pts.)  
On yet another hapless attempt to show lunar influence on human behavior.

"The Great 2012 Scare," E.C. Krupp, *Sky & Telescope*, November 2009, pp. 22-26. (6 pts.) As Carl Sagan said, "The best antidote against pseudoscience is science." Take a shot of this antidote.

## **ASTROLOGY**

"Why People Perceive Horoscopes As Being True: A Review", Tyson, *The British Psychological Society*, 1982, pp. 186-188., (9 pts.)

"Your Astrology Defense Kit", Fraknoi, *Sky and Telescope*, August 1989, pp. 146-150. (8 pts.)

"Does Astrology Need to be true?" pt 1, Geoffrey Dean, *The Skeptical Inquirer*, Winter 86/87 pp. 166-184. (11 pts.)

"*Ibid*", pt.2, Geoffrey Dean, *Skeptical Inquirer*, Spring 87, pp. 257-273. (11 pts.)

"Who Believes in Astrology and Why? Surveys Give Some Surprising Insights", in "News and Comment, *Skeptical Inquirer*, Summer 1992, pp. 344-347. (3½ pts.)

"Response to the National Enquirer Astrology Study", Mechler *et al*, *The Skeptical Inquirer*, Winter 80/81, pp. 34-39. (4 pts.) (This is the study used in the Astrology exercise in AST 111.)

"Astrology Strikes Back – But to What Effect?", Dean, *The Skeptical Inquirer*, Fall 1993, pp.42-49. (5 pts.)

## **"SCIENTIFIC" CREATIONISM and INTELLIGENT DESIGN ("ID")**

"Creation 'Science' is Dishonest", McCollister, *The Humanist*, July/August 1990, pp. 31,32. (3.5 pts.)

"The Freezing of Noah", *The Flamingo's Smile*, Stephan J. Gould, Ch.7, pp. 114-125. (11 pts.)

Description: You might be intrigued by this Stephan Jay Gould article, actually chapter, from one of his books. In

this, he gives an interesting and enlightening historical look behind the "scientific" creationist premise that the rock strata of the Earth's crust were laid down by Noah's flood (and the igneous and metamorphic layers...?) He takes the reader back to the beginning of geology ~1800 when the early geologists, many, maybe most of whom were Christians. These men naturally wondered that if a flood that covered the entire planet occurred a few thousand years ago, there should literally be a world of evidence out there for it. Using the tools, practices, and insights of the new science of geology, they thought they had the means to check the idea out. In other words, two hundred years ago, what the creationists promote today was a decent scientific hypothesis and one certainly worthy of checking out. What their investigations developed over the subsequent decades resolved the hypothesis once and for all and also resulted in geology's first great discovery. (Gotta read the chapter to learn what it is.) With a moment's reflection, one can see how science almost two centuries ago put this idea in its place--somewhere outside of science, which is what scientists and educators have been trying to tell the public and children about "scientific" creationism for decades.

"The Creationism Controversy: It's Only the Beginning", Donaldson, *School Library Journal*, March 1988, pp. 107-112. (11 pts.)

"Outdated thinking of creationists distorts science", Mechler, *Tucson Citizen*, November 30, 1989. (3 pts.)

"Evidence for Scientific Creationism?", Lewin, *Science*, May 17, 1985, p. 837. (3 pts.)

"Certainty and Proof in Creationist Thought", Leferriere, *The Skeptical Inquirer*, Winter 1989, pp. 185-187. (3 pts.)

"The Fall and Rise of Creationism", Hyers, *The Christian Century*, April 24, 1985, pp. 411-415. (11 pts.)

"Creationist Pseudoscience", Schadewald, *The Skeptical Inquirer*, Fall 1983, pp. 22-35. (9 pts.)

"Then a Miracle Occurs", Bernard, *Free Inquiry*, Summer 1991, pp. 31-37. (6 pts.)

"So How Old is the Earth, Anyway?", Dalrymple, Nat'l. Center for Science Education (NCSE) Reports, vol. 11, no. 4, 1991. p. 16 (3 pts.). See also "The Age-of-the-Earth Debate" in the Historical Development section above.

"Can Earth be Dated from Decay of its Magnetic Field?", Dalrymple, *NCSE Reports*, v. 12, no. 1, 1992, pp. 16,17. (3 pts.)

"Creationists should expect responsible criticism", Mechler, *Corvallis Oregon Gazette-Times*, March 11, 1984. (3 pts.)

"Accumulating Small Change", Richard Dawkins, *The Blind Watchmaker*, Norton, 1987, Ch. 3, pp. 43-51. (5 pts.)

"Creationism: Not Only Bad Science But Bad Religion": a book review by Baker of *Scientific Malpractice: The Creation/Evolution Debate*, Zabilka, *The Skeptical Inquirer*, Summer 1993, pp. 422-426. (3½ pts.) (NOTE: The book's author has four advanced degrees in theology and the history of science.)

"Creationism: Religion as Science", from *ORIGINS* by Shapiro, Bantam Books, © 1986, pp. 248-265. (10 pts.)

"The Creationist Controversy", commentary *addendum* to chapter "Cosmological Myths" from *Ancient Myths and Modern Life*, LaRue, © 1988, Centerline Press. (9 pts.)

"McLean v. Arkansas Board of Education", *American Public School Law*, Alexander & Alexander, West Publ., 2<sup>nd</sup> ed., ©1985, pp. 275-280. (9 pts.)

"The Evolution of Creationism," Victor J. Stenger, *Skeptical Briefs*, Newsletter of the Committee for the Scientific Investigation of Claims of the Paranormal, June 2004. (3 pts.)

"IDing ID: Is 'Intelligent Design' theory really 'Creation Science' version 2.0?" Chris Mooney, "Doubt and About" column, Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) [Online-Click here](#), August 9, 2004 (4.5 pts.)

"Life's Grand Design," Kenneth R. Miller, *Technology Review*, February/March 1994, Vol 97 (2), pp. 24-32. Also on line; [click here](#). Effectively lays out why evolution explains complex biological structures better than Intelligent Design.

"Darwin's Foes Can't Evolve; Trial and Error," Chris Mooney, *The New Republic*, October 17, 2005 (5 pts.)

"A Radiometric Dating Resource List," updated & links checked 23 August 2005. Boring title; awesome site for those who want an effective reality check on radiometric dating. Many links. [Online here](#). (points too variable to be specific.)

The more you write up the more points you earn.

"The Real Darwin: His Private Views on Science & God" and "Evolution vs. 'Intelligent Design': Round II," *Newsweek*, November 28, 2005, pp. 50-58. (8 pts.)

"First They Came for Darwin, Then They Came for Copernicus and Galileo..." Psychic Vibrations columnist Robert Sheaffer, *Skeptical Inquirer*, July/August 2007, pp. 24,25 (Stop at "In the world of UFO abductions...") (2.5 pts.) Gist: the fringe group on the fringe group of "Scientific" Creationism is geocentrism. Really! And to add to the weirdness, I personally am acquainted with the person the columnist writes about, one Gerardous D. Bouw!!

"Rock of Ages, Ages of Rock," Hanna Rosin, *New York Times*, November 25, 2007 (9 pts.) A look at the small, but growing numbers of creation scientists who actually have some science in their backgrounds. A philosophically precarious group of people. Try this link; I don't know how long it will be good for:

[http://www.nytimes.com/2007/11/25/magazine/25wwln-geologists-t.html?\\_r=1&ref=magazine&oref=slogin](http://www.nytimes.com/2007/11/25/magazine/25wwln-geologists-t.html?_r=1&ref=magazine&oref=slogin)

"*Expelled Exposed*," Michael Shermer, "Skeptic" columnist, *Scientific American*, June 2008, p. 42. or [online here](#). (2.5 pts. for Mr. Shermer's column alone, but more (~6 pts.) if you go to the more substantial URL given in the column (at the website for the National Center for Science Education) and include that information in your report.) Note: "Expelled is a movie promoting pseudoscientific perspectives on evolution done by a notable (Ben Stein) who should have known better.

Also at the *Scientific American* Website is the article "Six things in *Expelled* that Ben Stein doesn't want you to know." You may get the article [online here](#). (4 pts.)

"Fighting the Fundamentalists," Michael Ruse, *Skeptical Inquirer*, March/April 2007, pp.38-41 (8 pts.) The author, a philosophy professor, examines the interesting problems that arise when religion conflicts with science and how best for intellectuals to respond to people who just don't want to accept evolution as something real. But he particularly questions the arguments by atheists against the arguments of anti-evolutionists. An enlightening article.

## **SCIENCE, RELIGION, HUMANISM, & SOCIETY**

"Is the War Between Science and Religion Over?", N. Hall and L. Hall, *The Humanist*, May/June 1986, pp. 26-28, 32. (4.5 pts.)

"Science and Christianity", Pope John Paul II, Ch. 9 of *Is God a Creationist?*, ed. by R.M. Frye, Scribners & Sons, 1983. (8 pts.)

"Greek Science", Benjamin Farrington, Penguin books, 1944, (excerpted in A Reader/Study Guide for COSMOS), Random House, 1980 pp. 120, 121. (2 pts.)

"Sakharov: A Humanist Galileo", Kurtz, *Free Inquiry*, Spring 1990, pp. 46,47. (4 pts.)

"Why Resorting to the Supernatural Isn't Done in Science", K. Fezer, *National Center for Science Education Reports*, v. 11, no.3, 1991, pp. 16,17. (3 pts.)

"THE CREATION Religion's search for a common ground with science", *U.S. News & World Report*, December 23, 1991, pp. 56-64. (6 pts.)

"Democracy, Religion, and the Enlightenment", *The Humanist*, Nov/Dec 1991, pp. 9-14, 45. (10 pts.)

"Why the Religious Right is Wrong," Ehrenreich, *Time* magazine, kVol. 140, No. 10, September 7, 1992. Also available [online](#). Great short-but-sweet essay! I quote from it in the Historical Supplement Notes in my AST 101 course wherein I cover the impacts of the Scientific Revolution. Ideally every American should read and understand the ideas and experience out of which came the Establishment Clause of the First Amendment to the Constitution and Article VI prohibiting religious tests for seekers of public office. (3 pts.)

- "That World Which Beckons like a Liberation", chapter on Albert Einstein from *Broca's Brain*, Sagan, © 1979, Random House. (7 pts.)
- "Science Confronts the Ultimate Question: Does the Universe Hold Clues to God?" and sidebars, McDonald, *The Chronicle of Higher Education*, May 12, 1993, pp. A6-A9. (5 pts.)
- "The Other Einstein", Ferris, *Science* 83, October 1983, pp. 35-41. (6 pts.)
- "Righting Galileo's 'Wrong'", Raymo, *Sky & Telescope*, March 1993, pp. 4,5. (2 pts.)
- "In Support of the Scientific Attitude Toward Life", Plotkin, *The Humanist*, March/April 1990, pp. 29, 30. (4 pts.)
- "Caring for Creation: Religion and Ecology", Train, *Vital Speeches of the Day*, a speech given May 18, 1990 before the N. American Conference on Religion and Ecology. (4 pts.)
- "Religion Can Also Be Humanistic", *The Humanist*, Burgin, Jan/Feb 1994, pp. 27,28. (2.5 pts.)
- "Science and the Mountain Peak", *The Skeptical Inquirer*, Asimov, Winter 1980-81, pp. 42-51 (10 pts.)
- "McLean v. Arkansas Board of Education", American Public School Law, Alexander & Alexander, West Publ., 2<sup>nd</sup> ed., ©1985, pp. 275-280. (9 pts.)
- "The Science of Knowing God: Astronomy in the Golden Era of Islam", Ahmad, *Mercury*, pp. 28-30. (4.5 pts.)
- "Templeton Prize Goes to Physicist Paul Davies", *LA Times*, Religion section, March 11, 1995, pp. B12, 13. (3 pts.)
- "When Science and Beliefs Collide", *Science News*, June 8, 1996, Vol. 149, pp. 360, 361. Also read follow-up letters to the editor. (No points if done as homework; otherwise 6 pts.)
- "God and Science," (including a reply to the article) Arthur M. Shapiro, *Creation/Evolution*, Vol. 13, No. 1, October 1987, pp. 11-19. (9 pts.)
- Skeptical Inquirer*, Special Issue on Science & Religion: Conflict or Conciliation?, Vol. 23, No. 4, July/August 1999.
- "The World and the Universe Meet at Castel Gandolfo," Imelda B. Joson & Edwin L. Aguirre, *Sky & Telescope*, May 2000, pp. 82-87. (6.5 pts.)
- "Heavenly Conflicts: The Bible And Astronomy," Hector Avalos, *Mercury*, March/April 1998, pp. 20-24. (9 pts.)
- "Star Trek: Humanism of the Future", *Free Inquiry*, Fall 1992, pp. 53-56. (5 pts.)
- "A New Sense of the Sacred: Carl Sagan's 'Cosmic Connection'," Ann Druyan, *The Humanist*, November/December 2000, pp. 22-27. (10 pts.)
- "Democracy, Religion, and the Enlightenment", *The Humanist*, Nov/Dec 1991, pp. 9-14, 45. (10 pts.)
- "Hypatia", *Women in Mathematics*, Osen, Cambridge Press, 1974, pp. 20-32. (6 pts.)
- "Greek Science", Penguin Books 1944, short essay from *Greek Science*, Benjamin Farrington, (2 pts.)
- "The Luck Factor," Richard Wiseman, *Skeptical Inquirer*, May/June 2003, pp. 26-30. (8 pts.)
- "Religion has no place in U.S. policy-making," Donald Kaul, *Arizona Daily Star*, September 28, 2003 (3 pts.)
- "Ann Druyan Talks About Science, Religion, Wonder, Awe...and Carl Sagan," Ann Druyan, *Skeptical Inquirer*, November/December 2003, pp. 25-30. (10 pts.)

"The Sin of Scientism," Massimo Pigliucci, *Skeptical Inquirer*, November/December 2003, pp. 21, 23. (3 pts.)

"Science cannot answer Big Questions," Andrew Greeley, *Arizona Daily Star*, January 21, 2005 (3 pts.)

"Nature's arbitrary awfulness has no silver lining," David Brooks, Op Ed column, *Arizona Daily Star*, January 5, 2005 (2.5 pts.)

"Science and Religion: Similar Objective, Different Methods," interview of Carl Sagan, *U.S. News & World Report*, December 1, 1980, pp. 62, 63. (3.5 pts.)

"The Shamans of Scientism," Michael Shermer, *Scientific American*, *Skeptical* column, June 2002. (3 pts.)

"The dark side of faith: Study shows societal deficiencies greater in countries with stronger religion," Rosa Brooks, *LA Times*, October 1, 2005 (3 pts.)

"The Real Darwin: His Private Views on Science & God" and "Evolution vs. 'Intelligent Design': Round II," *Newsweek*, November 28, 2005, pp. 50-58. (8 pts.)

"To think or blindly follow," online essay at the 2Think Website, <http://www.2think.org/2think.shtml> An essay challenging the reader to grow up to the rational adult level. Are you ready to read this? In your synopsis of his essay, show me that you utilized the links as well. They greatly enrich his points. (8 pts.)

"Creation 'Science' Is the Christian Right's Trojan Horse Against Reason," Chris Hedges, Truthdig, Posted [online](#) March 28, 2007. (5 pts.)

"Is Dawkins Deluded? When Scientists Talk about Religion," "Thinking about Science" columnist Massimo Pigliucci, *Skeptical Inquirer*, July/August 2007, pp. 20,21. (2.5 pts.)

And don't forget Islam. There is and has been an interesting relationship between science and this religion as well. The three articles together are enlightening, but you may also choose just one of the first two historical articles along with the third, which deals with their relationship in today's world. For any credit for the third article, you must also outline one or both of the other two. (20 pts. max.)

"Islamic Astronomy", Gingerich, *Scientific American*, April 1986, pp. 78-83. Also available online at <http://faculty.kfupm.edu.sa/phys/alshukri/PHYS215/Islamic%20astronomy.htm> (9 pts.)

"The Science of Knowing God: Astronomy in the Golden Era of Islam", Ahmad, *Mercury*, March/April 1995, pp. 28-30. (4.5 pts.)

"Science and Islam," Todd Pitcock, *Discover*, July 2007, pp. 36-45. (10 pts.)

"Science's Vast Cosmic Perspective Eludes Religion," Carl Sagan, March/April 2007, pp. 45-47. (5 pts.) When I think about Cosmic Perspective, I have noted in the back of my mind how analogous this science-based concept is to the spiritual-supernatural concept of a supreme creator God, as in the Judeo-Christian-Muslim traditions. This thoughtful piece brings out some differences.

"Local Scene: Former 'Trek' assistant values its humanism," Phil Villarreal, *Arizona Daily Star*, *Caliente* section, May 7, 2009. (2.5%)

"Wisdom in a Cleric's Garb; Why not a Lab Coat Too,? Dennis Overbye, *New York Times*, June 2, 2009. For those who saw the movie "Angels and Demons" (or read the book), this short essay has a good point or two regarding science and religion. And for those who haven't seen or read these, the points are still good. (3.5 pts.)

## **THE EXPLORATION AND DEVELOPMENT OF SPACE**

"How to Make the Space Vision Work (Hint: It's the Moon!), Jeffery Liss, [Online](#) at Space.com, February 15, 2005. (2.5 pts.)

"Private Industry Can Help NASA Open the Space Frontier," Rick N. Tumlinson, [Online](#) at Space.com, posted: March 11, 2005 (4.5 pts.)

"The Significance of the Martian Frontier," Robert Zubrin, *Ad Astra*, September/October 1994, pp. 31-37. (10 pts.)

"Who's afraid of a solar flare? Solar activity can be surprisingly good for astronauts," Dr. Tony Phillips, [Online](#) at Science@NASA, posted on October 7, 2005 (4 pts.)

"Asteroid Mining: Key to the Space Economy," Mark Sonter, Space.com, essay from *Ad Astra*, the magazine of NSS, the National Space Society, posted February 9, 2006. Click [here](#) for online access. Please send me an email to notify me if the link is no longer active. . (5 pts.)

"Space Settlement: The Call of the High Frontier," Don Davis, posted March 20, 2006 on Space.com. Click [here](#) for online access or see me for hard copy. This article returns us to the 1970's notion of building space colonies. Now there may be more economic justification.

"Why Space Exploration is Important to the United States," Michael Lembeck, Space.com, posted June 15, 2006. (4 pts.) Click [here](#) for online access or see me for hard copy.

"The Earth and Stars in the Lunar Sky," William C. Keel, *Skeptical Inquirer*, July/August 2007, pp. 47-50. (3.5 pts.) Gist: Much has been made by ignorant conspiracy theorists of the fact that the stars did not show up in the photos taken by astronauts on the moon. But the ultraviolet camera could see them.

"SETI: Is It Worth It?" Seth Shostak, Space.com, posted November 8, 2007 [Get it online](#). (3 pts.)

"Where the Sun Does Shine: Will Space Solar Power ever be Practical?" Linda Shiner, *Air & Space*, June/July 2008, pp.54-57. (4 pts.) A focal point, as it were, of space, economics, and energy. An idea that has held appeal for me since the late 1970's. Expensive, but...

"The Misunderstood Professor," Frank H. Winter, *Air & Space Magazine*, April/May 2008, pp.56-59. (8 pts.) This is about the man who developed the liquid-fueled rocket in the early 1900's and urged as a purpose of rockets to go into space and specifically the moon, along with how the public reacted to that bit of forward-looking views."

"How Space can Improve Life on Earth," Stan Rosen, *Ad Astra*, Spring 2009, pp. 28-30. (4 pts.) Subtitle: "Future space applications promise revolutionary improvements in our quality of life." Also available [online here](#) (Notice two things: 1. That the magazine page numbers are off by two from the page number displayed in the Adobe Reader program, and 2. I could not separate out the article from the entire issue of *Ad Astra*, so it will take awhile to download—have patience. The document will open on the front page of the issue.