

Two Heroes of Giftedness – A Scientist and Astronaut

Walter Alvarez, Ph.D. – Professor of Earth and Planetary Science, Geologist, Archaeologist, Co-discoverer of the Evidence that an Asteroid Destroyed the Dinosaurs – by Harry Roman (from Heroes of Giftedness, 2009, Gifted Education Press)

Walter Alvarez hails from a famous family. His father, Luis Alvarez, was a Nobel Prize winning physicist. Grandfather Walter was a famed physician, great-grandfather Luis was also a doctor who made strides in diagnosing leprosy, and great-aunt Mabel was a noted painter. Walter is certainly carrying on a tradition of greatness.

Following his doctorate degree in Geology from Princeton University, Walter worked for oil companies in Holland and Libya. He also researched and developed interests in archaeological geology, Roman volcanic activity and its impact on Roman society, and Mediterranean geology. He later moved to the famous Lamont Geological Observatory (Columbia University) to pursue his research interests. Here at Lamont, he helped the scientific community understand and date how planet Earth has undergone magnetic reversals over long time periods.

In 1980, he and father Luis along with two other colleagues researched the rock layers in Italy, noting a most unusual uniform layer of iridium deposits in soil strata that would be characteristic of the time period when dinosaurs roamed the Earth. Not generally found in great quantity on Earth, iridium is a constituent of asteroids, suggesting the possibility that Earth had been hit by an asteroid, leaving the evidence in the soil.

The theory was literally explosive when published, but has received credence by finds of similar iridium deposits at many sites around the globe. The very large crater near the Yucatan Peninsula (the Chicxulub Crater) is now believed to be the main impact site.

Alvarez has earned his place in his family history, and in the scientific community too, giving us a better perspective on this wonderful and intriguing planet we all inhabit. His work also has profound impact on the development and fate of other planets.

His latest book, **The Mountains of Saint Francis** (2009), is a wonderful account of geological investigations in the area around Rome, Italy. His superb writing style is that of a poet-scientist. It is a pleasure to read this beautiful narrative about a fascinating scientific subject. All gifted students interested in the study of the Earth's geological history and formations will enjoy the book immensely, especially how it relates geological studies to the history of ancient Rome and the Roman Empire.

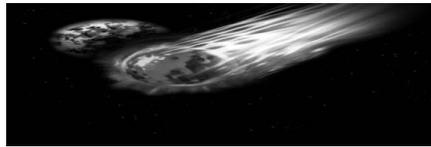
Paying attention to the details and following the trail of scientific evidence is the Alvarez story; and it is so true today. Noticing the small changes, the perturbations in data, or the subtleties or nuances of an experiment are often the vital clue to a breakthrough. As an engineer and inventor, I have seen this many times. Emphasize to your students that patience in observation and experimentation is crucial to a complete understanding of a problem, and this applies to non-scientific pursuits as well, including social interactions. Never be quick to rush to judgments; follow the evidence and ask many questions. Who would have guessed that a major key to Earth's history lay within a thin layer of dirt?

References:

Alvarez, Walter (2009). **The Mountains of Saint Francis: Discovering the Geologic Events that Shaped Our Earth**. New York: Norton.
Alvarez, Walter (1997). **T. Rex and the Crater of Doom**. New Jersey: Princeton University Press.

About Walter Alvarez-

<http://www.answers.com/topic/walter-alvarez?cat=technology>
<http://www.enchantedlearning.com/subjects/dinosaurs/glossary/Alvarez.shtml>
http://eps.berkeley.edu/development/view_person.php?uid=90



Neil Armstrong – Aviator, Test Pilot, Astronaut, Professor, Best Known as the First Man on the Moon – by Harry Roman (from Heroes of Giftedness, 2009, Gifted Education Press)

Neil fell in love with airplanes at the age of 6 when he took his first flight, and later working at the nearby airport. Taking flying lessons with the money he made, on his 16th birthday he earned a pilot's license. He hadn't even received his automobile license yet. Fascinated by planes and flying, Armstrong became a navy pilot and flew in the Korean War. After the war he went to school to gain his engineering degrees, and became a test pilot, serving as project pilot on many early high speed aircraft, including the X-15.

After being inducted into the space program, he participated in several missions before he captained the famous moon mission of 1969 with his companions Buzz Aldrin and Michael Collins. Two legendary quotes attributed to him endure in American folklore....."Tranquility Base here...the Eagle has landed." And when he first set foot on the moon, his most famous quote...."That's one small step for man, one giant leap for mankind." He will always be remembered for his cool, calm demeanor – the confident and collected leader of this important mission.

Armstrong later worked at NASA as the Deputy Associate Administrator for Aeronautics, 1970 to 1971. Later in 1971, he became a Professor of Aerospace Engineering at the University of Cincinnati. Armstrong also served in a variety of executive and commission positions, including the commission that investigated the Challenger explosion. Today, he lives a peaceful life of retirement on his farm.

What makes this man such a wonderful role model for young gifted students is the confidence and self-assuredness that comes from preparing for important activities in life. So important is this need to plan and organize that the business world highly prizes individuals who display these skills. Chance does favor the prepared mind because it is open and ready to learn and profit by new experiences. Throughout his life, Neil Armstrong was successful in doing very unusual and new things because he had mastered the process of planning and organizing his thinking and actions.

About Neil Armstrong-

<http://www.cbsnews.com/stories/2005/11/03/60minutes/main1008288.shtml>

<http://space.about.com/od/astronautbiographies/a/neilarmstrong.htm>

<http://library.thinkquest.org/4034/armstrong.html>

<http://www.nndb.com/people/488/000022422/>

Recommended Books:

The Mysterious Flame: Conscious Minds in the Material World (1999, Basic Books) by Colin McGinn. Brilliant philosophical and logical analysis of the problems of studying consciousness which the author believes will never be resolved.

The Greatest Show on Earth: The Evidence for Evolution (2009, Free Press) by Richard Dawkins. A comprehensive, erudite and humorous account of research on evolution. Dawkin's purpose is to show the overwhelming scientific evidence for evolution as a fact and to debunk anti-evolutionists.

Classics for Pleasure (2007, Harcourt) by Michael Dirda. This creative and interesting literary critic discusses many outstanding books and authors that readers should become more familiar with – among them are S.J Perelman, Erasmus, Auden and Mary Shelley.

The Shadow of Sirius(2009, Cooper Canyon Press) by W. S. Merwin. A beautiful collection of poems concerned with time and remembrance by a master of the sounds and rhythms of words. The lyrical quality of his poems recall memories of youth and nature.

The Impossible Takes Longer (2007, Walker) Compiled by David Pratt. Collection of pithy quotations from Nobel Prize Laureates such as Toni Morrison, Albert Einstein, Nadine Gordimer and Bertrand Russell.