



for the Medical Sector, Life Sciences & Industry - 1. Sept., 2008, Vol. 13

In welcoming you back from the summer, have fun & learn! Don't you want to improve your technical English skills & comprehension? Then test your understanding by reading the text below, and use the 'Questionnaire link' to answer questions that are based on the text. Also, we have selected certain key words or phrases, placed into *italics*, and will appear in the Questionnaire. Please send your answers ⇒ [LTE Newsletter Editor](#).

The Hubble Space Telescope

Source: NY 'Science Times' excerpts from article by Dennis Overbye, Aug. 5, 2008

(Note: Concerning our Summer '08 LTE Newsletter issue, several of our readers requested a topic on Astronomy, and so we have selected this topic. We do hope from reading & responding to this article, you will gain a further appreciation for the various ways technical English language can be applied, which is a goal for our LTE Newsletter subscribers.)

Inside Story of the Telescope That Nearly Wasn't Built; The Hubble Space Telescope has been called the most productive telescope in history and has hypnotized us all with its cosmic postcards, but it's a wonder it was ever built. Dr. Lyman S. Spitzer Jr., a Princeton astronomer, is known as the '**Father of the Hubble Space Telescope**'. Many astronomers feared that its *enormous* cost would **drain resources** from ground-based astronomy and may not work anyway. NASA was preoccupied with building the space shuttle and was on a short financial leash in the inflation-ridden post-Apollo era.

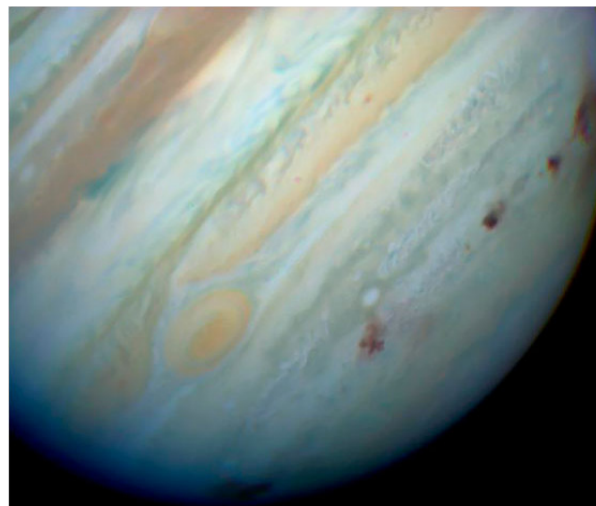
The U.S. Congress *deleted* the telescope from NASA's budget in 1974, almost killing it! The NASA administrator Noel W. Hinners, in a calculated move, eliminated the telescope from its 1976 budget, but the news was leaked (illegally) to astronomers ahead of time and they were able to have an intense lobbying campaign in place. The telescope moved ahead, shrunken to two-thirds its original size and **hobbled** by an arbitrary decree by Dr. Hinners' **predecessor**, James C. Fletcher, in 1972 that it not cost more than \$300 million.

After that, Hubble was *hitting its stride* when NASA was hammered by the dramatic loss of the Columbia space shuttle in 2003. At that time, NASA's chief administrator, Sean O'Keefe, was thus confronted with the horrible death of astronauts and issues of serious rocket science. Thus, he was considering canceling the final servicing mission on the grounds that it was too risky. That ignited a *national outcry* and a whole new round of lobbying reminiscent of the old days in the '70s. Eventually, a new NASA director was installed, and he made sure the Hubble Telescope would re-serviced, and it was.

For nearly two decades, the Hubble Space Telescope has been surveying our universe. Located 350 miles above Earth's surface, it has a clear view of the cosmos, *unobscured* by our atmosphere, clouds, light or air pollution.



Hubble Space Telescope above Earth's atmosphere; a successful realization thru decades of long in the making!



July 1994; Pieces of the Comet Shoemaker-Levy 9 slam into Jupiter. Hubble captured this image of the impacts into its clouds left by the comet fragments.

However, after its launching in 1990, it was detected that the telescope's mirror had a spherical **aberration**. Eventually, Hubble was restored to its full glorious potential by astronaut correcting the problem in 1993.

Check your understanding on the above text & chart.



If you click on the LTE Newsletter's 'Questionnaire link', you will find questions to answer. Then please send your answers to the LTE Editor, Steven L. Hanft. We look forward to helping you to improve your technical English skills!

Round-the-World Life Science News & Updates

Food & Beverage

'Trans fats banned in California Restaurants'; Die Welt Online, 26. July 2008

With diabetes, obesity and a number of other health related diseases a growing concern, California became the first state to place a restriction on restaurants using trans fats. This ban follows suit after a number of cities and major fast-food chains removed the potential 'killer' fat from menus.

Gov. Arnold Schwarzenegger signed legislation that will ban restaurants and other retail food establishments from using oil, margarine and shortening containing trans fats. "Today we are taking a strong step toward creating a healthier future for California," he said. Violations could result in fines of \$25 to \$1,000.

New York City, Philadelphia and Seattle have ordinances banning trans fats, but California is the first state to adopt such a law covering restaurants. California and Oregon already had laws banning trans fats in meals served at schools, she added.

The legislation signed by Schwarzenegger will take effect Jan. 1, 2010 for oil, shortening and margarine used in spreads or for frying. Restaurants could continue using trans fats to deep-fry yeast dough and in cake batter until Jan. 1, 2011



"Of course, I'm feeling uncomfortable. I'm not allowed on the couch."

Astro-Chemistry

'Test of Mars Soil Sample Confirms Presence of Ice'; NY Times, Aug. 1, 2008

Heated to 0° C (32° F), a sample of soil being analyzed by NASA's Phoenix Mars Lander let out a puff of vapor, providing final confirmation that the Lander is sitting over a large chunk of ice. The main goal of the Lander is to analyze ice in the Martian northern arctic plains.

Since it arrived on the planet on May 25, scientists have visually seen what they were almost certain was ice: a flat, shiny patch beneath the Lander and tiny white chunks in a trench dug by its robotic arm.



Mars Lander - Artist's rendition from Jet Propulsion Lab, AP News

Medicine & Health

Malignant Gliomas in Adults, New England Journal of Medicine; Dr. med. Patrick Y. Wen, Dr. med. Santosh Kesari, Ph.D., July, 31, 2008

Malignant gliomas account for approximately 70% of the 22,500 new cases of malignant primary brain tumors that are diagnosed in adults in the USA each year. Although relatively uncommon, malignant gliomas are associated with disproportionately high morbidity & mortality. Despite optimal treatment, the median survival is only 12-15 months for patients with glioblastomas; 2-5 years for patients with anaplastic gliomas.

Recently, there have been important advances in the understanding of the molecular pathogenesis of malignant gliomas and progress in treating them.

Sen. Ted Kennedy (76 yrs. old) of Massachusetts had been recently diagnosed with a malignant glioma, and in early July, he underwent surgery. Mr. Kennedy is hoping for similar success as he completes about six weeks of radiation, with chemotherapy expected to continue for a year.

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