

U.S. Allowing Hubble Telescope to Degrade

-- Without doubt the Hubble Space Telescope is one of the most important telescopes ever built. Its clear view of the Cosmos, above the turbulent and distorting atmosphere, has changed our understanding of our Universe. --

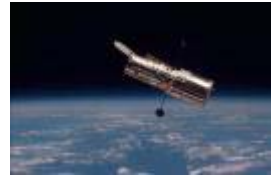
BACKGROUND:

The Hubble Space Telescope is a cooperative program of the European Space Agency (ESA) and the National Aeronautics and Space Administration (NASA) to operate a long-lived space-based observatory for the benefit of the international astronomical community. HST is an observatory first dreamt of in the 1940s, designed and built in the 1970s and 80s, and operational only in the 1990s. Since its preliminary inception, HST was designed to be a different type of mission for NASA -- a long term space-based observatory. To accomplish this goal and protect the spacecraft against instrument and equipment failures, NASA had always planned on regular servicing missions. Hubble has special grapple fixtures, 76 handholds, and stabilized in all three axes.

HST's current complement of science instruments include three cameras, two spectrographs, and fine guidance sensors (primarily used for astrometric observations). Because of HST's location above the Earth's atmosphere, these science instruments can produce high resolution images of astronomical objects. HST's resolution is about 10 times better than ground-based telescopes.

When originally planned in 1979, the Large Space Telescope program called for return to Earth, refurbishment, and relaunch every 5 years, with on-orbit servicing every 2.5 years. Hardware lifetime and reliability requirements

were based on that 2.5-year interval between servicing missions. In 1985, contamination and structural loading concerns associated with return to Earth aboard the shuttle eliminated the concept of ground return from the program. NASA decided that on-orbit servicing might be adequate to maintain HST for its 15-year design life. A three year cycle of on-orbit servicing was adopted. The two HST servicing missions in December 1993 and February 1997 were enormous successes.



STORY:

The Hubble Space Telescope will be allowed to degrade and eventually become useless, as NASA changes focus to President Bush's plans to send humans to the moon, Mars and beyond, officials said. NASA canceled all space shuttle servicing missions to the Hubble, which has revolutionized the study of astronomy with its striking images of the universe.

John Grunsfeld, NASA's chief scientist, said Friday that NASA administrator Sean O'Keefe made the decision to cancel the fifth space shuttle service mission to the Hubble when it became clear there was not enough time to conduct it before the shuttle is retired. The servicing mission was considered essential to enable the orbiting telescope to continue to operate.

He said the decision was influenced by President Bush's new space initiative, which calls

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for NASA to start developing the spacecraft and equipment for voyages to the moon and later to Mars. The president's plan also called for the space shuttle to be retired by 2010. Virtually all of the shuttle's remaining flights would be used to complete construction of the International Space Station. Grunsfeld said Bush "directed us to use this precious resource" (the shuttle) toward completing the International Space Station and fulfilling obligations to the 15 partner nations.

Without servicing missions, he said, the Hubble should continue operating until 2007 or 2008, "as long as we can." NASA was already planning to replace the Hubble with a new, improved version, called the James Webb Space Telescope, scheduled for launch in 2011.

The Hubble has revolutionized astronomy. Using images from the craft, scientists have determined the age of the universe, about 13.7 billion years, and discovered that a mysterious energy, called the dark force, is causing all of the objects in the universe to move apart at an accelerating rate. This force is still poorly understood.

The observatory has ailing gyroscopes which were to be replaced on the servicing mission, which already has been delayed by the Columbia accident. Grunsfeld said the Hubble has three good gyros and one that is not working well. Software was being developed to work with only two gyroscopes, he said, but the telescope will not have the same capabilities. The Hubble control team will attempt to extend the life of the telescope, but the gyros will degrade. He also said that while the batteries on the craft are constantly recharged, they eventually "will run out of juice."

The Hubble will eventually fall out of orbit and crash to Earth, probably in 2011 or 2012. To make that event safe, Grunsfeld said, NASA will design and build a small robot craft that will be launched and guided to the Hubble. The robot craft would "grab the Hubble and bring it into the atmosphere in a controlled manner," he said, guiding the school-bus-sized craft to harmlessly splash into a remote part of an ocean.

One reason for the cancellation of repairs, Grunsfeld said, was the requirement that a backup space shuttle would have to be primed for launch when a space shuttle was to service the Hubble, a requirement set after the Columbia accident.

Servicing missions are required to the Hubble every few years to tune up the complex craft and to replace worn-out parts. Four times previously, spacewalking astronauts have installed new parts or upgraded it with new instruments.

Images from the Hubble glimpsed galaxies back to a point just a few hundred million years after the Big Bang, thought to be the explosive beginning of the universe. Astronomers have found that galaxies and clusters of galaxies formed much earlier than theorists had expected. This suggests that planets where life was possible could have formed as early as about 12 billion years ago. The solar system, which includes the sun and Earth, is much younger, about 5 billion years old.

SIGNIFICANCE:

The James Webb Space Telescope will be a technological marvel — and a challenge. To do everything astronomers want the telescope to do, NASA must outfit the observatory with a mirror larger than Hubble's 8 ft (2.4 m) mirror, equip it with sophisticated infrared-sensing cameras and spectrographs, and place it in an orbit beyond Earth's moon.

The James Webb Space Telescope will look back to an extremely important period in the early history of the universe — a time when the first stars and galaxies began to form. This mysterious period in the universe's evolution, after the beginnings of structure but before the evolution of the galaxies and stars we see today, may be called "the Dark Age".

Using technology similar to that used for night-vision goggles, JWST will study infrared emissions from this early time. Scientists will be able to see objects many times fainter than those observed with current ground-based and orbiting telescopes, although only in infrared.

The War on Drugs, Terror, and the Place of Propaganda

-- A UK study has found a Taleban crackdown on drugs led to global heroin production falling by two-thirds in 2001--

BACKGROUND:

A few months after the terrorist attacks of 9-11, the National Youth Anti-Drug Media Campaign began running ads with the implications that the buying of illicit drugs helped finance terrorist governments. Although the language was conveniently vague, at the time we all understood what terrorist governments these ads were referring to. There was the war in Afghanistan and on the cable news channels which were booming because of the coverage, pieces on Afghanistan's opium production weren't scarce. The ads seemed to implicate Osama bin Laden, whichever nation he might be in, and basically anyone the United States might be at war with.

These ads were all part of a larger campaign by the National Youth Anti-Drug Agency whose more recent primary focus has been marijuana. Interestingly enough, the commercials with the somber actors depicting ex-heroin or opium related drug users dissipated shortly after the war in Afghanistan ended. Now however, the National Youth Anti-Drug Agency is focused on marijuana. TV viewers might remember the Public Service Announcement where two teenage boys are in a parent's den smoking marijuana and one of the boys pulls out a gun and accidentally shoots his friend. The message there seeming to be that marijuana induces young kids to shoot each other, rather than parents shouldn't keep a loaded gun in the drawer of their desk.

Another commercial with a similar theme shows a young girl moving towards a swimming pool with a voice over sarcastically opining to the audience that we should just tell the girls parents

we were getting stoned, they'll understand. The obvious inference being that people who are baby-sitting young children shouldn't be getting stoned on the job- which is probably sound advice.

These commercials, however reminiscent of the scare tactic prevention attempts like the infamous film Reefer Madness, provide some serious commentary on American ideology and American politics.

While the over the top and almost insulting implication that marijuana is the common culprit for all sorts of unfortunate deaths may come off as obvious propaganda for the average American, that may not have been the case for the commercials that aired after nine-eleven. After all, how many of us knew anything about the Taleban before the U.S. government decided to invade the country? For many of us who are ignorant in global drug trafficking, the National Youth Anti-Drug Media Campaign's connection between drug users in the states and countries who, according to these commercials, encourage the production of drugs in order to finance terrorism, might not seem all that far fetched.

However, in light of recent developments, the commercials that aired shortly after nine eleven and indirectly blamed opium related drug users with financing terrorism seem as much propaganda as the stoned kid accidentally shooting his friend with his father's loaded revolver. The following BBC World article explains the Taleban's true attitude towards opium growing.

STORY:

During the 1990s, Afghanistan was the main source of the world's illicit heroin supply. But a UK study has found a Taleban crackdown on drugs led to global heroin production falling by two-thirds in 2001. However, it notes that such draconian methods could not be used elsewhere.

Most Afghan heroin production was smuggled illegally to the West and to neighboring Pakistan and Iran. But from July 2000 until its downfall over a year later, the Taleban regime enforced a ban on cultivating opium poppy - from which heroin is manufactured.

The new report, written by criminologist Professor Graham Farrell from Loughborough University, has not yet been published, but the BBC has seen its findings.

Professor Farrell said the Taleban's methods were successful because of the manner in which the fight was implemented at a grassroots level. "It was a set of fairly simple techniques - the threat of eradication and the punishment of transgressors with fairly harsh punishments," he told the BBC's World Today program. "What was particularly interesting was the manner in which it was implemented at the local level."

Local community groups and religious leaders were made to implement the Taleban's policies and could be punished themselves if anyone was found cultivating opium poppies in their area, he said. Farmers who refused to comply with the policies had their faces blackened and were jailed. In extreme cases they were paraded through the streets.

The study said the result was that poppy growing in Taleban-controlled areas almost ceased and that globally, the heroin supply fell by 65%.

But since the Taleban was deposed, poppy cultivation has increased sharply. Mr. Farrell said the success of the strategy raised important questions about drug policy and policing. But he said it would not be desirable nor possible to take such draconian measures elsewhere.

SIGNIFICANCE:

This rather short but enlightening piece by the BBC sheds new light on what Americans were supposed to believe about the Taleban regime in relation to opium cultivation. Not to mention the ironic fact (or perhaps not so) that now the Taliban is out, opium production is back up. One of the titles at the end of a commercial by the National Youth Anti-Drug Media Campaign pushed the message that if you buy drugs, your supporting terrorists. Thus, according to what now seems as blatant propaganda, when we went into Afghanistan not only were we getting rid of a despotic and horrific regime, we were ousting a government that encouraged heroin production.

With this new information out, many questions must inevitably be raised.

One: On what information did the National Youth Anti-Drug Media Campaign base its commercials? Two: What was the motivating factor behind the running of such ads. This reporter has failed to find what information was used by the NYADMC to justify such allegations. And the answer to question two can only be speculation. Perhaps the NYADMC felt that such insinuation would be a kind of scare tactic, or guilt tactic, in order to prevent the future use of opium related drugs by U.S. citizens. Or perhaps the NYADMC, a government funded ad campaign, had a little creative suggestion from some higher ups. As said, such is only speculation.

An overlooked ironic gem is that the ad agency currently supervising the implementation of the new anti-drug ad campaign is Ogilvy and Mather, whose current clients include Miller Lite and XO Beer. If the reader has found nothing disturbing in this article thus far, then this surely has to raise an eyebrow. Then again, who better to inform young people about the dangers of illicit substance than the people selling them?

The billion-dollar National Youth Anti-Drug Media Campaign, under the newly appointed directorship of moral ideologue John Walters, is hard nut to crack. One has to question the level of involvement certain government officials have with some of the anti-drug commercials. Most run on MTV and other stations whose target audience is young America. In the face of both old and new information regarding the National Youth Anti-Drug Media Campaign, one has to wonder what its true agenda is. Is the campaign's purpose to provide subjective and bogus information that with the good-hearted goal of keeping our young adults off drugs? Are larger forces at work with ties to the overall political and ideological climate of whomever might be running the country at the time? Whatever motives lay behind the NYADMC, it is obvious now that to them, whatever ends they are seeking justify some untruthful means.

**THIS WEEK IN HISTORY /
BIOGRAPHY:****January 19, 1966****INDIRA GANDHI
LEADS INDIA**

Following the death of Indian Prime Minister Lal Bahadur Shastri, Indira Gandhi becomes head of the Congress Party and thus prime minister of India. She was India's first female head of government and by the time of her assassination in 1984 was one of its most controversial.

Gandhi was the daughter of Jawaharlal Nehru, the first prime minister of the independent Republic of India. She became a national political figure in 1955, when she was elected to the executive body of the Congress Party. In 1959, she served as president of the party and in 1964 was appointed to an important post in Lal Bahadur Shastri's ruling government. Soon after becoming prime minister, Gandhi was challenged by the right wing of the Congress Party, and in the 1967 election she won only a narrow victory and thus had to rule with a deputy prime minister.

In 1971, she won a resounding reelection victory over the opposition and became the undisputed leader of India. That year, she ordered India's invasion of Pakistan in support of the creation of Bangladesh, which won her greater popularity and led her New Congress Party to a landslide victory in national elections in 1972.

During the next few years, she presided over increasing civil unrest brought on by food shortages, inflation, and regional disputes. Her administration was criticized for its strong-arm tactics in dealing with these problems. Meanwhile, charges by the Socialist Party that she had defrauded the 1971 election led to a national scandal. In 1975, the High Court in Allahabad convicted her of a minor election infraction and

banned her from politics for six years. In response, she declared a state of emergency throughout India, imprisoned thousands of political opponents, and restricted personal freedoms in the country. Among several unpopular programs during this period was the forced sterilization of men and women as a means of controlling population growth.



In 1977, long-postponed national elections were held, and Gandhi and her party were swept from office. The next year, Gandhi's supporters broke from the Congress Party and formed the Congress (I) Party, with the "I" standing for "Indira." Later in 1978, she was briefly imprisoned for official corruption. Soon after the ruling Janata Party fell apart, the Congress (I) Party, with Indira as its head, won a spectacular election victory in 1980, and Gandhi was again prime minister.

In the early 1980s, several regional states intensified their call for greater autonomy from New Delhi, and the Sikh secessionist movement in Punjab resorted to violence and terrorism. In 1984, the Sikh leaders set up base in their sacred Golden Temple in Amritsar. Gandhi responded by sending the Indian army in, and hundreds of Sikhs were killed in the government assault. In retaliation, Sikh members of Gandhi's own bodyguard gunned her down on the grounds of her home on October 31, 1984. She was succeeded by her son, Rajiv Gandhi.

www.thehistorychannel.com

SPORTS:

Conference Championships

The old adage is that defense wins championships. And John Madden has said that a good defense will beat a good offense. Well these words of wisdom proved true on Sunday in the Indianapolis/ New England game.

The AFC championship game featured the hottest offense in football, the Colts, against one of the best defenses in years. Peyton Manning was, in last two games as some football fans have put it, “godly.” But Manning fell back to earth on Sunday with four interceptions, three of which were picked off by Patriots’ cornerback Ty Law.

The Patriots swarming defense might not have been the only factor that precluded another divine performance from Manning. The below freezing temperature surely didn’t help the quarterback from the south. As far as home field advantage goes, that aspect of the playoffs probably exhibited itself as most important in the Colts, Patriots game. And it wasn’t the crowd, the noise, or the atmosphere- unless you mean atmosphere to be the wind chill.

Tom Brady is used to playing big games in the snow, that’s how they got to the Super Bowl two years ago when they defeated the Raiders, at home, with even more white on the field. While the conditions were a little less harsh in this game, it was no picnic out there for Manning who isn’t used to throwing in below freezing temperatures.

John Madden has said time and again that a good defense beats a good offense. Well you couldn’t have had a more explosive offense coming into Foxboro on Sunday, nor could you have found a more talented defense. So it seems the old adage has been proven. But perhaps a new one can be forged from this game: southern boys don’t play too well in below freezing temperatures--well, it’s a work in progress.

ENTERTAINMENT:

2003 Best Books

We gave you the top grossing movies of 2003 and Ebert and Ropers top picks for best movies of 2003, so in continuing with the same ‘best of last year’ theme, here some of the Chicago Tribune’s best books of 2003.

The Great Fire

By Shirley Hazzard

Farrar, Straus and Giroux, 278 pages, \$24

Australian writer Shirley Hazzard's first work of fiction in more than 20 years was well worth the wait. Set mostly in gutted East Asia just after World War II, this novel, which recently won the National Book Award for fiction, explores the budding relationship between an English soldier and the teenage daughter of a despicable Australian commander.

Gulag: A History

By Anne Applebaum

Doubleday, 677 pages, \$35

Washington Post columnist Anne Applebaum has written an authoritative book about the brutal Soviet Union's labor camps of the 20th Century. Facts, theories and intimate interviews with survivors written in stark prose make this a compelling read.

I Sailed With Magellan

By Stuart Dybek

Farrar, Straus and Giroux, 307 pages, \$24

Chicago native Stuart Dybek's new collection of short stories, narrated by a young Polish-American, are a window into the city's South Side during the 1950s and 1960s. These 11 stories really capture the grit and ethnic diversity of the time and place.

The Known World

By Edward P. Jones

Amistad/HarperCollins, 400 pages, \$24.95

A riveting novel that looks at blacks who owned black slaves in the pre-Civil War South. Henry, a former slave, eventually buys human

property himself and treats them with violent disdain. A remarkable study of character and human integrity.

The Life You Save May Be Your Own: An American Pilgrimage

By Paul Elie

Farrar, Straus and Giroux, 555 pages, \$27

Paul Elie examines and compares the writings and life stories of four prominent Catholic Americans: Thomas Merton, Dorothy Day, Flannery O'Connor and Walker Percy.

"Negro President": Jefferson and the Slave Power

By Garry Wills

Houghton Mifflin, 274 pages, \$25

A fresh assessment of Thomas Jefferson that edges away from recent forays into the president's bedroom (his affair with slave Sally Hemings) and focuses on how Jefferson's views on slavery affected his politics.

They Marched Into Sunlight: War and Peace, Vietnam and America, October 1967

By David Maraniss

Simon & Schuster, 572 pages, \$29.95

Two seminal events during the Vietnam War are smartly examined and interconnected: an ambush near Saigon that wiped out an American battalion and an anti-war protest that led to a clash with police a day later at the University of Wisconsin.

FEATURE:

**THOUGHTS ON
FAIRY TALES:**

Part I of a two Part series

One of the books I picked up at a cheap bookstore in Melbourne was a complete one volume collection of the Grimm's Fairy Tales. Before this book I had only encountered

Cinderella, Snow White, and Sleeping Beauty through Walt Disney's imagination. Now I don't want to be misunderstood, I love the old Disney movies, it's just that the writers over at Disney kind of tinkered with the original plot lines a little. And I think one of the reasons they did this was to alter the theme in some cases, and in others to give a story a theme when one was absent. People like themes- I noticed this after reading the original Fairy Tales. We also like points, and a lot of the original Grimm's Fairy Tales didn't have a theme or a point.

The first story I picked it out because it had an interesting title and I hadn't heard of it before. There are almost three hundred Grimm's Fairy Tales in the collection I had, which is supposed to be all of them, which seems rather specious now that I think about it. The book was so large you could have broken your foot had you dropped it. The point is that it wasn't as if you could just start from the beginning and work your way through it, unless you had copious free time on your hands which I obviously never do. I had resigned myself to the fact that I would probably only get through forty at the most, and since I didn't want to read the ones I thought I already knew the story of, I decided to pick the ones with interesting titles. Thus I started with *The Golden Key*. And it began as a pretty good story, my hopes were high for the rest of the volume, and I thought I had made an excellent decision at the bookstore.

But in no time I reached the end of the story. I flipped to the next page. It was the next story. I looked for an addendum, an asterisk, a note or something that would tell me that the story continued on page 71 like in a magazine. But there was nothing. And I suddenly realized that the fairy tale had absolutely no point. I was quite disconcerted by this. I reread the story looking for some meaning, some symbolism. There wasn't any. The story clearly had no point or theme whatsoever. It was completely void of any meaning. I was concerned.

Stay Tuned...

Quote of the Week:

Wherever is love and loyalty, great purposes and lofty souls, even though in a hovel or mine, there is fairy land.

-Kingsley

Fact of the Week:

Every year 12% of the US population is arrested.

Word of the Week:

Trig (trig) a. trim, neat, strong.

Thank You For Reading
And
Have a Great Week!

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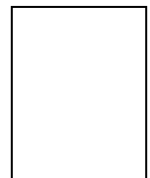
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