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Green Equilibria — and What We Can Learn from them to Heal our Planet

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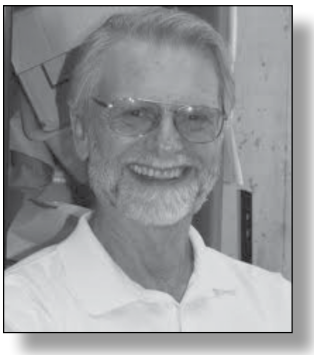

In the spring Oxford University Press will publish my new book, *Green Equilibrium: The Vital Balance of Humans and Nature*. Like my earlier *The Darwinian Tourist*, this new book will be illustrated copiously throughout with my own photographs from around the world.

Green Equilibrium takes the reader on a tour of many parts of the world, to examine the forces that have shaped different terrestrial and marine ecosystems and to trace the links between them and the forces that have shaped the evolution of our own species. The following extracts are taken from the book's introduction.

Tanzania's Ngorongoro Crater, with an area of 260 square kilometers, is a caldera, the collapsed remains of a volcano that was once as large as Mount Kilimanjaro. The floor of the caldera is fed by groundwater that seeps down from the rim, so that water is always available for thriving populations of predator and prey animals.

When my wife and I traveled around the crater in the spring of 2008, it was ablaze with wildflowers. Herds of zebras and blue wildebeest grazed on the lush grass. Lions, cheetahs, and leopards stalked them, while graceful caracals hunted smaller prey. Jackals splashed into the shallows of Lake Magadi and returned proudly with struggling flamingoes in their jaws. A nearsighted rhino blundered like Mr. Magoo across the grassland of the crater floor. When the rhino accidentally approached a pride of lions at a wildebeest kill, they panicked and fled.

Zebras gambol and wildebeest graze in Tanzania's flower-filled Ngorongoro Crater. The many species that live in the crater have reached a precarious ecological and evolutionary balance, a green equilibrium.

Ngorongoro's ecosystem is still largely intact, having survived intense tourism and the conversion of much of the surrounding area into grazing land. But it is still subject to the inexorable laws of evolution and ecology.

Human manipulations of the crater's environment that seemed at first to be small have had escalating consequences. During the quarter of a century prior to 2001, the park's rangers suppressed fires in the crater because lush and plentiful grass made the tourists happy. Ticks found shelter in the thick grasses and multiplied. A variety of tick-borne diseases soon began to threaten many of the crater's animal populations. Big cats were especially vulnerable, because their reproductive rates could not keep up with the deaths from disease. The numbers of lions, cheetahs, and other predators in the crater fell, and some populations of their prey began to increase unsustainably. Clearly, the crater's ecosystem was losing its balance.

In 2002 Tanzanian Veterinary Research Officer **Robert Fyumagwa** teamed with **Winston** and **Lynne Trollope**, a husband and wife team of grassland ecologists from South Africa, to attack this problem. Under Fyumagwa's direction, rangers began controlled burns of the crater grasslands.

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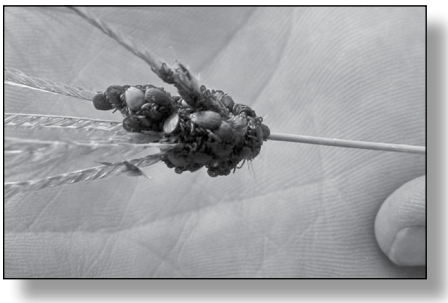
Their intervention worked spectacularly. The number of ticks dropped, and populations of the big cats and other predators recovered. The controlled burns did not rid the grasslands of the ticks and the diseases that they carried. Instead, they reduced the numbers of ticks. The result was a restoration of a delicate equilibrium that involved some of this ecosystem's essential components: the grasses, the periodic fires that swept through them, the populations of predator and prey animals, the ticks, and the diseases that the ticks carried. All these components, even the deadly ones, were essential to the balance. None could predominate without throwing the system out of equilibrium.

In this book we will examine the rules that govern such interactions among species. I call these ecological balancing acts *green equilibria*, because they keep our world vibrant, verdant, and ecologically intact. We will also explore how the world's green equilibria have shaped the evolution and history of our own species. And finally, and most importantly, we will see how evolutionary and ecological pressures similar to those that have produced these green equilibria have actually given our species the ability to undo the damage we are doing to our planet.

Green equilibria result from a wide variety of environmental selective pressures that act to maintain the diversity of species in ecosystems. The selective pressures have numerous origins, but many of them share one feature in common: their strength, and even their overall direction, varies as the species that they act on rise and fall in numbers and as the ecosystem itself changes. As the relative frequencies of species in ecosystems change, their interactions change as well. As we begin to explore balanced and unbalanced ecosystems in detail, we will find that such *frequency-dependent* selective mechanisms are often contributors to the ecosystems' survival.

The huge numbers of ticks that appeared in the Ngorongoro grasslands served as a clear early warning to the park's naturalists that its green equilibrium was losing its balance. Other, less obvious, factors contribute to the green equilibria of every ecosystem. One important type of frequency-dependent balance happens at the level of genes, resulting in a kind of genetic green equilibrium. In this case the frequencies involved are the relative frequencies of genes in a gene pool, rather than the relative numbers of different species in an ecosystem.



These ear-ticks, clinging to a grass stem in Ngorongoro Crater, carry many animal diseases that form an essential part of the crater's green equilibria. Photograph courtesy of Winston Trollope.

Each species in an ecosystem possesses a *gene pool*, the sum of all the genes that are carried by all the members of the species. As a result of mutations, each species' gene pool has become filled with different forms of many of its genes. Geneticists call these different forms *alleles*.

Selective pressures can change a gene pool by increasing or decreasing the relative numbers of these alleles. New alleles can also flood into a gene pool from different populations, and even from allied species — as we will see when we examine our own evolutionary history.

Some alleles sweep through populations and transform them, but many others are maintained in the populations' gene pools by a balance of frequency-dependent selective forces. It is such balances that establish genetic green equilibria.

None of these green equilibria, ecological or genetic, are permanent. When an ecosystem's environment changes, both the ecological equilibria and the genetic equilibria of each of its species must shift and change as well. But many populations that have had the time to reach equilibrium tend to have high ecological diversity and high within-species genetic diversity. They can draw on this diversity when the environment changes, increasing the chance that some members of the ecosystem will survive.

The human species has also been shaped by these genetic and ecological pressures. On the positive side, our gene pool has accumulated a huge collection of genetic alleles that have helped to give us the greatest range of intellectual and physical abilities of any species that has ever lived on our planet. Robert Fyumagwa and his rangers drew on these powers to understand and maintain the Ngorongoro crater's green equilibrium.

On the negative side, we have used these remarkable abilities of ours to push many of the world's green equilibria out of balance. Since the agricultural revolution began about ten thousand years ago, we have utterly changed almost half of the land surface that could conceivably be used to raise crops. In the process we have caused entire ecosystems to disappear, sometimes without a trace. We have changed other ecosystems so drastically that their current state is unsustainable.

Unparalleled successes for our own species have come at the cost of unsustainable overexploitation of the world's resources. There are three possible paths that we can follow as we confront this threat to our very existence as a species.

First, we can blindly continue to exploit and damage all the world's ecosystems, regardless of how irreplaceable they are or how many other species we force into extinction. This is plainly suicidal.

Second, we can continue our merciless exploitation of much of the planet, but also set aside some small areas such as Ngorongoro to serve as refuges for the world's wildlife. This course requires that we become good and effective stewards of the refuges. As we will see, our track record for such stewardship is decidedly mixed. There are real dangers if we follow this path exclusively.

Third, we can modify our behavior by applying what we are learning about the principles of ecology and about the evolution of different species, including our own. Until the human population eventually contracts to more manageable numbers, our species will continue to be the Earth's ruling predator. But there is no reason why, even during the next overcrowded century, we cannot maintain a

large part of the world in a healthy balance. We need to learn from the natural world how to be cleverer and less exploitive predators of the animal world. We must learn how to understand and harness the powerful evolutionary processes that have enabled other animals and plants to live together in green equilibria.

It is this third path that we will explore here. Before humans, no single species has had such an impact on the planet's ecosystems. But, before humans, no species was intelligent enough to consciously modify its behavior. We have been sufficiently intelligent to do this for hundreds of thousands of years, but at least we have had the excuse of ignorance. Now, for the first time, we can draw on our growing pool of knowledge and on our new communication technologies to fully utilize our collective intelligence as a species. As we will see when we explore the evolution of the human brain towards the end of the book, we now have no more excuses.

As we explore the ramifications of this third path, we will travel to ecosystems in California, Guyana, Brazil, the Philippines, the central Pacific, Thailand, New Guinea, Nepal, Bhutan, and more. Some of these places are relatively pristine, others are threatened, and a few are recovering from human damage.

During our travels we will meet some of the many ecologists who have gathered data about frequency-dependent interactions. And we will meet local people who are being trained by these scientists in scientific methods, giving them for the first time the tools that they need to understand the worlds that have nurtured them.

We will also explore how human migrants have brought with them the ingredients of a new kind of genetic equilibrium. Along with the genes from African ancestors, some of us have accumulated genes from at least two groups of people who preceded them, the Neanderthals and the mysterious Denisovans. This complex genetic heritage of the people of New Guinea has helped them to adapt to their equally complex ecological world. Their remarkable genetic heritage will continue to aid them as they and their children confront the world of the future.

Can we learn from our mistakes? We have the equipment. We are now beginning to understand, at the genetic level, how we have acquired such large and versatile brains. We will soon be able to trace how those brains have evolved, and to explore the contribution of genetic green equilibria that have helped to make us such a remarkable species. Astonishing as our intellectual history has been, it ultimately stems from changes in our gene pool that have been driven by natural selection.

Finally we will turn to some cases in which entire groups of peoples are using those amazing brains to make the leap into modernity and — perhaps — to restore the green equilibria of their environments. We will explore the stories of the Himalayan countries of Bhutan and Nepal, which are complex and challenging but laced with hope. In the process we will discover the excitement of the science that underlies the world's green equilibria, and the joy of taking part in the healing process. ❖

Dickson Award: Call For Nominations

Nominations Sought for Dickson Emeriti Professorships

The Awards Committee of the UCSD Emeriti Association invites your nomination(s) of retired faculty members for an Edward A. Dickson Emeriti Professorship. The amount of the award is $10,000 to be used to support the continued service of the awardee on behalf of the UCSD campus and/or community outreach. Service is defined broadly and includes contributions to student or faculty development, to community outreach, or to projects established by the retirement / emeriti association.

Award recipients for the last four cycles have been:

- 2012: Marjorie Caserio and Lea Rudee
- 2011: Jerry Schneider
- 2010: No nominations received
- 2009: Peter Farrell and Robert Hamburger
- 2008: Sandy Lakoff and Kurt Benirschke

One Dickson award will be made in June 2013. The campus Emeriti Awards Committee solicits your nominations of an individual for this award and encourages self-nominations. The recommendation(s) of the Awards Committee and the Emeriti Executive Committee will be forwarded to the Vice Chancellor for Academic Affairs for approval and the appointment of the selected individual as an Edward A. Dickson Emeriti Professor. Submit one or more names, with an explanatory letter to the address below. Submissions are due by March 15, 2013.

Emeriti Association Awards Committee, c/o Suzan Cioffi, Director
UCSD Retirement Resource Center • 9500 Gilman Dr., Department 0020 • La Jolla, CA 92093-0020

REMEMBERING BILL NIERENBERG

By Charles F. Kennel (UCSD), Richard S. Lindzen (MIT) and Walter Munk (UCSD).

Part II: The SIO Years

(Reprinted – minus footnotes – from the Memorial published by the National Academy of Sciences; Part I: The Early Years appeared in the September 2012 issue of Chronicles, which is available online on the Emeriti website.)

Bill formally became an oceanographer on July 1, 1965, when he assumed the directorship of the Scripps Institution of Oceanography. He was highly recommended by physicists and science administrators in Washington. **Edwin McMillan** praised Bill's intelligence and energy. **Bob Frosch**, who had succeeded Bill as director of the Hudson Labs, said he would enjoy working with him again. The only negative note came from **Edward Teller**, who complained that he could never get a word in edgewise in discussions with Bill at NATO.

Bill already knew many of the scientists in La Jolla. He had met **Carl Eckart** as a physicist in the 1940s. He had worked with **John Isaacs** on the Mine Warfare Committee. And he had long associations with the first faculty of UCSD, including **Harold Urey**, whom he had first met at Columbia, and **Keith Brueckner**. **Walter Munk** and Bill had met as members of JASON, an independent group that advises the Department of Defense on scientific matters related to national security, which Bill chaired for six years. Nevertheless, journalists often asked what a physicist was doing in oceanography. Bill had to explain that his naval connections dated back to 1947. He had served on the President's Science Advisory Panel on Antisubmarine Warfare from 1958 to 1960. He had conducted research on long range low-frequency sound in submarine detection under contract to the Office of Naval Research at Berkeley. This gave him some familiarity with the field.

Scripps was one of the best-known centers for oceanography in the United States, and the first to offer a curriculum in the discipline. It had begun as a small private marine biological station, and then became part of the University of California in 1912, but it didn't become prominent until World War II, when researchers in La Jolla made very significant contributions to the war effort in the area of underwater sound, antisubmarine warfare, the development of methods of surf forecasting, and other research in support of amphibious and naval operations. During and immediately following the war it was virtually a Navy laboratory, but it gradually broadened its research interests and funding sources to emerge in the 1960s as a major center for geophysical research with a stellar faculty of biologists, geophysicists, and chemists. Its work contributed to the earth sciences revolution of plate tectonics, and its faculty had done some trailblazing work in geochemistry and atmospheric science. In particular, Walter Munk and **Harry Hess** had suggested a core-drilling program dubbed "Mohole" to answer key questions about the composition of the earth's mantle and the geological history of the planet. At **Roger Revelle**'s initiative **Charles David Keeling** initiated measurements of atmospheric carbon dioxide in 1956 during the International Geophysical Year. These showed that carbon dioxide was building. Scientists began to speculate about possible environmental consequences. So Scripps was a famous and successful laboratory in 1965, but it was not a cohesive community.

There were a number of reasons for this. Bill arrived at La Jolla at a difficult moment. He succeeded a great and very popular oceanographer, Roger Revelle, who resigned when he was not named chancellor for the campus that he virtually founded, the University of California, San Diego. The Scripps faculty was disappointed by Revelle's departure, ex-

hausted by the effort of parenting a new general campus, fearful of being absorbed by UCSD, and divided into camps along disciplinary lines.

The student activism that Bill had already experienced at Berkeley was also evident at UCSD, and there was friction between the conservative La Jolla residents and the liberal academic community. The UCSD faculty was liberal, while Bill and Scripps were more conservative. **Harold Urey** had been a science advisor to the **John F. Kennedy** campaign, while Nierenberg supported **Lyndon Johnson**, because he considered **Barry Goldwater** reckless. Bill later supported and advised presidents **Richard Nixon** and **Ronald Reagan**.

The 1960s were a difficult time in La Jolla. When student activists approached the Scripps campus to protest military sponsored research, Bill had the campus police turn them away. The faculty at Scripps wanted a little peace and quiet, but Bill wanted action. As director of Scripps, Bill planned a new initiative every year, but he started by trying to repair what he saw as shortcomings at the institution. His appointment as director included the rank of dean and vice-chancellor for marine sciences at UCSD, which helped to define the muddled relationship between Scripps and the general campus. Bill was amazed to find that computers were almost unknown on campus. A few pioneers had their own small com-

puters at the Institute of Geophysics and Planetary Physics, but bathythermograph and other large datasets were still kept on computers at the University of California, Los Angeles. There was no central computer facility on the UCSD campus, and data was still recorded on Scripps ships, using paper and audiotape systems. Bill loaded IBM 1800s on the institution's largest ships, acquired a Prime computer for the Scripps campus, modernized the shore-based datacenters, and supported the creation of a supercomputer facility at UCSD. He streamlined the administrative and financial structure of Scripps, for the institution was expanding rapidly with the creation of the Deep Sea Drilling Project.

The Deep Sea Drilling Project rose like a phoenix from the idealistic but politically moribund Mohole Project. Scripps managed and housed the project from 1966 until 1986, under contract with the National Science Foundation for some $20 million. Bill negotiated the prime contract and oversaw the building of the drilling vessel Glomar Challenger, with its unique dynamic positioning technology. He fostered a strong science advisory structure and built the team that made the project operational. In doing so he pioneered a new type of scientific organization and guided the project from a national and institution-based effort to the first multi-institutional, international collaboration in science, a model for later projects from GEOSECS (Geochemical Ocean Section Study) to ITER (international thermonuclear experimental reactor). The DSDP lived up to its objectives and fostered some of the major scientific advances of the twentieth century. Before DSDP most scientists thought hydrocarbons did not exist in the deep ocean basins, but they were found at the very first drilling site in the Gulf of Mexico. The Mediterranean was thought to be an ancient sea, but the DSDP found that it had been a closed basin and even a dry seabed in the past. The project verified that the present ocean basins were young and confirmed aspects of seafloor spreading and plate tectonics. The project greatly enhanced the prestige of the institution.

Bill knew how to capitalize on success, and he served as director during a fertile period. Plate tectonics and the environment took center stage in science in the 1960s and 1970s, and oceanography entered the mainstream of American science. Bill moved Scripps toward work in air-sea interaction and climate studies and established the remote sensing facility at Scripps, the first such facility at an oceanographic institution. Scripps acquired a DC-3 airplane for observations from above the sea, an acquisition that coincided with Bill's growing enthusiasm for flying his own plane. The climate program capitalized on Scripps's growing reputation in atmospheric science, which was based on the CO^2 work that had been done for years at Scripps by Keeling and others. The precise measurements done by Keeling were something that Nierenberg understood, and he relished the growing debate within the scientific and political worlds about the possible consequences of increasing atmospheric carbon dioxide and what, if anything, should be done. Nierenberg and Keeling held differing views about climate change, but they agreed about the necessity for continuous measurements. Keeling recalled with admiration the political skill Bill employed to ensure continued funding of the program at Scripps by the Department of Energy in 1981.

Bill was director of Scripps for 21 years, the longest sitting director of the institution to date. During his tenure five vessels joined the research fleet and the institution's budget increased fivefold. Scripps scientists discovered the deep-sea hydrothermal vents. Bill worked to strengthen both the teaching and research programs at Scripps. He fostered international cooperation. For instance, with **Saul Alvarez Borrego**, Bill strengthened the relationship between Scripps and science institutions in Mexico, particularly with the two Baja marine institutions, the Escuela Superior de Ciencias Marinas of the Universidad Autonoma de Baja California, and the Centro de Investigaciones Cientifica y Educacion Superior de Ensenada. The interaction among these institutions strengthened them all, and Bill particularly enjoyed the soccer game that was a feature of the annual exchange visits.

Bill retired from Scripps in 1986 but strongly continued his science advisory activities. When **Charlie Kennel** became director of Scripps in 1998, Bill initiated monthly lunch discussions with Charlie; Bill's purpose was to help his successor once removed to be scientifically rigorous in all his public interactions. These continued to within weeks of Bill's death and were much appreciated.

While fisheries had been a subject of great interest to the government of the United States since its founding, oceanography was rarely discussed in Congress before World War II. That changed beginning with the International Geophysical Year in 1956, and by 1969 the Stratton Commission recommended the creation of a new agency, the National Oceanic and Atmospheric Administration, and a new presidential advisory committee, the National Advisory Committee on Oceans and Atmosphere to oversee a national program in oceanography. Bill chaired NACOA from 1972 to 1977 and spoke forcefully in support of NOAA. This put him in close contact with legislators, and drew him into related matters of interest to Congress, including law of the sea and the earth observing system being promoted by the National Aeronautics and Space Ad-

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Emeriti Website

The UCSD Emeriti Association maintains a website: **http://emeriti.ucsd.edu.**

Clicking the **CHRONICLES** button will allow you to view past issues of this newsletter. The website also provides the constitution and by-laws, lists of members, and minutes of meetings.

ministration. Bill served the White House during 1975-1976 as a member of the President's Science Advisory Committee

(PSAC) and during 1976-1978 as a member of the Office of Science and Technology Policy. He served on the NASA Advisory Council and was its first chairman from 1978 to 1982. However, he may be best remembered for influential reports he prepared on the Santa Barbara oil spill, acid rain, and climate change.

Bill delved seriously into scientific issues as the author of these reports, and never was this truer than his involvement with the climate change issue. His 1983 report *Changing Climate* was the first to introduce into public debate the concept of the "fingerprint" for detecting human-induced climate change, the possible release of methane hydrates because of warming, and carbon taxes. The New York Times covered the report on its front page, and Bill was proud that the newspaper published verbatim the report's executive summary, every word of which he had worried over.

For the remainder of his life Bill actively battled what he felt was exaggerated concern over the role of CO^2 in climate change. As the issue became politicized, Bill became identified with the political right, but Bill was always more idealistic than partisan. His priorities were the nation (he was patriotic to the core), science in both its methodology and institutions, and honesty and fairness. Given these priorities, he was often allied with conservatives, but his children — Victoria (who is liberal) and Nicolas (who is conservative) — both feel that Bill was supportive of their views.

He was particularly proud of Victoria's contributions as an environmental consultant to the National Research Council report *The Policy Implications of Greenhouse Warming*.

While working on the climate change report in 1983, Bill supported the participation of **George Woodwell**, a strong environmental advocate and activist, because George was concerned with the role of land processes in the CO^2 budget, a matter Bill felt was being underestimated by the marine geochemists. One of Bill's last e-mail messages to one of us (R.S.L.) was a reminder that a proper representation of climate feedback should also automatically eliminate climate drift in coupled models. This is a far deeper and subtler comment than one usually finds associated with this issue.

The same e-mail message sought advice on purchasing a flat in Paris, something Bill had his heart set on. Bill Nierenberg died of cancer at his home in La Jolla, California, on September 10, 2000. At the time of his death Bill was assembling a panel for the Marshall Institute in order to prepare a summary of the IPCC Third Assessment Report that would be more representative of the text itself. **James Schlesinger** eventually succeeded him in this effort, and the report was completed in 2001.

Bill's family created the Nierenberg Prize for Science in the Public Interest in his honor. The Nierenberg Prize recognizes those who promote science in the public interest and reflects the mission of Scripps: to seek, teach, and communicate scientific understanding of the oceans, atmosphere, Earth, and other planets for the benefit of society and the environment. Bill would have enjoyed knowing that his prize was given to people of international reputation, like **E. O. Wilson**, **Walter Cronkite**, **Jane Lubchenco**, and **Jane Goodall**, who were also known to the layperson. The world of science will miss Bill's critical, perceptive, and supportive voice. ❖

ANECDOTAGE

By Sandy Lakoff

Electile Dysfunction

Now that the election season is over we can all focus again on less bruising contact sports — like, say, football, boxing, or bull-fighting. But before the campaign altogether fades from memory and future historians explain what really happened (which will be nothing like what we think we experienced), a last look at some of its more manic moments:

"Well what I want them to know is just like, ***John Wayne*** *was from Waterloo, Iowa. That's the kind of spirit that I have, too."* (Rep. **Michele Bachmann**; John Wayne the movie star was born in Winterset, Iowa, three hours drive away; the "John Wayne" from Waterloo is **John Wayne Gacy**, a notorious serial killer.)

"I find it interesting that it was back in the 1970s that the swine flu broke out under another... Democrat president, ***Jimmy Carter****. I'm not blaming this on President* ***Obama****, I just think it's an interesting coincidence."* (Bachmann on the 1976 outbreak that actually happened during the presidency of **Gerald Ford**, a Republican.)

"Carbon dioxide is portrayed as harmful. But there isn't even one study that can be produced that shows that carbon dioxide is a harmful gas." (Bachmann, April, 2009.)

"... We also know that the very founders that wrote those documents worked tirelessly until slavery was no more in the United States. ... I think it is high time that we recognize the contribution of our forbearers (sic) *who worked tirelessly – men like* ***John Quincy Adams****, who would not rest until slavery was extinguished in the country."* (Bachmann; except that the Constitution did not outlaw slavery and J.Q. Adams was not one of the founders.)

"*I'm ready for the 'gotcha' questions and they're already starting to come. And when they ask me who is the president of Ubeki-beki-beki-bekistan-stan I'm going to say, you know, I don't know. Do you know?*" **(Herman Cain)**

"I am suspending my presidential campaign, because of the continued distractions, the continued hurt caused on me and my family, not because we are not fighters. Not because I'm not a fighter." (Cain, after one woman said he had had a 13-year extramarital affair with her and others alleged he had sexually harassed them.)

"He said, 'You know and I know that she's not young enough or pretty enough to be the wife of a president.' **(Leonard H. "Kip" Carter** quoting his friend **Newt Gingrich** on why he asked for a divorce from his first wife while she was undergoing treatment for cancer.)

"It's three agencies of government that are gone when I get there: Commerce, Education, and....sorry, oops." (Governor **Rick Perry** blanking in a primary debate on the third department he was determined to eliminate.)

"One of the things I will talk about, that no president has talked about before, is I think the dangers of contraception in this country.... Many of the Christian faith have said, well, that's okay, contraception is okay. It's not okay. It's a license to do things in a sexual realm that is counter to how things are supposed to be." (Senator **Rick Santorum**)

"President ***Obama*** *wants everybody in America to go to college. What a snob ... Oh, I understand why he wants you to go to college. He wants to remake you in his image."* (Santorum).

"Earlier in my political career, I had the opportunity to read the speech, and I almost threw up." (Santorum, on JFK's 1960 speech about the importance of separation of church and state.)

"The question is – and this is what Barack Obama didn't want to answer – is that human life a person under the Constitution? And Barack Obama says no. Well if that person – human life is not a person, then – I find it almost remarkable for a black man to say, 'We're going to decide who are people and who are not people.'" (Santorum)

"Until Obamacare, mandatory private health insurance was considered the free-market alternative to the Democrats' piecemeal socialization of the entire medical industry.... In November 2004, for example, libertarian ***Ronald Bailey*** *praised mandated private health insurance in Reason magazine, saying that it "could preserve and extend the advantages of a free market with a minimal amount of coercion." A leading conservative think tank, The Heritage Foundation, helped design Romneycare, and its health care analyst,* ***Bob Moffit****, flew to Boston for the bill signing. The bill passed by 154-2 in the Massachusetts House and unanimously, 37-0, in the Massachusetts Senate – including the vote of Sen. Scott Brown, who won* ***Teddy Kennedy's*** *seat in the U.S. Senate in January 2010 by pledging to be the "41st vote against Obamacare."...One difference between the health care bills is that Romneycare is constitutional and Obamacare is not. As Rick Santorum has pointed out, states can enact all sorts of laws – including laws banning contraception – without violating the Constitution. That document places strict limits on what Congress can do, not what the states can do. Romney, incidentally, has always said his plan would be a bad idea nationally.* **(Ann Coulter**, helpfully clarifying the contrast between Romneycare and Obamacare.)

"... a perfectly lubricated weather vane..." (Ambassador **John Huntsman** on Romney.)

"We're not going to let our campaign be dictated by fact-checkers." (Romney campaign pollster **Neil Newhouse**.)

It was like – it was like the Special Olympics or something." (President Obama describing his shoddy bowling game to comedian **Jay Leno**.)

"*The number one job facing the middle class... happens to be, as Barack says, a three-letter word, jobs. J-O-B-S, jobs."* (Vice President **Joe Biden** in Ohio.)

"Look at what [the Republicans are] proposing: [Romney] said in the first one hundred days, he's going to let the big banks write their own rules – unchain Wall Street. They're going to put y'all back in chains." (Biden to a largely African-American audience in Virginia.)

"*When the stock market collapsed, Franklin D. Roosevelt got on television and said, "Look, here's what happened...."* (Biden on an event that happened in 1929, before

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Anecdotage from p.7

FDR was president and television had not yet been invented — by **Al Gore,** of course.)

"There are 47 percent of the people who will vote for the president no matter what. All right, there are 47 percent who are with him, who are dependent upon government, who believe that they are victims, who believe the government has a responsibility to care for them, who believe that they are entitled to health care, to food, to housing, to you-name-it – that that's an entitlement. And the government should give it to them. And they will vote for this president no matter what. ... These are people who pay no income tax. ... [M]y job is not to worry about those people. I'll never convince them they should take personal responsibility and care for their lives." **(Mitt Romney** in a closed-door dinner meeting in Boca Raton with donors who paid $50,000 each to attend.)

"First of all, from what I understand from doctors, that's really rare. If it's a legitimate rape, the female body has ways to try to shut that whole thing down. But let's assume that maybe that didn't work or something. I think there should be some punishment, but the punishment ought to be on the rapist and not attacking the child." (Rep. **Todd Akin**, Republican candidate for the Senate from Missouri, explaining his opposition to abortion even in the case of rape.)

"I struggled with it myself for a long time, but I came to realize life is that gift from God. And I think even when life begins in that horrible situation of rape, that it is something that God intended to happen." **(Richard Mourdock**, Republican candidate for the Senate from Indiana, *explaining why he opposed legalization of abortion even in cases of rape.)*

"If another Republican man says anything about rape other than it is a horrific, violent crime, I want to personally cut out his tongue. The college-age daughters of many of my friends voted for Obama because they were completely turned off by Neanderthal comments like the suggestion of 'legitimate rape.'" (Former **George W. Bush** adviser **Karen Hughes**.)

"He was serving his mission. My five sons have also served their mission...I sent them away as boys and they came back men." **(Ann Romney;** as the Economist Magazine noted, in an article entitled "A Year in Provence," she "equates Mitt Romney's Mormon mission in France with a tour of duty in Vietnam.")

"It goes back to the days when we were kids together in Kenya ...We had constant run-ins on the soccer fields. He wasn't very good and resented it. When we finally moved to America, I thought it would be over." (President Obama explaining to late-night comedian **Jay Leno** why **Donald Trump** has it in for him.) ❖

Mark Your Calendar!

James Hamilton
Professor of Economics
Quantitative Easing (QE3) By the Federal Reserve
Wednesday, January 9, 4:00-5:30

Maurizio Seracini
Adjunct, CALIT2
Technology and the Study of Art
Wednesday, February 3, 4:00-5:30

Richard Somerville
Distinguished Professor of Emeritus, SIO
The Scientific Case for Urgent Action On Climate Change
Wednesday, March 13, 4:00-5:30

Green Faculty Club

Chronicles

Newsletter of the UCSD Emeriti Association

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