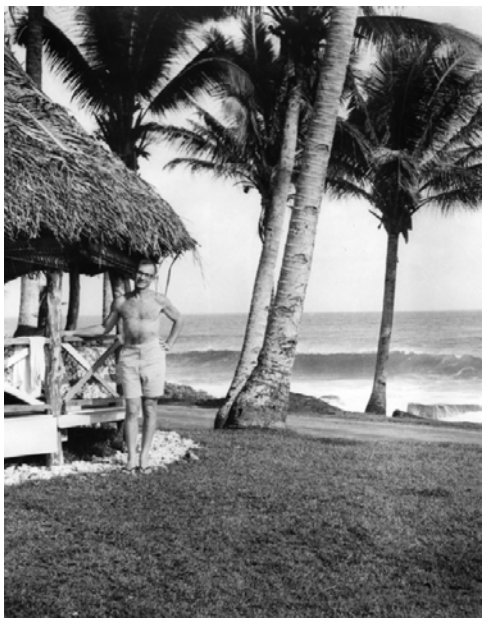
EA Chronicles
Newsletter of the UCSD Emeriti Association

April 2019 Volume XVIII, No. 4

In Memory of Walter Munk, World-Renowned Oceanographer

Walter Munk, 1946

Working from a motor launch at a Pleistocene Atoll called Alexa Bank During the Capricorn Expedition (1952-1953).



Walter Munk, 1963
in American Samoa

Walter Munk, 1966

On the left, Judith Horton Munk and Walter Munk, 1962

Inside

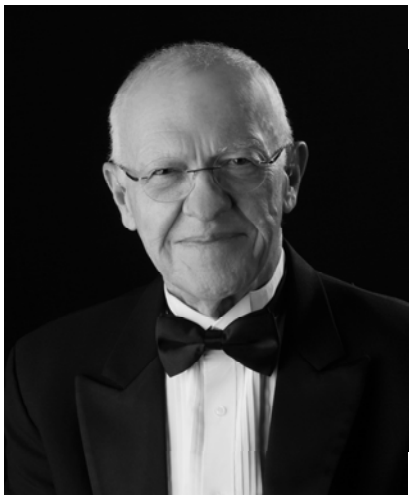
How Should We Fix Immigration?

By Wayne A. Cornelius
Dickson Professor and Theodore Gildred Professor of U.S.-Mexican Relations, Emeritus
Distinguished Professor of Political Science, Emeritus

In the spring semester this year I was hauled back into the classroom to teach a course on the comparative politics of immigration at Portland's Reed College. The students' main assignment was to design a piece of legislation on comprehensive immigration reform (CIR) for the United States. It had to contain at least three and as many as six policy proposals, grounded in the research data. The legislation also had to be politically realistic – i.e., able to attract enough votes for passage in both houses of Congress. It had to improve the status quo without a lot of unintended consequences. All in all, a formidable challenge for undergraduates, and I daresay, for the U.S. political class, which has failed five times in the last 18 years to enact CIR, and which remains paralyzed on the issue at this writing.

What would I put into my own CIR proposal? Here goes:
I begin by stipulating that by January 2021, or some date beyond that, both houses of Congress will be under Democratic control, preferably by a veto-proof majority. Nothing will happen on CIR until that condition obtains, since the Republican Party has made a religion of restricting immigration and asylum-seeking, in ways that would be unacceptable even to centrist Democrats in Congress.

Sensible immigration policy design must begin with a correct definition of the "problem" to be fixed. I suggest viewing immigration in 21st Century America not as a problem but as an essential solution to one of our most fundamental problems: the



Wayne A. Cornelius

yawning demographic deficits that we have in meeting the economy's labor requirements and financing public services.

The United States faces the challenge of replacing 76 million retiring baby boomers, at a time when total labor force growth has fallen sharply, from an annual average of five percent in the 1970s to less than one percent since 2000. Combined with population aging and reduced tax payments of retired workers, this puts huge stress on budgets for programs like Medicare and Social Security. The dependency ratio – the number of active workers supporting each retiree -- is projected to climb steeply in the next 30 years. Former Federal Reserve chairman **Ben Bernanke** had it right. In October 2006, he told Congress: "We need a more liberal immigration policy to ease the burden of a shrinking work force." In fact, Bernanke pointed out, we would need an annual inflow of nearly *3.5 million* immigrants – not the 1 million per year being admitted under current policy – to replace the baby boomers. Artificial intelligence and robotics may reduce our labor requirements in manufacturing, but millions of low-skill jobs now held by immigrants would remain, in agriculture, construction, and services. The home health care aide of the future is unlikely to be a robot.

These challenges are common to all advanced industrialized countries today. Indeed, most of those nations are at a considerably more advanced point in their demographic transition, facing absolute population declines in the tens of millions plus rapid population aging. Because the U.S. received large numbers of immigrants in the 1990s and 2000s, we are in a much less dire position. The total fertility rate of 1.77 children per woman is well below the 2.10 population "replacement" level. But the rate would be even lower if it were not being propped up by immigrants whose child-making exceeds that of native-born Americans – for now. The immigrants' descendants are likely to mirror the low fertility rate of the general U.S. population. It's time to think seriously about how immigration policy might be used to address our fundamental demographic and fiscal imbalances.

> *"We need a more liberal immigration policy to ease the burden of a shrinking work force." In fact, Bernanke pointed out, we would need an annual inflow of nearly 3.5 million immigrants – not the 1 million per year being admitted under current policy – to replace the baby boomers.*
>
> *Ben Bernanke*

The point of departure must be immigration reform legislation that includes a generous path toward legalization for the approximately eleven million undocumented immigrants now living here. Keeping them in illegal status indefinitely benefits no one, and it stunts their human capital development. It is fantasy to expect them to self-deport *en masse*, if only we make life truly miserable for them, by restricting access to formal-sector employment and basic human

services and hounding them with an ever-more-aggressive deportation effort.

But a legalization program must be designed with great care. The eligibility criteria (e.g., minimum years of continuous U.S. residence) must be generous enough to make the program accessible to the bulk of today's undocumented population. Legalizing only the "Dreamers" (variously estimated at 700,000-1.9 million) and perhaps their parents is not enough; they represent the politically low-hanging fruit. To neutralize conservatives' criticisms of an "amnesty" that simply rewards lawbreakers, the program should include some financial penalties (fines, fees, back taxes), thus making it "earned" legalization. To attract Democratic votes, it must offer a path to U.S. citizenship -- not just a green card.

A legalization program must be complemented by other reforms to increase the number of legal-entry opportunities for future migrants. Failure to do so simply ensures regrowth of the undocumented population – a key flaw of the CIR legislation passed in 1986. The options include user-friendly temporary worker programs for both low-skilled and highly skilled workers, with annual allocations of visas based on actual labor market conditions -- not absurdly low caps dictated by what the political traffic will bear (the present system).

Reforming our system of permanent immigrant admissions should also be part of the mix. We particularly need to increase the number of permanent, employment-based "green cards," which are now capped at just 140,000 per year. The United States issues fewer such visas than Australia, despite having a population fourteen times larger.

But family-based immigration should also be scrutinized. The overall cap on visas granted because of family ties to the U.S., 480,000 per year, was set by Congress in 1990. (Visas for immediate relatives of U.S. citizens are uncapped.) There is also a seven percent annual cap on visas issued to nationals of a given country, within each of four visa preference categories. These numerical limits combine with strong visa demand in some countries to produce enormous backlogs. Green-card applicants from countries like India, China, Mexico, and the Philippines often wait many years – even decades -- for the queue to reach them. Eliminating the per-nationality cap on applicants from certain high-demand countries would make backlogs manageable.

A frequently heard argument – fully embraced by the Trump administration – holds that family-based visas should be drastically reduced, to make room for more immigrants admitted through a points system a la Canada or Australia that prioritizes educational attainment and professional skills. But evidence from Canada and the U.S. itself suggests that a hybrid system of family-based and skills-based visas, providing an ample number of each type, works well. For example, a recent cohort of immigrants, arriving in the U.S. between 2010-2017, had a significantly higher percentage of college graduates than the U.S.-born population (41 percent to 27 percent, respectively). We should not throw the baby out with the bath water.

Our system for admitting asylum-seekers has been eviscerated by the Trump administration. More than 80,000 refugee visas were available in President Obama's last year; fewer than 25,000 refugees will be resettled this fiscal year. Canada is now admitting about 6 times as many refugees as we are, on a per capita basis. Moreover, the administration has radically restricted the grounds for claiming asylum, while jacking up the denial rate. None of these policies required Congressional approval, so they can be undone by a new president's executive orders.

> *… it is long past time for the United States to have a proactive, national-level policy to promote the integration of immigrants into our society.*

Most asylum-seekers reaching our southern border today are from three Central American countries – Guatemala, Honduras, and El Salvador – which have high levels of gang and drug violence as well as extensive low-end poverty. Migrant flows from these countries can be reduced by well-targeted development and rule-of-law assistance. The Trump administration has been cutting such aid; we should be increasing it substantially. Harsh deterrence measures have been totally ineffective in stemming the exodus. It's time to make a serious effort to create alternatives to emigration, through development.

Finally, it is long past time for the United States to have a proactive, national-level policy to promote the integration of immigrants into our society. Canada and other industrialized nations have such policies, and they are largely successful. Canada's policy emphasizes public-private partnerships; most government funding for immigrant integration is channeled through community-based organizations.

A key focus should be providing easy access to programs that accelerate English acquisition in the context of the workplace. ESL programs that build job and language skills simultaneously already operate in California and Washington state. In addition, ESL instruction is offered by thou-

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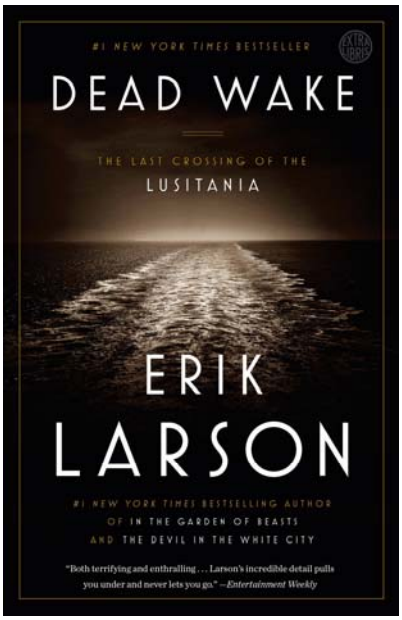
sands of NGOs around the country. Why not channel federal funding through such programs? Participation in adult ESL is the single fastest path to higher wages, more stable employment, and more successful navigation of our health care and education systems. When did you last hear a presidential candidate talk about that?

Future attempts to enact comprehensive immigration reform should not get bogged down in further, sterile debates over "border security." A huge accumulation of evidence from field interviews – including fifteen years of studies by UCSD's Mexican Migration Field Research Program – suggests that investing additional billions in physical border fortifications located in remote areas is the least cost-effective approach to reducing unauthorized immigration. But to win enough votes for Congressional approval, any CIR legislation must have a border security component. My recommendation would be to invest in staffing up scrutiny of people and vehicles at our legal ports of entry, through which upwards of one-third of unauthorized entries occur (not to mention more than 90 percent of illicit drugs).

Cracking down on visa-overstayers, who now significantly outnumber migrants who enter clandestinely, would also make more sense than border barrier-building. But the U.S. lacks a computerized system for tracking entries and exits, despite repeated Congressional mandates. Moreover, identifying and removing large numbers of over-stayers would be extremely disruptive. Those who have lived here for more than ten years (the median, according to national-level survey data) should be offered a path to permanent legal status.

How far down the demographic implosion rabbit hole must we go before the political conditions exist for rational, evidence-based immigration policymaking? Probably not before labor shortages become so widespread and structural – i.e., not tied to the business cycle – that they cannot be ignored by most members of the general public. At that point, Bernanke-level increases in legal immigration admissions may be necessary to avoid crippling the nation's economic performance. The zero-sum political calculus that currently paralyzes federal immigration policymaking will weaken, and at least some politicians will even come to see electoral benefit in embracing less restrictive policies. Stranger things have happened!

Emeriti Association Book Club



Monday, April 22nd

The UCSD Emeriti Association's Book Club meets from 11:30 AM to 1 PM, on the fourth Monday of each month at the Ida & Cecil Green Faculty Club.

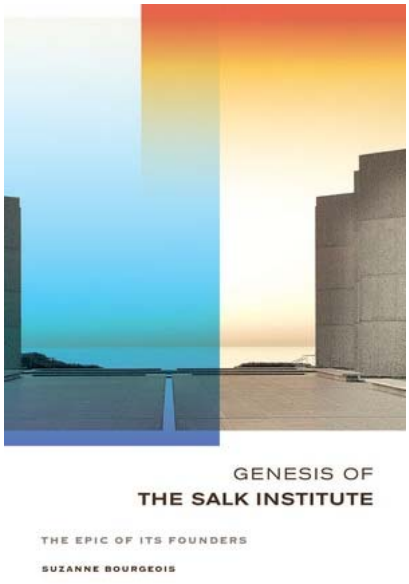
Please RSVP on the EA RSVP website: https://hrweb.ucsd.edu/ea/

Each month a different Book Club member facilitates the discussion of the book.

In April, the Emeriti Association Book Club will discuss the book "***Dead Wake, The Last Crossing of the Lusitania"***, by Erik Larson.

The May book selection is "***Genesis of the Salk Institute, the Epic of It's Founders***", by Suzanne Bourgeois.

Join us for these interesting discussions. You may choose to purchase lunch at the Faculty Club, or not.



Monday, May 20th

A Response to a Climate-Change Skeptic

By Richard Somerville
Distinguished Professor Emeritus, Scripps Institution of Oceanography

(Editor's note: Unable to persuade a friend to accept the scientific finding that rising temperatures result from human activities, I asked Somerville for help. Since readers may know others who also need convincing, he graciously agreed to allow his response to be published.)

Richard Somerville

Climate change is controversial politically, but not scientifically. In the community of scientists who carry out and publish research on this topic, there is a very high degree of consensus on the fundamental findings. One never gets certainty or unanimity in science, of course, and mainstream science is sometimes wrong. There are a few retrovirus experts who do not think that HIV causes AIDS. They, like the - of climate "contrarians" who do not accept mainstream climate science results, are almost surely mistaken. You pose the key issue: "The question is whether the bulk of the change now observed and projected into the future is manmade (i.e., largely CO_2 from fossil fuels) or (i.e. solar variations, volcanism, etc.)." This is the scientists' answer: **"It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century."** The next statement in the Summary for Policy Makers (SPM) of the International Panel on Climate Change [see reference below] is, **"The best estimate of the human-induced contribution to warming is similar to the observed warming over this period."**

My suggestion is that you take the time to read the SPM and consider the research it summarizes in support of this conclusion, including why and how it quantitatively rules out natural factors vs. human causes. Of course, natural factors can also cause climate change and have obviously done so in the past. However, just as wildfire experts can determine whether a given fire was caused by lightning or by accident or by arson, climate experts can also determine causes. We are very confident, for example, that the recent increase in atmospheric CO_2 is due to human activities. The solar energy output is also monitored and indeed would have given rise to a slight recent cooling in the absence of the human-caused warming, but we are also confident that the human-caused warming is dominant quantitatively. The recent increase in ocean temperature and ocean heat content is also measured, and Scripps scientists have played a leading role, including pioneering in the development of autonomous robotic floats that led to the Argo program in which a global fleet of some 4,000 such floats now continuously observe the temperature, salinity and velocities in the upper 2,000 meters of the global ocean. When I came to SIO 40 years ago, **Walter Munk** told me, "The atmosphere is monitored. The ocean is only sampled." Very true then, and happily somewhat less true today.

It is easy to understand why many people find it implausible that puny human activities can now dominate over natural causes in determining climate changes on decade-to-century time scales. It is also counter-intuitive that a gas making up only a tiny fraction of one percent of atmospheric composition can have a large effect on climate. However, as in all science, these are questions of facts and evidence, not belief. Only a few years ago, we did not know whether ice sheets and glaciers were gaining mass (by increased snowfall from an atmosphere that now contains more water vapor than in the past) or were losing mass (by melting, by calving icebergs, etc.). Now the research has been done and the results are in: glaciers and ice sheets are shrinking globally, and the resulting liquid water is contributing importantly to sea level rise and is very likely to increase its contribution in future. Climate change is a gloomy and depressing topic in some ways, and it is already causing human suffering and damage to the natural world, but as an intellectual adventure and an inspiring scientific success story, it is a very positive development. It is one case where, in principle, wise public policy can be informed by sound science. I hope that happens, and I hope that in order to learn more about climate change, you will familiarize yourself with what climate scientists have discovered.

I have three concrete suggestions:

- The first is that you familiarize yourself with the website https://skepticalscience.com which is readily searchable and has a clear summary of refutations of many common climate myths. There "Global Warming and Climate Change skepticism examined" looks at the science and arguments of global warming skepticism. Common objections like "global warming is caused by the sun," "'temperature has changed naturally in the past" or "other planets are warming

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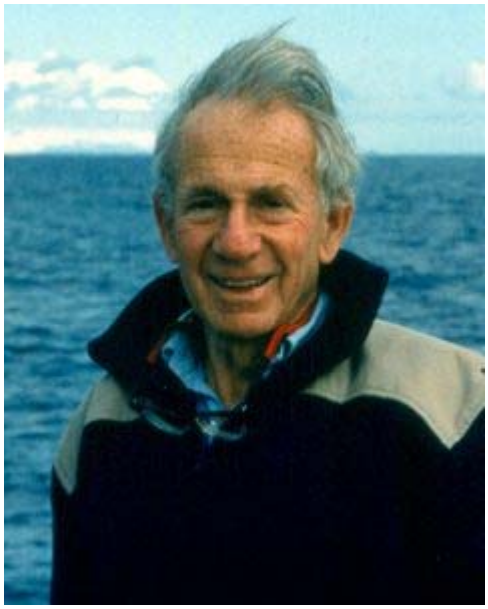
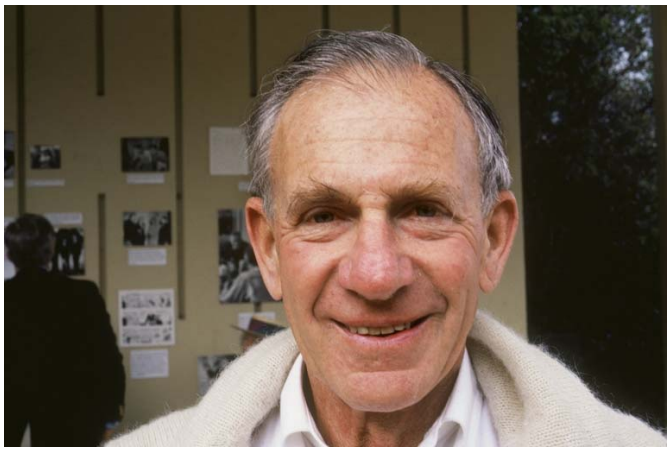
Walter Munk - Education, Awards and Recognition

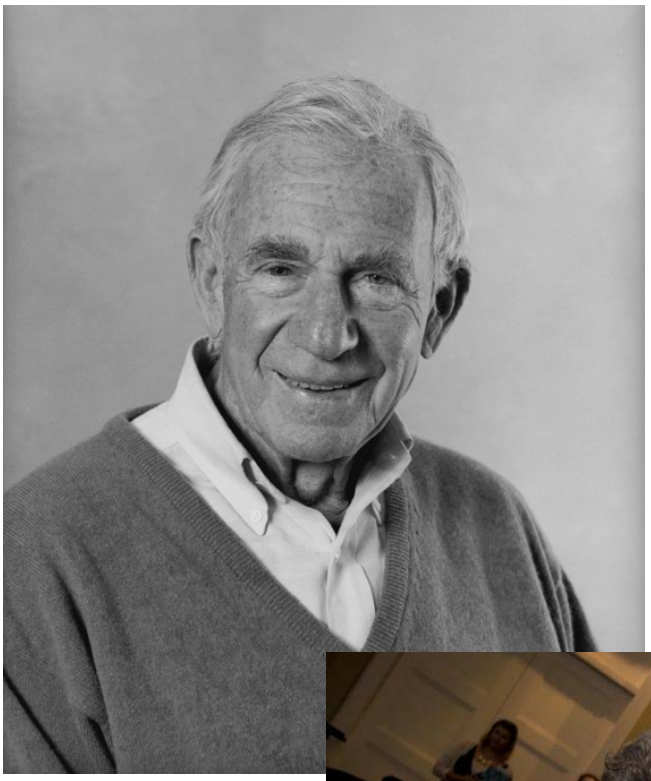


- BS and MS in physics from Caltech,
- PhD in Geophysics from UCLA, and oceanography from Scripps Institution of Oceanography.
- Appointed to Scripps Institution of Oceanography faculty in 1947
- Served in the United States Army Ski Battalion for a year as an oceanographer with the University of California Division of War Research, and as a meteorologist for the Army Air Corps.
- Named a Guggenheim Fellow three times in 1948, 1953, and 1962
- Received Arthur L. Day Medal from the American Geological Society in 1965
- Named California Scientist of the Year by the California Museum of Science and Industry in 1969.
- Awarded Agassiz Medal from the National Academy of Sciences in 1976
- Received Maurice Ewing Medal from the American Geophysical Union in 1976
- Named a Foreign Fellow by The Royal Society of London in 1976
- Awarded the Captain Robert Dexter Conrad Award, from the Office of Naval Research, Department of the Navy in 1978
- Awarded the National Medal of Science in 1983
- Appointed Secretary of the Navy Chair in Oceanography in 1985
- *Mobula Munkia*, or Munk's devil ray, named in honor of Munk in 1987
- Awarded William Bowie Medal from the American Geophysical Union in 1989
- Inaugural recipient of the Walter Munk Award in 1993, given "in recognition of distinguished research in oceanography related to the sound and the sea," awarded by the Oceanography Society, Office of Naval Research and U.S. Department of Defense Naval Oceanographic Office
- Given Kyoto Prize in Basic Sciences from the Inamori Foundation in Japan in 1999, the first time the prize was awarded to an oceanographer
- Received Albert A. Michelson Award from the Navy League of the U.S. in 2001, which recognizes scientists whose research has significantly improved the nation's maritime forces or the U.S. industrial technology base.
- Inaugural recipient of the Prince Albert I Medal in the physical sciences of the oceans in 2001, created by Prince Rainier of Monaco
- Awarded Crafoord Prize from the Royal Swedish Academy of Sciences in 2010
- Received Explorers' Club Medal in 2014
- Named Revelle College Faculty Fellow in 2016



Walter Munk, 1984

Walter Munk, 2010



Walter Munk, 2014

Dalai Lama hugs Walter Munk as Mary Munk looks on.

A memorial event at the Scripps Institution of Oceanography is being planned for July. More information will go to members as soon as we receive it.

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too" are examined to see what the science really says. For example, you mention that volcanoes emit CO_2. That's true. They do. But numbers matter, and if you plug that topic into the search box of this website, you will be directed to https://skepticalscience.com/volcanoes-and-global-warming.htm a link that has information showing that human emissions of CO_2 are about 100 times volcanic emissions.

- My second suggestion is that you consult the assessment reports of the Intergovernmental Panel on Climate Change (IPCC), which is an authoritative summary of the science. There are a lot of good popular books and articles too, but the IPCC is the gold standard. Its reports are produced by hundreds of climate scientists and have been extensively peer reviewed and vetted. IPCC assessment reports come out every six years or so. The IPCC website is www.ipcc.ch. See the summary for policymakers (SPM) of the Working Group One (WGI) physical science portion of the most recent (2013) Fifth Assessment Report (AR5) of the IPCC. It's 2.3 MB and this SPM can be downloaded at https://www.ipcc.ch/report/ar5/wg1 See also the important recent IPCC special report on global warming of 1.5 deg Celsius, available at https://www.ipcc.ch/sr15/ An IPCC Sixth Assessment Report (AR6) is in progress and will be released in the next few years. In particular, I recommend that you study the material in this IPCC AR5 WGI SPM under: D.3 Detection and Attribution of Climate Change: **"Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes (see Figure SPM.6 and Table SPM.1). This evidence for human influence has grown since AR4. It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century."**
- My third suggestion is the website https://www.climatecommunication.org. This site contains a lot of the climate communication and outreach work that my partner in this effort, **Susan Joy Hassol**, and I have done in the last twenty-five years or so. This site is extensive but well worth exploring. In general, it is more accessible and is much easier reading than the IPCC reports, which are full of jargon and technical details. This site contains many links to excellent resources.

France's conversion from zero to about 75% nuclear electricity was accomplished in relatively few years following a 1974 decision to take that route...

What about Nuclear Power?

You suggest we make use of nuclear power. I am a climate scientist and not an energy expert, so this is just a personal opinion and is subject to change, but I agree that nuclear power ought to be an important energy source, at least as a temporary bridge while energy from renewable sources ramps up. France relies heavily on nuclear electricity and in fact sells it to neighboring countries. France has found French "solutions" to the well-known four big problems of nuclear power: cost, reactor safety, proliferation, and waste disposal. France's conversion from zero to about 75% nuclear electricity was accomplished in relatively few years following a 1974 decision to take that route, thus providing evidence that fast transitions of energy systems in a modern post-industrial country can indeed be done. France's motivation in adopting nuclear power had little or nothing to do with climate change, of course, but was based on energy security considerations. France has almost no fossil fuel reserves of its own and did not want to be completely dependent on other countries. There were also synergies with the French nuclear military program. In any case, I think the French nuclear power experience is well worth studying and learning from. Nuclear power is now at around 20% of total electricity generation in the US and perhaps 11% globally, and closing a nuclear plant to open a fossil fuel plant is not helping the climate, to say the least.

Richard Somerville is the author of The Forgiving Air: Understanding Environmental Change. He has been awarded the Climate Communication Prize and the Ambassador Award of the American Geophysical Union for his work in promoting public understanding of climate change.

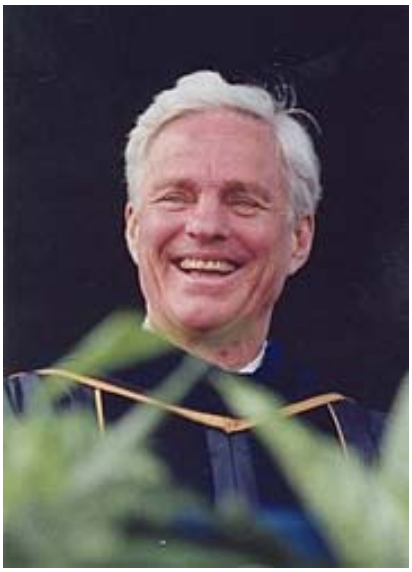
REFLECTIONS ON RECEIVING THE CLARK KERR MEDAL

By Richard C. Atkinson
Chancellor Emeritus and UC President Emeritus

This award recognizes a lasting gift the Berkeley faculty has made to the University of California and American higher education—namely, the leadership and legacy of **Clark Kerr**. For many of us, both are crystallized in his 1963 Godkin Lectures at Harvard. The lectures were published as *The Uses of the University* and were further enriched by a series of reflections and reconsiderations Kerr added to each of its five editions. Few writers on any subject have distilled so much thought and insight into a mere 95 pages. He had a remarkable ability to describe the broad evolution of the American university without losing touch with the essential subplots. In re-reading the last edition, I was struck by his division of the history of the research university into four stages.

The initial two stages cover 130 years—from 1810 to 1940. The first (1810-1870) is defined by the growing influence of German ideas about higher education (brought back by Americans who had studied there) and by the 1862 Land-Grant College Act. Early in the second stage (1870 -1940), the triumph of the German research university model is established with the founding of Johns Hopkins University in 1876. Research at public and private universities grows at a very gradual pace during this stage—teaching remains the primary faculty responsibility.

The third stage—the fifty years from 1940 to 1990—encompasses the research university's enormous expansion in students, faculty, academic quality, and engagement with society. Near the end of World War II, Franklin Roosevelt asks his science adviser, Vannevar Bush, for a plan on how to organize science in



Richard C. Atkinson

the post-war era. Bush's 1945 report, *Science: The Endless Frontier,* lays the foundation for what has become the nation's science policy. A key feature of the policy is that these universities are assigned principal responsibility for the conduct of basic research. What follows is the establishment of the National Science Foundation and the reorganization of the National Institutes of Health and other federal agencies to provide extramural grants and contracts for university research – almost all of them awarded for peer-reviewed projects. The federal government's massive investment in both research and education continues, with some fluctuations, throughout the third stage. It is the high point of a golden age for research universities that Kerr felt was destined never to return.

The final stage—1990 to the present day -- is characterized by Kerr, with some understatement, as "an era of constrained resources." This is our era, whose contours we know all too well, and the one I want to talk about. I don't intend to present a comprehensive vision of what these years have meant for the University of California or what the future holds. Instead I want to offer a few observations on some of the encouraging, worrisome, or surprising developments of this period as it looks to me today, fifteen years after I stepped down as president. My list includes seven topics (for cognitive psychologists like me who study memory, seven is a magic number).

First, as I'm sure you've noticed, we have been through some very bad times together. The nation's recovery from the depths of the 2008 recession continues to be strong, but unfortunately, federal and state funding for universities has not kept pace. What looked like a fiscal crisis of limited duration in 2008 now looks like a new steady state. Unless current trends change, ten years from now there will be many universities which will no longer be able to call themselves research universities. It goes without saying that the University of California will not be one of them. We have faculty leadership to thank for that. No faculty in the country has compiled a more brilliant record of success. This is still Kerr's university. Unfortunately, this is no longer Kerr's California—a subject to which I will return.

Second, there are nonetheless some continuities with the world Kerr knew in 1963. In his account, three large forces were driving research universities during the 1960s. They were universal access, progress through science, and improving the nation's economic productivity. These are still important goals for us today. As far as scientific progress and economic productivity are concerned, research universities like ours have done far more than simply contribute since 1963. They are now the driving force of the American R&D enterprise –the matrix for many of the innovations that have come from our high-tech industries

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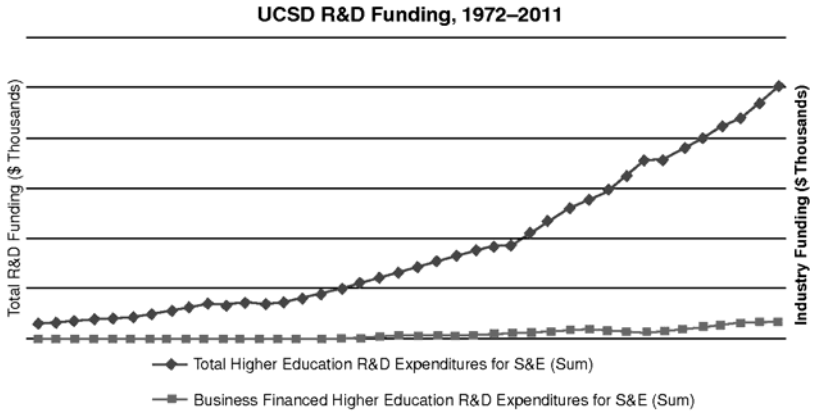

Cambridge University Press

and bio-medical companies, institutes, and facilities.

In talking about universal access today, we would make explicit what is implied in Kerr's use of that term: namely, the promise of equal opportunity for students of every race, ethnicity, and gender, without regard to family income. The past few decades have been marked by both backward and forward movement on that front. The 1995 debate over banning affirmative action in UC admissions sparked a fight on the Board of Regents that spilled over into many areas of university life, from state budgets to shared governance**. Jud King** and I spent many months (in close partnership with the Academic Senate and the Council of Chancellors) forging new admissions policies for UC's post-affirmative-action world. Let me just mention the most important principle underlying the admissions policies: the idea that students deserve to be judged not only on grades and test scores but also on the educational and life challenges they have faced, and by how well they have dealt with those challenges. The shorthand term for this approach is "opportunity to learn," and it means an admissions process that gives appropriate weight to grades and test scores but also to context and character. I believe this has served the University and our students well. Overall, our progress in diversity may not be as rapid as we would wish. But it has been far better than the prospects looked in the fall of 1995, after the controversial Regents' vote ending affirmative action. And we have done incredibly well in enrolling low-income students. That is something we can all be proud of.

Third, the quality of undergraduate education is better today than ever, despite large classes and increasing dependence on part-time lecturers. Since I stepped down as president, I have spent a lot of time with undergraduates and have been quite impressed. What we expect of our students these days is absolutely remarkable, and they have responded accordingly. In my opinion, UC undergraduates are among the best in the world. I do suspect, however, that it may be too easy for at least some of them to choose courses lacking rigorous intellectual content in the interest of avoiding subjects they consider too tough. (Good grades weigh heavily on the minds of young people, given the current tilt toward vocational education.) I wonder whether we might lure more students into taking demanding subjects if the courses themselves were made a little less demanding.

Fourth, an observation about the progress of online learning. When I became president in 1995, I was confident that online instruction was at the cusp of a great leap forward. I was mistaken. Not about the potential of online learning, but about the state of the art. We now have the basic technology and computing power for elegant interactive courses, but so far, at least, they have not been put together in quite the right fashion. What is critical is making them relevant and adaptable to the individual student. That was challenging enough back in the 1960s, when a Stanford colleague and I created computer-based courses in reading and mathematics for elementary school students. It is much more challenging to do at the college level. The courses I have seen are just not interactive or intellectually challenging enough. I have never had any doubt that online instruction would flourish one day, but I am surprised that this day seems so slow in coming.

Fifth, I have some worries about the growing professional burdens on our faculty. Two examples, from different disciplines. The first is the decline in students majoring in the humanities. There is a growing literature, pro and con, on whether this is a full-blown crisis or a steep but temporary downturn. Is it a spillover effect from the 2008 recession? Is it an especially dramatic instance of the

unpredictability of student choice? I don't know the answers to those questions. But the situation raises concerns about the future of the humanities and our capacity to continue producing the next generation of scholars and research in those fields. Just as important, the humanities are fundamental to our idea of a truly liberal education. Having an informed sense of history, a close familiarity with the great works of literature and art, and an appreciation of the need for moral judgment and civic engagement – all of these are essential to the kind of education we want to impart.

In the case of science and engineering, research has advanced to the point that a faculty member without research funding is no longer in the game. These days competition for federal research grants is simply outrageously hard. Department chairs face having to put together million-dollar packages for incoming assistant professors. Once hired, professors are required to spend more and more time raising money to support their graduate students and their projects. We say that we need more people in STEM disciplines, but the academic job market can still be fiercely competitive for bright young PhDs.

Sixth, a few thoughts on UC governance. Kerr's essential task as president was to ensure that the University of the 1960s became an institution of distributed leadership—a federation, not an empire. He succeeded brilliantly -- but not completely. Over time, the Regents and the president continued to delegate authority to the campus level. As president, I tried to do my part. I considered empowering chancellors and their campuses to be absolutely essential to the future of the University.

But I have another view about UC governance that will probably be less popular. When I was a chancellor, I fought for all the independence I could get. It is in the nature of chancellors to do that, recognizing that the modern University of California was built on the foundation of decentralized authority. But because we are a system of research universities, there are important policy issues that transcend any particular campus and are better addressed at the systemwide level. Some programs or activities are systemwide in nature and better handled by the Office of the President, in coordination, of course, with the campuses. The California Digital Library is a case in point. We avoided a lot of problems and saved a lot of money by establishing it as a systemwide effort instead of leaving it to the campuses to create ten separate versions of the same idea. The UC Washington, D.C. Center is another example. I would argue that the UC Press is in the same category. Sending programs of this sort to a campus is not a way of reducing their costs, despite what some may think.

Seventh, I am troubled by the constant criticism directed at higher education in general and UC in particular. Prospective donors often tell me that they will write a check to the University as soon as someone shows them the cost-benefit analyses that demonstrate we are not wasting money. Simply put, in constant dollars the cost of education per in-state UC student is less today than it has been in the last thirty years. I am especially bothered by charges that UC faculty waste too much time doing research. The evidence is overwhelming that university research is core to the American R&D enterprise. That's a fact—not speculation but a fact. The nation's future depends upon it. Too many people in Sacramento seem completely unaware.

This kind of criticism reminds us, as I said at the outset, that this is no longer Clark Kerr's California. Kerr and Governor Pat Brown were collaborators in the great enterprise of expanding the horizons of opportunity and the frontiers of knowledge through the state's higher education system. No one doubted that UC's mission was to be a research university. The 1960 Master Plan mandated it. Outstanding research demands much more than money for specific research projects. It means funding for scientific facilities, a student-faculty ratio that allows faculty time to conduct research, support for graduate students, and above all public support for the University's research mission. One important reason we have been largely successful in the past, during good times and bad, is because of close cooperation between governors and UC presidents. A new governor is always a fresh opportunity to make the case for the University of California. We will have that opportunity in January, and I have high hopes.

Some of the things I've said tonight may leave you with the impression that I am pessimistic about UC's future. Nothing could be further from the truth. I am a believer in the research university's resilience and its genius for adaptation. And I am convinced of its lasting importance to the creation of the kind of world future generations will want to live in. So let me end these remarks where I began—with Clark Kerr and *The Uses of the University*: "[H]igher education in the United States is built on three-and-a-half centuries of triumph, not tragedy." I agree with Kerr. Future triumphs may be harder to come by. Yet I believe that a significant share of those triumphs will be achieved right here at the University of California. It is and will remain one of the most exciting institutions in the world.

Drawn from remarks at the award ceremony in Berkeley, December 5, 2018 in which Atkinson and C. Judson King, formerly UC Senior Vice President, were both awarded the Clark Kerr Medal by the UC Berkeley Academic Senate. For an account of Atkinson's presidency see Patricia A. Pelfrey, Entrepreneurial President *(UC Press, 2012), reviewed in Chronicles (September 2012).*

Proposed Slate for 2019 - 2020

Officers

Robert Knox	**President**
Irving (Jake) Jacoby	**Vice President**
Winifred Cox	**Secretary/Treasurer**
Phyllis Mirsky	**Past President**

Executive Committee

Members at Large: Greg Mitchell (Scripps Institution of Oceanography); **Henry Powell** (Health Sciences); **Allen McCutchan**, (Health Sciences); **Immo Scheffler** (Molecular Biology); **Kim Signoret-Paar** (Development); and **Maria Vernet** (Scripps Institution of Oceanography.

Ex Officio: Jack Fisher, Historian; **TBD,** Liaison to the UCSD Retirement Association; **Sandy Lakoff**, Editor, Chronicles, **Suzan Cioffi,** Managing Editor, Chronicles, and Director, UCSD Retirement Resource Center; and **Kim Signoret-Paar**, Liaison to Oceanids.

The election of the proposed slate will take place in April by email. If you do not have access to email, you are welcome to mail in your approval of the proposed slate, or your proposal of an alternate officer or Member at large to: Suzan Cioffi, Director, UCSD Retirement Resource Center, UCSD, 9500 Gilman Drive, #0020, La Jolla, CA 92093-0020. The deadline for mail ballots is April 29, 2019.

Chronicles

Newsletter of the UCSD Emeriti Association

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Sanford Lakoff	**Editor**
Suzan Cioffi	**Managing Editor**

Forward queries, changes in mailing/email address to: Suzan Cioffi, Director, UCSD Retirement Resource Center, UCSD, 9500 Gilman Drive, #0020, La Jolla, CA 92093-0020. To subscribe to E-Chronicles, please send an email to Emeriti@ucsd.edu, with SUBSCRIBE in the subject line.

BOTH of the following events are on WEDNESDAY, MAY 15

Chancellor's Scholars
Freshman Cohort
Academic Poster Session—
Free of charge / open to all
Meeting Rooms 1-2-3, UCSD
Faculty Club, **10:00 AM - 12:00 PM**

UCSD Emeriti Association Annual Business Luncheon

Atkinson Pavilion, UCSD Faculty Club

11:30 AM - 2:00 PM

Fee: $25 member/$40 non-members

David G. Victor, Professor of International Relations and Endowed Chair in Innovation and Public Policy

Co-Director of the Laboratory of International Law and Regulation and the Center for Global Transformation.

Topic: "The New Geopolitics of Climate Change"