More Fever to Reorganize, July 2004 (NASA, University, Cars, Etc.)

Roy Jenne
July 8, 2004

1. Centers for Disease Control is in a big reorg mess (April 2004)

2. In hierarchical organizations, it is the top that sets the tone

3. NASA goes through a huge reorg (Apr – Aug 2004)
   - We need strong science programs for planets, astronomy, and the earth
   - I do not agree with the fusion of earth and space sciences
   - I am afraid of adverse results

   - Will this help the science program?

5. When car guys ran General Motors (April 2004)
   - This reorg “will not work, but it will take them 10 years to find out”

6. Reinventing Europe’s universities
   - Some people have a really bad time (Italy, May 2004)

7. And a story about the NCAR reorg plan

8. Enron crashed in Dec 2001
   - Where were the directors? The regulators?

9. Management does matter

Ready to scan July 9, 2004 (22 pages) document RJ0362

Roy Jenne
July 9, 2004
More about Reorg Fever

The Centers for Disease Control is in a big reorg. mass. (Apr 2004)

- The level of apprehension is astounding
- The chief will partly back down and keep the divisions

Ray Ferre
June 2004
PUBLIC HEALTH

Reorganization Plans Roil Staff Scientists at CDC

Over the past month, anxiety mounted at the Centers for Disease Control and Prevention (CDC) in Atlanta as Director Julie Gerberding floated options for overhauling the agency. Staff were relieved last week when Gerberding chose a plan that largely preserves the $6.5 billion agency’s current structure but brings disparate units under joint management. Still, some CDC scientists say Gerberding paid lip service to their suggestions and instead rolled out a corporate model for CDC that may not be appropriate for a public health agency.

Gerberding dismisses the grumbling as part and parcel of a reorganization, the first at CDC in over 20 years. “I would be worried if people were not apprehensive,” she says. Some concerns—such as a rumored reallocation of research funds—are unfounded, she says: “Nothing is likely to change very much for the intramural scientists at CDC.”

But scientists themselves aren’t convinced. Their biggest gripe is that the plan, called the Futures Initiative, is couched in vague “business-speak” that nobody understands, several staffers say. They feel it was developed top-down, without the support of rank-and-file staff. “People really do think it’s being rammed down their throat,” says one staffer.

Under fire. CDC Director Julie Gerberding’s corporate model for improving CDC has scientists worried.

Frank Bove, an epidemiologist in CDC’s Agency for Toxic Substances and Disease Registry, says morale is especially low. Scientists have been reluctant to speak up for fear of retribution. “The level of apprehension is astounding,” says one staffer.

Gerberding says that new global challenges in the past 2 years, such as the anthrax scare and last year’s outbreak of the SARS virus, required the staff to work across the agency—and they exposed weaknesses in CDC’s management structure. Add to that CDC’s mission to prevent chronic health problems, such as the rise in obesity, and it became clear that the agency needs more “agility and speed and impact,” she told Science.

Gerberding launched the Futures Initiative last June by surveying CDC staff and so-called customers, such as state public health officers. Her team came up with two “overarching goals”: health promotion, or prevention of disease; and preparedness for outbreaks. On 1 April, the team also unveiled three possible “design prototypes” for the agency. Summarized in diagrams, these plans provoked howls of protest.

An e-mail from the Global Immunization Division complained, for example, of “few understandable concepts to which we can respond.”

In response to the concerns, Gerberding announced on 19 April that she is going with the “least disruptive” plan. She will retain all 11 divisions but cluster them under shared leadership where appropriate—grouping, for example, the three infectious-disease cen-

30 April 2004

Science
... In hierarchical organizations, it is the top that sets the tone.”

"Hierarchies matter," Kimmel said. "Your coaches and athletic directors are accountable for what happens. ... In hierarchical organizations, it is the top that sets the tone.”

National gender expert evaluates CU climate

By Elizabeth Mattern Clark
Camera Staff Writer

New recruiting rules won't change a sports culture that may be threatening to women, a national expert on masculinity told a crowd Thursday at the University of Colorado.

School and athletic leaders need to foster respect toward women and enforce strict codes of conduct, said Michael Kimmel, a sociology professor at the State University of New York at Stony Brook.

"Hierarchies matter," Kimmel said. "Your coaches and athletic directors are accountable for what happens. ... In hierarchical organizations, it is the top that sets the tone.”

He also blamed men who witness sexual assault but don't intervene or report it.

CU's athletic department, in

Please see GENDER on 7A
NASA does a big reorg.

1. They will merge Earth sciences and space science (like planets, astronomy)
   - I like both
   - I doubt that they should be together

2. NASA will be organized around four missions
   a. Exploration (the new moon-Mars program)
   b. Space operations, including shuttle launches
   c. Science (like Earth sci, space science)
   d. Aeronautics (develop better planes, rockets)

3. The reorg plan was --
   - announced on June 24, 2004
   - Take effect on Aug 1, 2004

Roy Tanov
Earth science loses autonomy as NASA switches focus to the Moon

Tony Reichhardt, Washington

NASA is poised to undertake its most sweeping reorganization in more than a decade. The plan, announced on 24 June, will see the agency halve the number of offices at its headquarters, eliminate its Earth sciences directorate, and transfer several key personnel, including head of space science Ed Weiler, into new positions.

Sean O'Keefe, the agency's administrator, says that the streamlining will focus NASA more clearly on the Bush administration's priorities—particularly sending astronaut back to the Moon and on to Mars. But critics worry that the changes may marginalize the Earth sciences and reduce NASA's involvement in the politically contentious sphere of climate change.

From 1 August, NASA will be organized around four mission areas: exploration (the new Moon-Mars programme), space operations (including shuttle launches), science and aeronautics. Earth science will be lumped in with space science, but most of the microgravity research done on the International Space Station will fall under the exploration office.

In addition, the agency's ten field centres will report directly to a single mission directorate, rather than serving many masters as they do now. For example, three of the centres—Ames in Moffett Field, California; Goddard in Greenbelt, Maryland; and the Jet Propulsion Laboratory in Pasadena, California—will fall under the science mission.

In merging the Earth and space science programmes, O'Keefe undoes the work of his predecessor Dan Goldin, an appointee of the first president George Bush. Goldin dismantled the larger Office of Space Science and Applications in 1992 and elevated Earth science to an equal footing with space science.

Charles Kennel, director of the Scripps Institution of Oceanography in La Jolla, California, and chairman of the NASA Advisory Council, admits that "there are all these fears out there" that Earth science will suffer under the new organization. For example, NASA Earth science may no longer have an obvious advocate in interagency discussions on climate research, he says.

Lori Garver, former head of NASA's policy office and now vice-president at DFI International, a Washington consulting firm, agrees that merging Earth and space science makes the former's budget "easier to raid" without having to consult Congress. But NASA's budget for Earth science was in decline even before the reorganization, and O'Keefe adamantly denied last week that it would suffer as a result of the change.

**Strong advocate**

Scientists inside and outside the agency also decried the loss of Weiler from the top science spot at NASA. Known as a tough decision-maker and a strong, articulate advocate for science, he will move to head the agency's Goddard Space Flight Center.

Although Weiler admits the switch was not his idea, he discounts speculation in Washington that he is being moved after clashing with O'Keefe over the administrator's decision not to have astronauts service the Hubble Space Telescope (see Nature 428, 353; 2004). He says that O'Keefe wants him to manage the proposed Hubble robotic servicing mission, one of the agency's most challenging projects. He will take over a respected institution with more scientists than any other NASA centre, which has also just been given responsibility for the revitalised lunar science programme.

The new head of the merged Earth and space science directorate is Al Diaz, the current director of Goddard and a 40-year NASA veteran with senior management experience in Earth and space science. Diaz has strong ties with Senator Barbara Mikulski (Democrat, Maryland), who exerts a powerful influence on NASA's budget. But he is not a PhD scientist. Although Diaz has a solid managerial record, Berrien Moore, an Earth scientist at the University of New Hampshire and a frequent member of NASA advisory groups, asserts that "the head of NASA science needs to be a distinguished scientist." Nor has Diaz shown Weiler's flamboyance, or his flair for public relations. "He's not timid," says a former colleague, "but he's not as 'in-your-face' as Ed is."

However Earth and space science fare, the main purpose of the reorganization is to make the Moon-Mars programme a primary goal. Some critics question why NASA should make this change now, considering that Bush's plan got a lukewarm response in Congress and may not survive November's presidential elections. With NASA struggling to return the shuttle to flight, finish the International Space Station, and manage a full plate of science projects, there is "serious concern about confusion" if NASA's workforce now has to reorganize as well, claims one veteran agency observer.

But others say that a more streamlined agency makes sense. "Frankly, I like a lot of these changes," says Garver, adding that they should improve communication within the agency and help clarify its missions to outsiders. "The human exploration programme will be much better off," says Kennel, "and that's worth a lot to the agency, because half of its enterprise is human exploration."
NASA Officials Consider Major Reorganization

NASA chief Sean O'Keefe is considering a major reorganization of the agency, according to officials familiar with the draft plan. The version currently in favor would submerge the earth sciences office—created in 1989 to study global climate change—into the space science office. And the biological and physical sciences office, which oversees most space station research, would be folded into the new exploration office, which is focusing on President George W. Bush's push for human visits to the moon and then Mars. The shuffle may feed concerns among scientists that the president's plan could downsize some research.

That plan, meanwhile, has failed to capture the imagination of key House lawmakers. Representative Sherwood Boehlert (R-NY), who chairs the House Science Committee, last week said that the White House's request for a 5.6% NASA budget increase in 2005—primarily for exploration—is unrealistic and unwise. "I just can't imagine that that's going to happen, and I don't think it should," His colleagues on the House Appropriations panel that oversees NASA have expressed similar skepticism.

Panel: Space exploration needs better justification

By Marcia Dunn
Associated Press

The commission that will advise President Bush next month on how best to implement his new space exploration vision said Tuesday that sending astronauts to the moon and Mars is a glorious endeavor, but needs down-to-Earth justification to sustain public support.

"We have to start by asking a very fundamental question: Why are we bothering at all?" said Carly Fiorina, chairwoman and chief executive officer of Hewlett-Packard Co.

"Why are we thinking about going to moon, Mars and beyond when there are so many problems right here on Earth and so much budget pressure right here on Earth?"

Even though the president's exploration initiative represents a mission of greatness, glory and scientific value and is inspiring, that's not enough, Fiorina said during the commission's final public hearing, held in New York.

"The pragmatist in all of us says, none of those rationales is sufficient," said Fiorina, a commission member. "Although I believe them strongly, individually, I don't believe they are sufficient to compel a broad-based, long-term bipartisan level of support."

Fiorina said the most fundamental reason for sending robots and astronauts into the universe is, "If we don't do it, someone will." She cited China's burgeoning space program, as well as that of Russia and India. The president's initiative also will help preserve America's technological leadership, currently threatened by the exodus of high-tech manufacturing jobs overseas, she said.

"We have to really help people make that connection," she said.

The chairman of the president's moon-Mars commission, Edward "Pete" Aldridge, said he hopes to present about 10 major recommendations to Bush at the beginning of June.

The report will not go into the design for a moon or Mars ship, or outline the robotic missions that will be needed before human expeditions.

"That is the NASA job. Our job was to tell the president what he needed to do to implement this vision," said Aldridge, a retired Defense Department official. Besides, he noted, "in 120 days, you can't get too specific."
Commission Fleshes Out Bush Administration's Space Exploration Agenda for NASA

A commission appointed by President George W. Bush has unanimously endorsed his plan to dramatically re-orient NASA to focus on space exploration and manned and robotic missions to the Moon, Mars, and other destinations.

The 16 June report of the President's Commission on Implementation of United States Space Exploration Policy finds that the new space agenda announced by Bush on 14 January will help the U.S. economy, security, and technological leadership, and provide educational opportunities. The report presents a series of recommendations for implementing the plan.

Bush announced the agenda on 14 January (See Eos, 3 February 2004; p. 46).

The report, and remarks to Eos by several commissioners, suggests possible new opportunities for Earth and space science within NASA, if a hesitant Congress opts to provide funding to support the re-orientation. It also suggests an uncertain future for some as-yet-unspecified current science programs that may not align directly with the agency's new orientation.

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Commission Chair Edward Aldridge, Jr. said that Earth science is still important to NASA “because the techniques and the skills are the same as you need to go and explore the planets.” However, he added that Earth science “projects aimed at Earth are probably less important than the projects aimed at the Moon and Mars in this vision.” Aldridge suggested that projects less pertinent to a re-oriented NASA could be transferred to the National Oceanic and Atmospheric Administration.

Role for Private Industry, Technology "Teams"

The report calls for establishing a permanent Space Exploration Steering Council that reports to the president and develops policies. It also urges a greater role for private industry by allowing it to assume the primary role of providing services to NASA, including providing low-Earth orbit launch services. "The commission believes that commercialization of Earth Science Opportunities, Concerns"

The report outlines a "notional science research agenda" which would focus on the origins and evolution of the universe, as well as a category, labeled "fate," which includes the threat of impacts from asteroids and other objects; natural hazard assessment, temporal variations in solar output, climate change; and long-term variation of the solar system environment. It says further that NASAs space and Earth science programs have a successful track record of scientific accomplishment. But the report adds, "[W]e note that current roadmaps and strategic priorities have not had the opportunity to factor in new opportunities that will be enabled by the space exploration vision. We believe that the various NASA scientific communities should now revisit priorities and plans to consider how they might be adjusted to take advantage of emerging opportunities."

The report continues, "While favoring an inclusive future science agenda for the nation, we recognize that attempts to implement a sweeping program consisting of even the most meritorious science could potentially defocus the vision, to the detriment of all science. If it is determined that the inclusion of specific, highly-regarded science programs hampers the implementation of the vision, then such programs, along with their attendant budgets, should be transferred to another government agency or organization that could capably implement them."

It also states, "The government must be prepared to shed programs that do not contribute to the fulfillment of this vision."

Commission Tries to Alleviate Some Concerns

Commission member Maria Zuber, head of the Department of Earth, Atmospheric and Planetary Sciences at the Massachusetts Institute of Technology, said the commission "collectively came out very strongly in terms of basic science." She said that creating the capability to get into space, which is a key focus of the plan, "enables one to do a whole range of scientific things."

She added, "What we did to alleviate the concerns of both the commission and the scientific community that there would be any thought of NASA getting out of the Earth science business is to say, OK, if NASA decides that it doesn't want to do Earth science, then Earth science should be somewhere else where it is going to get the attention that it deserves."

Zuber said it is incumbent on the Earth science community and leadership within NASA to look for opportunities in and synergies with the new plan, and the technical capabilities that may become available.

Commission member Laurie Ann Lesnin, director of Arizona State University's Center for Meteorite Studies and professor of geological sciences at the university, said that Earth scientists should be excited about the plan, and should be thinking about how they can use a potentially new range of capabilities to study the Earth. "We have to understand the Earth to understand where anything we discover out there fits in. So I think there is every reason for [Earth scientists] to be optimistic."

Lesnin also noted, "It is clear to all of us that satellite-based Earth science is critical to understanding climate change, ocean circulation, and weather. The question is, NASA as an agency is one that needs to really focus on this other mission, which is critically important to the future of our country. Can it do that, and do Earth science as well? We think that right now yes. And there are important enough synergies between Earth science and space science to keep it there. But all we said was, 'Look, it's worth reevaluating [NASA science programs] periodically. It's all about balance.'" Aside from a brief statement from NASA Administrator Sean O'Keefe that indicated general appreciation for the report, NASA leadership declined to comment on this story until O'Keefe holds a public briefing scheduled for later in June. During that briefing, O'Keefe is expected to outline the transformation of the agency.

--- Randy Showstack, Staff Writer
Will New Lineup Transform or Deform Science?

Last week NASA made its biggest organizational change in more than a decade, leaving scientists wondering about the fate of $6.5 billion worth of research programs. Agency chief Sean O'Keefe dissolved two of three science offices, replaced NASA's scrappy space science chief, and promised sweeping changes to the agency's dozen field centers scattered around the United States.

Under the new structure, earth science will be combined with space science into a new office of science, and biological and physical sciences will become part of a new exploration systems office (Science, 30 April, p. 663). Al Diaz will move from Maryland's Goddard Space Flight Center to lead the science office, while former space science chief Ed Weiler replaces him at Goddard.

O'Keefe says the changes will streamline an agency too heavy with senior managers. "You won't have the old cast of thousands" reporting to the administrator, agrees one scientist. And NASA officials insist that realigning the two science offices is good news for researchers. "This strengthens our position by elevating science," says Ghassan Asrar, former head of earth sciences and deputy of the new science office.

But many researchers fear that the result could weaken future support for several disciplines. "It is ominous we've been downgraded," says Gerard Faeth of the University of Michigan, Ann Arbor, a member of NASA's biological and physical sciences advisory committee. "But then, physical sciences is already getting beat up pretty badly; it could hardly get any worse."

Diaz has served primarily in management during his 4 decades at the agency and holds a master's degree in physics. "He's a survivor," says one longtime agency official, noting Diaz's ability to avoid being written off. Weiler, on the other hand, is known for an acerbic tongue, making comments that occasionally rub people the wrong way.

NASA spends nearly $4 billion on space science and another $1.5 billion on earth science systems. Although some earth scientists fear becoming second-class citizens in the new office, others are more optimistic. "I've been arguing that earth logical and physical sciences will become part of the new exploration systems office. The former head of those programs, Mary Kicza, will move to a job overseeing integration of NASA missions. Kicza and other NASA officials say this research belongs in exploration because of its role in ensuring safe and effective human travel beyond Earth orbit.

That is little consolation to scientists who already feel they are politically weightless. Faeth fears that research "could easily be submerged" in the exploration office, which will be run by Craig Steidle, a retired admiral, and staffed largely by engineers. And biologists are equally unhappy. "To make this less than an office is a very serious blow," says Jeffrey Borer, a cardiologist at Cornell University's Weill Medical College in New York City and another advisory committee member. But Steidle promises that "science won't be a stepchild" in the new office.

O'Keefe said that NASA's plan for the centers will incorporate suggestions made last month by a presidential commission. The plan will likely require congressional approval, too.

—ANDREW LAWLER

GEOSCIENCES

Regional Society Debuts at Singapore Meeting

Tokyo—Next week, earth scientists from across Asia will celebrate reaching critical mass in their field at the inaugural conference of the Asia Oceanica Geosciences Society (AOGS).

The 5 to 9 July meeting in Singapore is the latest example of regional scientists asserting their place in a global discipline. "The time has come when we can build up our own scientific efforts without relying on European and American colleagues," says Wing-Huen Ip, a space physicist at Taiwan's National Central University who is serving as the group's interim chair.

Backers see the new group as a counterweight to the American Geophysical Union (AGU) and the European Geosciences Union. Since 1990, AGU has sponsored a biennial Western Pacific Geophysics Meeting that included many Asian scientists. But the Singapore meeting provides an opportunity "to focus on issues particularly important to Asia, such as earthquakes, volcanoes, and the Asian climate," says Yohsuke Kamide, a space physicist at Nagoya University in Japan and another key AOGS organizer. Soon-Ung Park, an atmospheric physicist at Seoul National University, hopes the meetings will also broaden existing pan-Asian collaborations, such as an ongoing study he is heading of the dust storms that sweep across east Asia every spring.

In 1997, scientists from 14 countries and regions formed the Asia-Pacific International Molecular Biology Network. The Science Council of Asia, formed in 2001, brings together national scientific organizations from all fields to ponder such issues as sustainable development and Asian megacities. The new societies, says Ken-ichi Arai, a molecular biologist at the University of Tokyo who was instrumental in setting up the molecular biology network, demonstrates that "Asia may no longer be the passive recipient of the fruits of [scientific developments] in the U.S. and Europe."

—DENNIS NORRIS
**NEWS OF THE WEEK**

**BIRD EVOLUTION**

**Surprise Hummingbird Fossil Sets Experts Abuzz**

If it’s hummingbirds you’re after, the New World is the only place to be. Of the 300plus species of the hovering, nectar-sipping birds, almost all live in Central and South America. Experts agree that all species of modern hummingbirds evolved there and later spread to North America, but it appeared they had never set wing in Eurasia.

Now, fragile bones in 30-million-year-old rocks from southern Germany show that even the origin of this far-flung thing about a modern Rubega of the Northern Hemisphere. Hints of Old World origins appeared when a possible primitive insect-eating hummingbird, *Paragornis mesoellenis*, turned up in 49-million-year-old rocks in Messel, Germany. The only other fossil hummingbirds are the 30-million-year-old *Argornis caucasicus* and *Jungornis tessaletus*, both incomplete, from the Caucasus. They appear to have been able to hover, but it’s not clear whether they had modern-style beaks. Last year Mayr classified all three as “stem taxa,” extinct relatives that share a common ancestor with modern hummingbirds, but not all experts were convinced.

**UNDERGRADUATE SCIENCE**

**Harvard Joins Reform Movement**

**BOSTON**—Harvard University has joined a growing number of elite schools attempting to revamp undergraduate science education. The effort, which is part of a larger rethinking of Harvard’s entire undergraduate program, could double the number of science courses required of nonscience majors, provide a more interdisciplinary approach to life and physical sciences, and encourage students to conduct research abroad.

Last week, a panel of students, faculty, and administrators delivered a 69-page report that proposes new introductory science courses and urges the university to give its undergraduates “a genuine view of the excitement of research science.” Scientists across the country say that changes at Harvard, to be spelled out over the next year, are sure to spark increased interest among other universities in overhauling undergraduate science courses.

The reform movement is driven by concern that many undergraduates are turned off by their science courses and leave school without an appreciation for research. To address that problem, this fall Columbia University in New York City will require that all undergraduates take a general course called “Frontiers in Science” (Science, 18 October 2002, p. 531). Taught by star professors, the course will include small weekly seminars. Other schools, such as the University of Michigan, Ann Arbor, are experimenting with greater undergraduate involvement in research projects. And the University of Wisconsin, Madison, has restructured its tenure and merit-pay criteria to encourage better science teaching.

The Harvard report examined the needs of undergraduates in three categories—science majors, those preparing for medical school, and those whose interests lie outside science. It recommends that all undergraduates take one interdisciplinary course in life sciences and one in physical sciences, rather than the current system of choosing an introductory course in one of the two fields. “This is a significant new emphasis on educating all students,” says Harvard biologist Richard Losick, who was involved in the study. “This will be real science teaching, not the history of science or science for poets.”

Those majoring in science, says the report, should be given more opportunity to experience how science is conducted by working in a research lab. The report’s emphasis on international experience, says Losick, should be extended to opportunities for doing lab science around the globe.

Benedict Gross, a mathematician and dean of Harvard College who co-chaired the study, says Harvard this summer will appoint a science working group to come up with a detailed science curriculum. The details could be ready for discussion by the entire Harvard community by the end of the next academic year, he adds. The last major change to Harvard’s undergraduate curriculum took place in 1978.

Harvard’s freshman class of 1650 is tiny compared to the enrollments of many state universities. But outside scientists and administrators say having Harvard on board should further their reform campaigns. “This is terrific,” says Peter Bruns, vice president for grants and special projects at the Howard Hughes Medical Institute in Chevy Chase, Maryland, which has funded efforts to improve undergraduate education. “And it is about time, since we live in an increasingly scientific world.”

—ANDREW LAWLER
When Car Guys Ran GM

(A story on the next page)

How GM organized itself

- This system will not work, but it will take them 10 years to find out
- There were enough reorgs in the past 20 years
  - When done, no one at GM knew what anyone was supposed to do
  - The company has just recovered from all that chaos.

- The GM divisions were stripped of their power and autonomy.
- The GM divisions are now really marketing organizations.

Other

- There is no route to the top for a car guy. Not any more.

Roy Jensen
NCAR
Apr 12, 2004
When Car Guys Ran GM

WHILE BACK A GENERAL MOTORS VICE PRESIDENT said to me, “This system won’t work, but it will take them ten years to find out.” He was talking about the way GM organized itself. This isn’t the kind of remark you often get, and it’s not the kind you forget. The man was one of the last vice presidents to head a GM division. He was well thought of, at least by those of us who didn’t work for GM. He did his best, but he’s gone now.

About the last thing anyone at General Motors wants to think about is reorganization—there were enough reorganizations in the last couple of decades. When they were finished, no one at GM knew what anyone was supposed to do. The company has just recovered from all that chaos.

But maybe it’s time at GM to think about the organization. The old GM system, created in the 1920s, was amazing. Operating divisions—Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac—were almost autonomous. Each had its own engineers, factories, marketing and public and labor relations. What they didn’t control was the money.

The vice president of Buick was running a multibillion-dollar company, but the money was controlled by headquarters. Beyond controlling the purse strings, committees at the corporate center held sway over the engineering and design decisions made in the divisions. Decentralized operations, centralized direction.

The system worked well enough to make General Motors the largest company in the world, with 60% of the American market and a powerful position abroad, too.

All good things must come to an end. The divisions, in time, grew big and clumsy and were competing with one another as much as with other car companies. After the 1960s a process of centralization set in, and eventually the General Motors divisions were stripped of their power and autonomy.

They are not headed by vice presidents anymore. They really are marketing organizations. Chevrolet, Pontiac and Buick (Oldsmobile makes its last car this year) don’t design or engineer or build their own cars and trucks anymore. They work on sales and the advertising. The last time I checked, Buick had only 50 employees and Chevrolet had 250. Even Saturn, which was created as a stand-alone company to deliberately be different, is being turned into another GM operation.

That’s what that man meant when he said, “This system won’t work, but it will take them ten years to find out.”

What are some of the problems?

For one thing, those old-style divisions developed leaders who knew the auto business and knew how to run a multibillion-dollar company. The best of them were engineer-salesmen types, that is, engineers with salesmen personalities. They could create a car, and they could sell it. Now, when I look at the GM organization, I can’t find a route to the top for a car guy.

Second, there is no historical memory. In the old days the people at Buick knew what a Chevy was supposed to be; the people at Buick knew what a Buick was supposed to be. Now you get managers who just dropped in from the snack food industry, or something like it.

GM was always a company that promoted from within. The system broke down so badly that it had to hire outsiders (terrific outsiders, too) to run product development and finance.

Some say Cadillac is coming back under the new organization. No, Cadillac is coming back because it ignored the new organization. The GM chief executive installed a real live vice president, a personal acquaintance, to oversee Cadillac, with carte blanche to do whatever was necessary. Carte blanche is not something you give to a recent arrival from snack foods. In fact, they are giving Cadillac back to some of its own engineers.

If Cadillac needs to be more of an operating division to battle Mercedes, then Chevy and Pontiac and Buick need to be operating divisions, too.

Another example: Pontiac will launch a little sports car soon, very cute, low priced, just what Pontiac needs to build some excitement again. But this happened only because Robert Lutz, the hired-from-the-outside vice chairman, demanded that it be done. The GM system as it stands has hundreds of people to say “Yes, but ...” and no one to just say yes. Without Lutz’s insistence, there is no way in the world that this car would have been approved or built.

I’m not suggesting that GM start the reorganization cycle again. Things are just beginning to level out. But it is time to ask some new questions. How do you rebuild historical memory, and how do you build more upward mobility for the car people?

Funny, it’s about ten years since that GM vice president made that remark.
Reinventing Europe’s Universities

European researchers have begun to wonder why their universities don’t have the same research star status as America’s Ivy League. Getting there will require serious reform.

Liège, Belgium—Does Holland have a Harvard? How does the Sorbonne measure up against Stanford? And why is there no Euro-Ivy League? European researchers and policy makers are increasingly asking such questions, and they don’t find the answers reassuring. Across the continent, there are fears that Europe’s universities, once bastions of leading science, no longer rate as global players—a slump that could harm Europe’s economic prosperity.

At a recent meeting* here, scientists, administrators, and politicians grappled with a variety of ways to help universities punch their weight, from reforming education and improving graduate training to breaking down national barriers and what former UNESCO chief Federico Mayor called an “onslaught on the bureaucratic labyrinth” of European R&D funding. The goal: to create American-style research universities—and along with them, the vibrant technology sector that seems to flourish around them.

However, creating an American-style competitive market will not be easy. It goes against the grain of European egalitarianism, which strives to provide a solid education to as many students as possible while refraining from rewarding exceptional talent. Besides, some are uneasy about the idea of refashioning universities as technological powerhouses, worrying that it will hurt the traditional role of campuses as seats of learning for an intellectual avant-garde. “Surely, a university is more than training people how to set up companies,” said Jean-Patrick Connerade, the president of Euroscience, a pressure group representing research scientists.

The scale of the problem is vigorously debated. When the Institute of Higher Education at Jiao Tong University in Shanghai recently posted on its Web site a ranking of university research prowess—based on such measures as the number of papers in Science and Nature, Nobel prizes, and citations—only 10 European universities cracked the top 50, compared with 35 from the U.S. (see table, p. 953).

The rankings, bandied frequently at the Liège meeting, have touched a nerve. Skeptics of the value of such comparisons note that although the European research landscape has fewer peaks, it has fewer valleys as well, so such a ranking says little about overall research quality. But other indicators tell a similar story, says Roger Bouillon, vice president for research at the Katholieke Universiteit in Leuven, Belgium. European researchers may produce comparable numbers of papers to their U.S.

Dreaming spires. Should ancient universities such as Salamanca University emulate the Ivy League?

counterparts, but the impact is less. European science also leads to far fewer patents, and there’s a net brain drain to the United States. Numbers aside, “you just feel it,” says Bouillon. “Whenever you’re at an important meeting, Americans dominate.”

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Russian Universities Want Their Share of the Research Pie

MOSCOW—In the old days in Russia, everything was kept in its place: Institutes of the Russian Academy of Sciences (RAS) and government ministries conducted the vast majority of basic research, while universities were almost exclusively teaching institutions. University academics are even barred by law from applying for research grants. But pressure is growing to break down the distinction between research institute and university. At a meeting in Moscow last month, all the talk centered around one thing: American-style research universities. "This is a time when resources are not so plentiful and the old system which worked very well in the old days probably doesn't work so well now," says Gerson Sher, president of the U.S.-backed Civilian Research and Development Foundation (CRDF), which sponsored the meeting.

To be eligible to receive a grant, university scientists have to take convoluted steps to evade the ban on research grants going to universities; a common one is for the university to set up a semi-independent body known as a "research council." Some universities fund their own research, but only on a small scale. "In our university only a paltry part if any of the money which students pay for their education goes for research," says Vladimir Minkin, director of the Physical and Organic Chemistry Research Institute at Rostov University.

Many at the meeting supported the idea that exposing students to research would not only improve their education but would likely benefit the research as well. Government officials are now working on amendments to current laws on science and higher education to allow universities to undertake research. But to boost university research without starving existing research centers will require new sources of funding. "To make a university really big and significant, strong financial support is needed," says Minkin.

To set the ball rolling, CRDF and Russia's V. Potanin Charity Fund launched a program last month to train Russian university administrators in research management. And two U.S. foundations, the John D. and Catherine T. MacArthur Foundation and the Carnegie Corporation of New York, have pledged to help universities move into research. Delegates to the Moscow meeting will work on a Russian model of a research university to put to the MacArthur Foundation in September. Sources in Moscow believe that the foundation may invest as much as $15 million in bringing that model to reality. "I think they will start with one pilot university, will work there for a year or two, see how it is perceived, where the funding goes, what are fundraising possibilities," Minkin says.

--ANDREY ALLAKHERVOD AND VLADIMIR POKROVSKY

Allakhverdov and Pokrovsky are writers in Moscow.

Europe's premium on equality is not the sole reason for the widening transatlantic gap. In the United States, federal agencies such as the National Institutes of Health and the National Science Foundation dole out huge sums of money in open competitions based on research quality. Hence a university that attracts top-tier scientists will win supersized slices of that pie, with the top 20 U.S. universities together raking in about a third of federal research dollars. Although systems vary across Europe, universities in many nations are awarded funding according to enrollment figures—and students often pick a university based more on location than on its reputation.

A number of national policies hinder competition among universities. Some countries do not allow institutions to select the best students, some have fixed national tuition fees and others none at all, and academic salaries usually are governed by a national formula, constraining the ability of universities to hire top talent. Moreover, "management is often not superprofessional," says Jeroen Huisman of the Centre for Higher Education Policy Studies in Enschede, the Netherlands. Often, the leadership of departments and even universities is not chosen on merit or even by vote, but rotates among faculty members, many of whom strive primarily to keep the peace.

The European Commission wants to see something done about this policy patchwork. Four years ago it announced its intention to make Europe the "most competitive and dynamic knowledge-based economy in the world" by 2010, with universities leading the charge. Although the commission has no power over university policy—that lies with national governments—it does have one important tool at its disposal: money. The commission is about to weigh the creation of the European Research Council (ERC), an agency envisioned to spend billions of euros annually. The E.U.'s existing research program, Framework, focuses largely on applied R&D and emphasizes large international collaborations. In contrast, ERC will focus on basic science, fund individual teams, and have research quality as its sole criterion (Science, 2 January, p. 23).

Like the commission, some countries are beginning to see competition as a way to strengthen their universities. The German government, for instance, has proposed a plan to select a handful of "elite universities" and channel extra money their way. A few states have launched their own reforms; Baden-Württemberg, for example, is introducing more professional management, autonomy, performance-based funding, and tuition fees—all anathema not so long ago. The Dutch government, too, is forging ahead with an experiment in letting universities set tuition fees and select students.

But resistance to such changes is often fierce. In the U.K., for example, legislation allowing variable tuition fees nearly cost Prime Minister Tony Blair his political life. Education ministries are loath to relinquish power, and university researchers fear losing out in a Darwinian struggle for survival. Introducing a merit-based funding system in Europe is "going to take quite a bit of fighting," Bouillon predicts. "We have accepted that the best win in soccer, art, music, and business," he says, "but not in basic research. That makes no sense."

Indeed, some Ligue delegates declared the slow pace of change. "We're an airline going around in circles on the runway but never getting off the ground," complained Antoni Kulikowski, director of the Institute of Socio-Economic and Regional Geography at the University of Warsaw, at the meeting.

Taking off is growing more urgent every day, says Geoffrey Bouillon, a vice principal at the University of Edinburgh, because a whole new generation of Asian scientists is joining the global competition. "When I look at cozy Europe," he said at the meeting, "I'm really quite terrified sometimes."

--MARTIN ENSERINK

Top 10 Universities Worldwide

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>Country</th>
<th>Score</th>
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<tr>
<td>1</td>
<td>Harvard University</td>
<td>U.S.</td>
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<tr>
<td>2</td>
<td>Stanford University</td>
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<td>94.2</td>
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<tr>
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<td>California Inst. of Tech.</td>
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<td>4</td>
<td>Univ. of California, Berkeley</td>
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<td>92.0</td>
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<td>5</td>
<td>Cambridge University</td>
<td>U.K.</td>
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<tr>
<td>6</td>
<td>Massachusetts Inst. of Tech.</td>
<td>U.S.</td>
<td>88.2</td>
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<td>Princeton University</td>
<td>U.S.</td>
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<td>Oxford University</td>
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<tr>
<td>10</td>
<td>Columbia University</td>
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www.sciencemag.org  SCIENCE  VOL 304  14 MAY 2004
Reinstated cancer chief is sacked again

Munich Having been fired and then apparently reinstated as scientific director of Italy's National Cancer Institute in Genoa, Lucio Luzzatto last week reluctantly left again.

Luzzatto was recruited from the Memorial Sloan-Kettering Cancer Center in New York four years ago. He was sacked on 1 April by the institute's administrative director, Maurizio Mauri, who objected to Luzzatto's continuing collaboration with Sloan-Kettering scientists. Less than a week later, Mauri agreed to rescind the dismissal, accepting that his grounds had been inappropriate (see *Nature* 428, 683; 2004).

But on 24 April, Mauri said the 'reinstatement' was conditional on Luzzatto offering to resign immediately. Luzzatto, who remains sacked, says he will fight the decision. In an open letter to the Italian health minister Girolamo Sirchia, published in the *La Repubblica* newspaper on 29 April, Luzzatto says he has support from the scientific community at home and abroad.

6 May 2004

*Nature* mag

page 9
A story about the NCAR reorg plan.

There was a plan dated Dec 2003

The new surprise plan was dated Jan 7, 2004

(*) The story says that everyone is happy

(*) Well, that is their story

Roy Janne
May 7, 2004
It's a go:
NCAR reorganization plan gets green light

The UCAR Board of Trustees has approved NCAR’s reorganization plan, which will help the center place a greater focus on broad, interdisciplinary initiatives and make it easier to carry out research with its partners in the university community.

"The reorganization will allow us to respond to the changing world of atmospheric sciences in a way that will best serve the community and the nation," explains NCAR director Tim Killeen. "These changes will better align NCAR's structure with our strategic priorities, help facilitate multidisciplinary research, and nurture complementary activities across NCAR divisions and with our university partners."

The trustees approved the plan on February 25. The NCAR Directors Committee and the UCAR President's Council had endorsed the plan unanimously on January 7.

The plan organizes NCAR into five large sections, or laboratories, with broad themes such as Sun, Weather, and Climate (see chart, page 2).

It also enhances the Advanced Studies Program and creates new institutes that will pull together scientific programs across NCAR. One of these, the Institute for Mathematics Applied to the Geosciences (IMAGe), will build on existing geophysical statistics and geophysical turbulence programs and the data assimilation strategic initiative.

Another, Earth System Studies (ESS), will build on NCAR's biogeo-science, wildfire, and water cycle strategic initiatives. In addition, ESIG will be expanded and given a new name: Institute for the Study of Society and Environment (ISSE).

The plan incorporates key features of a draft submitted last year by a realignment committee that was chaired by NCAR deputy director Larry Winter. But it departs from that recommendation in one important aspect: the (continued on page 2)
NCAR Realty Plan

Proposed Realignment Approved by NCAR Directors & President's Council - January 7, 2004

Working Titles

UCAR

NCAR Directory

Earth Observing Laboratory
- ATD
- New Programs

Advanced Studies Education & Training
- ASP
- ISSE
- Education & Outreach
- New Programs

Sun, Weather & Climate Laboratory
- MMM
- CGD
- ACD
- HAO
- ESS
- New Programs

Computational & Information Systems Laboratory
- SCD
- IMAGE
- New Programs

Science Applications Laboratory
- RAP
- DTC
- New Programs

(As of Jan 2004)

- RAP is "Research Applications Program."
- The sun, weather & climate lab groups all the main science divisions together.
- This has caused a lot of staff worries.
- The power of the science voice is decreased.
- Central computations and IT gets more power.
- Advanced studies, education, and training - more power.
- These are good programs to have (but what in balance).
- Earth observing lab (ATD runs airplanes, radars, & other parts).

Note: the NASA money. They do not have a big central info tech.
As Enron crashes, angry workers and shareholders ask, Where were the firm's directors? The regulators? The stock analysts?

Dec 2001
Dec 2001: The Large Enron Company is Bankrupt

- The company was seen as a huge success.
  - In spite of problems that were mostly hidden.
- Thousands of workers now lose jobs and savings.
- Many suppliers are not paid for services.
- The experts noted that finances were fuzzy.
  - But accountability was not demanded.

Why is it that so many people buy into hype and wonderful promises?

- Even when the plans are fuzzy.
- Even when some strange things are going on.

Enron's 401(k) plan, available to its 21,000 employees and loaded with the company's stock, has been devastated. The

As Enron crashes, angry workers and shareholders ask, Where were the firm's directors? The regulators? The stock analysts?

Still, there's a search for accountability, to make sure nothing like this happens again. John Dingell, ranking member of the House Energy Committee, said it best: "Where was the SEC? Where was the Financial Accounting Standards Board? Where was Enron's audit committee? Where were the lawyers? Where were the investment bankers? Where were the analysts? Where was common sense?" Byron Wien, an investment strategist at Morgan Stanley Dean Witter, says, "This is an indictment of a lot of different things, from the debt-
EVEryONE LOVED ENRON
Here's what some management gurus said about Enron's rise, and what they think now

JAMES J. O'TOOLE
Professor, Univ. of Southern Calif.
BEFORE
"Leadership is not a solo act. It is a shared responsibility, a chorus of diverse and complimentary voices. To an unusual degree, Enron is chock-full of leaders..."
AFTER
"Eggbowl over the face is an understatement. As embarrassing as it is, we basically took the word of Lay and his people. Was there a way to spot that the emperor was wearing no clothes? I don't think so."

CHRISTOPHER A. BARTLETT
Professor, Harvard Business School
BEFORE
"Skilling and Lay created a hotbed of entrepreneurial activity and an engine of growth."
AFTER
"There are absolutely some strong, helpful lessons to learn from what they did right. Unfortunately, all those are trumped by the mistakes they made."

GARY HAMEL
Chairman of consultant Strategos
BEFORE
"Enron isn't in the business of eking the last penny out of a dying business but of continuously creating radical new business concepts with huge upside."
AFTER
"Do I feel like an idiot? No... If I misread the company in some way, I was one of a hell of a lot of people who did that."

SAMUEL E. BODILY
Professor, University of Virginia
BEFORE
"Skilling and others have led a transformation in Enron that is as significant as any in business today... This is brand new thinking, and there are broad implications for other companies."
AFTER
"History can't be very kind to it. It's sad. The innovation and ideas and what was good about what they did may be lost in the demise of the company."

leveraged buyouts. Articulate, handsome, and mature beyond his years, he became Enron's CFO at age 36. In October, 1999, he earned CFO Magazine's CFO Excellence Award for Capital Structure Management. An effusive Skilling crowed to the magazine: "We didn't want someone stuck in the past, since the industry of yesterday is no longer. Andy has the intelligence and the youthful exuberance to think in new ways."

But Skilling's fondness for the buttoned-down Fastow was not widely shared. Many colleagues considered him a prickly, even vindictive man, prone to attacking those he didn't like in Enron's group performance reviews. Fastow, through his attorney, declined to comment for this story. When he formed and took a personal stake in the LJM partnerships that blew up in October, the conflict of interest inherent in those deals only added to his colleagues' distaste for him. Enron admits Fastow earned more than $30 million from the partnerships. The Enron CFO wasn't any more popular on Wall Street, where investment bankers bristled at the finance group's "we're smarter than you guys" attitude. Indeed, that came back to haunt Enron when it needed capital commitments to stem the liquidity crisis. "It's the sort of organization about which people said, 'Screw them. We don't really owe them anything,'" says one investment banker.

While LJM—and Fastow's direct personal involvement and enrichment—shook many, the deal was just the latest version of a financing strategy that Skilling and Fastow had used to good effect many times since the mid-'90s to fund investments with private equity while keeping assets and debt off the balance sheet. Keeping the debt off Enron's books depended on a steady or rising stock price and an investment-grade credit rating. "They were put together with good intentions to offset some risk," says S&P analyst Ron M. Barone. "It's conceivable that it got away from them."

Did it ever. The off-balance-sheet structures grew increasingly complex and risky, according to insiders and others who have studied the deals. Some, with names like Osprey, Whitewing, and Marlin, were revealed in Enron's financial filings and even rated by the big credit-rating agencies. But almost no one seemed to have a clear picture of Enron's total debt, what triggers might hasten repayment, or how some of the deals could dilute shareholder equity. "No one ever sat down and added up how many liabilities would come due if this company got downgraded," says a lender involved with Enron. Many investors were unaware of provisions in some deals that could essentially dump the debts back on Enron. In some cases, if Enron's stock fell below a certain price and the credit rating dropped below investment grade—one unimaginable—nearly $4 billion in partnership debt would have to be covered by Enron. At the same time, the value of the assets in many of these partnerships was dropping, making it even harder for Enron to cover the debt.

HIGH HOPES. Skilling tried to accelerate the sale of international assets after becoming chief operating officer in 1997, but the efforts were arduous and time-consuming. Even as tech stocks melted down, Skilling was determined not to scale back his grandiose broadband trading dreams or the resulting price-to-earnings multiple of almost 60 that they helped create for Enron's stock. At its peak in August, 2000, about a third of the stock's $90 price was attributable to expectations for growth of broadband trading, executives estimate.

That rapidly rising stock price—up 55% in '99 and 87% in
Manager Appreciates the Soft Side

William Blair’s Greig Looks Beyond the Data to Identify Well-Run, Able Companies

BY JUSTIN MATLICK

GEOE GREIG doesn’t mind breaking convention, even when it means straying from his own investment habits. The 51-year-old manager of William Blair International Growth Fund usually buys according to themes—emerging markets and consumer electronics are among his favorites—but will move outside his target sectors when he spots a company with good prospects.

When evaluating potential buys, Mr. Greig hews to an almost old-fashioned faith in management. Management is “crucial in almost every case,” he says, and should be judged by qualitative factors in addition to hard numbers. He likes versatile companies that are built to do more than one thing well. “He also will look closely at a firm’s corporate culture, preferring firms with low turnover rates and good relationships with their key constituencies, including suppliers, customers, employees, and investors.”

Mr. Greig’s eclectic mix of macroeconomic buys and stand-alone picks have produced consistent growth in a relatively volatile fund category. His fund returned 42% for 2003, and its calendar-year results have bested 75% of the funds in its category every year since 1999, according to fund tracker Morningstar Inc.

The fund’s asset base has more than quadrupled in the past two years, to nearly $2 billion from $450 million, according to Morningstar, and prompting William Blair to close it to new investors March 1.

Here is a look at one of Mr. Greig’s recent winners and a stock that missed:

HIT

Research in Motion, the Canadian maker of the BlackBerry wireless e-mail device.

**HIS AVERAGE PRICE:** 20.87 Canadian dollars. (Current price: C$126.07; three-year high: C$135.47; three-year low C$13.19. On the date of Mr. Greig’s first purchase in April 2003, the U.S. dollar traded at about C$1.45.)

**WHY HE BOUGHT IT:** A year ago Research in Motion was mired in a patent dispute and facing competition from such established players as Microsoft Inc. but Mr. Greig apparently saw the potential in the company’s proprietary technology and strong management. Mr. Greig recognized the company’s seventh-ranked sales growth was not sustainable. He predicted the company would lose its second-quarter market lead, fall to third quarter, kicking off the stock’s climb toward its recent highs. Increased corporate technology spending and improved BlackBerry products with new features such as Web browsers and color screens have aided growth. The “big financial turnaround,” Mr. Greig says, came when Research in Motion hatched a slew of deals with wireless companies—the company now works with more than 50 carriers—to offer BlackBerry service on their networks.

**THE LATEST:** Research in Motion’s January stock offering netted about $900 million, and last month its subscribership reached one million—up from 584,000 in March 2003.

MISS

HBOS PLC, an Edinburgh, Scotland bank.

**HIS AVERAGE PRICE:** 17.52. (Current Price: £7.22; three-year high: £8.86; three-year low: £5.18. On the date of Mr. Greig’s first purchase in February 2002, the pound traded at about $1.43.)

**WHY HE BOUGHT IT:** He believes the U.K. housing market was fundamentally solid and that interest rates likely will stay low. "I don’t see housing falling much if interest rates stay low," Mr. Greig says.

**THE LATEST:** A fifth-largest bank and largest mortgage lender, Mr. Greig liked its position in the booming United Kingdom housing market. He also saw a smart strategy for snatching key markets from Britain’s other big banks: HBOS planned to build volume by competing aggressively on prices. "It’s a very untraditional path to growth in the U.K., where companies like to protect their margins," Mr. Greig says.

**HOW IT DID:** On paper, Mr. Greig’s pick looks good. HBOS has stuck to its business plan and consistently met earnings targets. Its net profit jumped 31% in 2002 and rose another 28% for 2003, with growth across all business units. (But "the only thing that’s happened in the past couple of years is the stock has gotten a lot cheaper," Mr. Greig says. He blames investor skepticism about HBOS’s unorthodox growth plan, fears that the U.K. housing market could collapse and anxieties that interest rates will rise.

**THE LATEST:** Mr. Greig stands by his pick. He believes the U.K. housing market is fundamentally solid and that interest rates likely will stay low. "I don’t