March election—is being tipped as a possible premier in the new government or as a special envoy to Beijing. But some researchers have criticized Lee's endorsement of Chen for jeopardizing Academia Sinica's political neutrality. And, given Chen's strong stance on Taiwan's independence, some worry that China could react to a government led by the two men by curtailing research collaborations.

A native of Taiwan, Lee spent nearly 30 years at the University of Chicago and the University of California, Berkeley, before returning in 1994 to head the academy. He lobbied successfully for a dramatic jump in funding and convinced a dozen or so topflight scientists to return home to take up key positions in the academy's 24 institutes. He also introduced peer-review procedures and other reforms that have led to a sharp rise in publications in top international journals. He's made it "a dynamic and vibrant institution," says Kenneth Wu, a molecular biologist who headed the academy's Institute of Biomedical Sciences for 3 years before returning last year to the University of Texas Health Science Center in Houston.

At the same time, Lee took on a very public role. Described by the media as "Taiwan's conscience," he championed social welfare measures, spoke out against governmental corruption, led a drive for educational reform, and chaired a commission to assist the victims of last fall's earthquake.

Although the academy reports directly to Taiwan's president, Lee had always urged his colleagues to maintain political neutrality. But colleagues say Lee grew increasingly concerned about corruption and decided to throw his weight behind Chen when it became clear that the race was close. On 10 March Chen visited Lee in his Academia Sinica office, and on 13 March Lee announced that "Chen is the only candidate capable of really rooting out the endemic corruption in Taiwan's politics." The same day, Lee tendered his resignation, which was refused by outgoing President Lee Teng-hui. The Nobelist then announced he would be taking vacation leave until the end of the month.

Some scientists worry that Lee's political move will strain relations between Academia Sinica and the long-ruling Nationalist Party, which still controls the country's legislature. "The momentum of progress at Academia Sinica is now irrevocably interrupted, and its reputation badly damaged," says one Chinese-American scientist from a major U.S. research university who has close links with Taiwan. But others say that Lee's departure from Academia Sinica could be equally damaging by depriving it of a strong leader. "It won't be easy to find [a replacement for Lee] with his vision and his international status," says Lin Sheng-hsien, director of the Institute of Atomic and Molecular Sciences, part of a group that has urged Lee not to step down. Lee could not be reached for comment.

As for scientific relations with China, China's Communist Party made it clear throughout the campaign that it opposed Chen, who was considered the most pro-independent of the major candidates. Lee himself enjoys close ties with the mainland. He has received honorary degrees from several Chinese universities and is an honorary professor of the Chinese Academy of Sciences' Institute of Chemistry in Beijing. Li Jia-quan, a research fellow at the Institute for Taiwan Studies in Beijing, says that because of Lee's endorsement of Chen, "it would be impossible for the mainland to accept Lee as a negotiator for relations across the Taiwan Strait." He added, however, that he doesn't think that it will affect contacts between academy scientists and their mainland counterparts. **–DENNIS NORMILE**

With reporting from Beijing by Li Hui of *China Features*.

INFECTIOUS DISEASES

New York's Deadly Virus May Stage a Comeback

ATLANTIC CITY—Will it come back? That question has been haunting public health officials in New York City and state since a surprise outbreak of the West Nile virus sickened more than 60 people late last summer and killed seven. No more cases of this rare illness were detected after temperatures started dropping in October, rendering the climate inhospitable to the mosquito that transmits the disease, most likely a subspecies of *Culex pipiens*. But researchers didn't know whether the virus would survive the winter, either in mosquitoes or their eggs, or in birds, the virus's animal reservoir. Now they do. Two recent observations have shown that the virus is alive and kicking, researchers said at a meeting of the American Mosquito Control Association

Round two. A new generation of mosquitoes may spread the West Nile virus.

CREDITS: (TOP TO BOTTOM) CORBIS/PAT O'HARA; OXFORD SCIENTIFIC FILMS/ANIMALS ANIMALS

ScienceScope

Complex Structures The National Science Foundation (NSF) is creating a "virtual directorate" to manage its rapidly growing environmental research portfolio and biocomplexity initiative (*Science*, 10 December, p. 2068). The new structure will have all the trappings of one of NSF's six research divisions, including an outside advisory committee. Geosciences head and environmental czar Margaret Leinen explained the plan last week to NSF's overseers, the National Science Board. But in a unique setup, the committee will include one member from each of the existing directorate panels as well as major figures in the environmental community.

Officials say the arrangement is meant to raise the profile of environmental research, which the science board wants boosted by $1 billion over 5 years, from its current $609 million, without changing NSF's basic organizational structure.

Head Hunting Eager to snap up a White House official who may be jobless when President Clinton leaves office in January, the Washington-based Federation of American Scientists (FAS) recently offered Henry Kelly—currently assistant director for technology at the Office of Science and Technology Policy—the top job at the organization, according to sources close to FAS.

FAS was founded in 1945 by Manhattan Project scientists concerned about the spread of nuclear weapons. The nonprofit now works to discourage nuclear proliferation, limit government secrecy, and influence science and space policy. Previous FAS president Jeremy Stone resigned last fall after a 30-year stint, in the wake of criticism surrounding his recent book's veiled claim that an American physicist was a spy for Russia.

Physicist Kelly, a former staffer at the Office of Technology Assessment, the Arms Control and Disarmament Agency, and the Department of Energy, declined to say if he'll take the job. But "he was the outstanding figure" at the end of FAS's search, says one source.

influence the flight of electrons traveling in the same direction as the laser light. But in the wiggler, when the electrons are forced to move askew, it does. "Those [electrons] sitting in the electric field get an energy kick," Schoenlein says. That boosts them into a slightly wider orbit as they travel around the ring, making it possible to separate them out. Finally, the synchrotron takes over, forcing the small bunch of higher energy electrons to emit short x-ray pulses, which are steered to the experimental chamber.

The result was a series of 10,000 x-ray pulses a second, each lasting 300 femtoseconds. A second's worth of pulses contained approximately 10^5 photons. That's well below the 10^{15} to 10^{18} photons per second the ALS normally generates. But it's likely to be plenty for use in a technique called extended x-ray absorption fine structure, which reveals the placement and movement of a core atom in a sample relative to its closest neighbors. By using fast pulses to probe a chemical reaction at various stages of completion, researchers can construct fast-action movies of chemistry in the making. Unlike similar movies made with laser pulses in so-called "pump-probe" experiments, a femtosecond x-ray pulse would reveal the position of atoms in the sample. Although the Berkeley team has yet to perform the experiment, it's the next step. Says Penner-Hahn, "This is something that could have a tremendous impact." –ROBERT F. SERVICE

HUMAN EVOLUTION

Hominid Ancestors May Have Knuckle Walked

As countless cartoons of hunched brutes suggest, the evolution of an upright posture is one of the crucial features that makes hominids distinct from other primates. But exactly how our predecessors got around before they walked upright has been a mystery. Now a new analysis of casts of 3-million- to 4-million-year-old hominid bones suggests that humans evolved from an ancestor that walked on its knuckles, like chimpanzees and gorillas. "For the first time we are able to say early hominids bear the echo of a knuckle-walking ancestry that they shared with gorillas and chimps," says paleoanthropologist Rick Potts of the Smithsonian Institution.

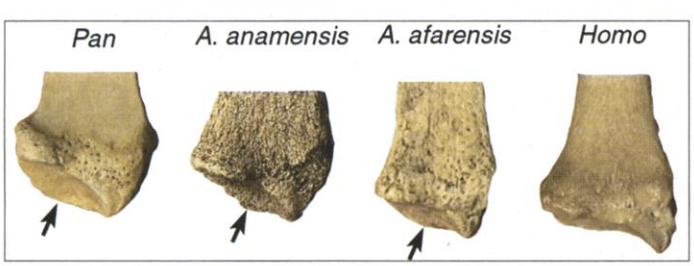
Anthropologists Brian Richmond and David Strait of George Washington University (GWU) report in this week's issue of *Nature* that two species of australopithecines, including the famed "Lucy" skeleton, have features in their wrist joints that resemble those seen in living African apes. Aside from shedding some light on the murky nature of the common ancestor of humans, chimps, and gorillas, the find helps resolve a conflict between anatomical and molecular evidence linking chimps and humans. "This makes things nice and neat," says Leslie Aiello, a paleoanthropologist at University College London.

When chimps and gorillas scamper on the ground, they curl their long fingers, plant the second segment of their finger bones on the ground, and shift their weight. A bony ridge near the base of the finger results from the hand bearing weight in this position. Humans don't have this ridge, nor did early hominids like Lucy, a member of the species *Australopithecus afarensis*, because she, like us, walked upright.

The lack of evidence for knuckle walking among human ancestors implied that chimps are closer to gorillas than to humans, yet strong molecular data and some subtle anatomical data suggest the opposite. But if chimps and humans are indeed closely related, as the genes suggest, then knuckle walking must have evolved twice, independently, in chimps and gorillas—a somewhat "untidy" theory that dissatisfied many anthropologists.

Then in 1998, Richmond, a predoctoral fellow at the Smithsonian Institution at the time, read some old papers on the evolution of the primate hand. He noted that early descriptions of knuckle walking in modern chimps and gorillas reported not only the ridges on the finger bones, but also ledges and notches in the wrist joint that help keep the arm rigid. He and Strait walked across the hall to check the collection of casts at the National Museum of Natural History. "I walked over to the cabinet, pulled out Lucy, and—shazam!—she had the morphology that was classic for knuckle walkers." Lucy herself wasn't a knuckle walker, notes Richmond; rather, these wrist traits are a leftover from her knuckle-walking ancestors.

Teaming up with Strait, a postdoc at GWU, Richmond found that chimps, gorillas, and two early hominids—*A. afarensis* and *A. anamensis*—had similar specialized wrist features that

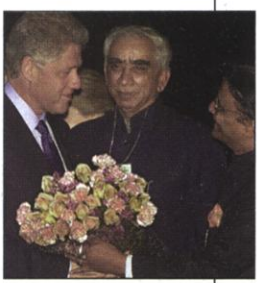


CREDIT: (BOTTOM) D. STRAIT/GEORGE WASHINGTON UNIVERSITY

Stiff wrist? Early hominids had a bony ridge (arrow) on their forearms. Chimps (left) use this to stabilize the wrist for knuckle walking.

ScienceScope

Donations Welcome Senior science policy officials from India and the United States have kicked off an effort to promote cooperation between the two countries. During President Clinton's visit this week to India, they inked an agreement to establish a joint science and technology forum. "We have neglected this relationship for more than 2 decades," said Clinton (with Indian Foreign Minister Jaswant Singh, center). "It is too important to ever fall into disrepair again."



The U.S. government has already committed $7.5 million for the forum, which will commission studies and promote research collaborations. A 14-member board will coordinate its activities and seek private and corporate funds. Says V. S. Ramamurthy, secretary to the Department of Science and Technology, who worked for 2 years to set up the forum: "A channel for communication has been opened."

Further Food Fights In a new sign that the battle over biotech food is heating up in the United States, a coalition of 54 consumer, farming, and environmental organizations this week petitioned the Food and Drug Administration (FDA) to require mandatory safety testing and labeling for bioengineered crops—neither of which is required at the moment. In the meantime, the groups want FDA to remove all transgenic products from supermarkets. By law, the agency has 180 days to respond; if it doesn't come around, the coalition promises to go to court. "This is not howling in the wind," says Joseph Mendelson, legal director of the Center for Food Safety, the lead petitioner.

Meanwhile, to counter the "nonsense" and "unfounded attacks" coming from opponents, almost 1900 scientists have signed a pro-biotech petition posted on the Web (www.agbioworld.com) by Channapatna Prakashthat, director of the Center for Plant Biotechnology Research at Tuskegee University in Alabama. Among the signers are two Nobel laureates, geneticist James Watson and green revolution pioneer Norman Borlaug. Prakashthat says the petition, which urges policy-makers to use "sound scientific principles" in biotech regulation, will eventually be sent to world leaders.

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