

Not necessarily, says David J. Kuck, director of the University of Illinois Center for Supercomputing Research and Development. The brutal fact is that very little attention is being given to the applications and systems software required to exploit all that hardware, he said at a 17 October press briefing hosted in New York by the Institute of Electrical and Electronics Engineers.

Indeed, according to a new set of benchmark programs that he and his students have developed, a supercomputer's speed on real-world problems is typically no more than 1 or 2% of its advertised peak speed.

Kuck's solution: better software. Kuck and his colleagues have shown that fairly simple improvements can substantially increase speed; with serious efforts, increases could easily go much higher. "Imagine getting 10% via software," he says.

## Welch Award to Davidson

Biologist Norman Davidson of the California Institute of Technology in Pasadena says he loves his work so much he'd be willing to pay Caltech to cover its costs—if he were a wealthy man.

Now he has a chance to make good on the sentiment. He has been awarded this year's Welch Award, which comes with \$225,000, for contributions spanning his 40-year career. The Welch Foundation has cited the 73-year-old Davidson's work in the '50s, which laid the foundation for a commonly used method of determining how closely related different nucleic acids might be. Davidson is currently focusing on how mammalian cells work.

## Nicholson Replaced by Sanchez at NSF

The National Science Foundation's directorate for mathematical and physical sciences has a new chief. He is David A.

## Quake Delays Nobelist's Pitch

Stephen Jay Gould move over: science has a new all-star baseball maven. This year's winner of half the Nobel Prize for Physiology or Medicine, J. Michael Bishop, is a San Francisco Giants season ticket holder. So when the baseball commissioner's office called to ask if he and co-winner Harold Varmus—both Bay Area residents—wanted to throw out the first pitch in game 4 of the World Series, wild horses couldn't keep him away.

But an earthquake did. Bishop was at packed Candlestick Park 25 minutes before the start of game 3 of the series when the Loma Prieta earthquake shook the stadium. The game was canceled and the series suspended for 10 days, postponing Bishop's pitching debut indefinitely.

Bishop and Varmus were originally on tap for game 4 when the series resumed. But they were bumped by Willie Mays—who had been replaced in game 3 by 12 heroes of earthquake rescues. They might have gotten their chance in game 5, but the Giants lost four straight to the Oakland A's.



Repairs at Candlestick.

Sanchez, named this week to replace Richard S. Nicholson who left NSF to become executive officer at the AAAS.

Sanchez, a mathematician specializing in differential equations, is presently vice president and provost at Lehigh University in Bethlehem, Pennsylvania. He was formerly chairman of the mathematics department at the University of New Mexico and a professor of mathematics at the University of California, Los Angeles.

Sanchez's appointment is effective 1 June 1990.

## Two Who Never Joined the Revolution

The plate tectonics revolution has marked its 20th anniversary, but for some the battle over the mobility of Earth's crust goes on. One of the old war-horses in the rear guard action against plate tectonics is Vladimir V. Belousov, the head of the Department of Geology of the Academy of Sciences of the USSR since 1944. At this summer's International Geological Congress, the curious packed a meeting room to catch a glimpse of Belousov. Did he still believe all that stuff about immobile continents?

It seems he does. Most geologists say the continents are embedded in planet-girdling plates that have been jostling

each other for billions of years. But Belousov sees a globe that until a scant 250 million years ago was completely sheathed in continental crust, after which the interior began oozing magma that has formed ocean crust in its place. Such "oceanization" has been sapping the continents toward extinction ever since, said the Russian.

"No one wants to dispute this?" asked the moderator. All declined. Belousov might have had an ardent defender but for the march of time. Sir Harold Jeffreys, the eminent physicist, died last spring. In the 1920s Jeffreys rejected continental drift, for good reason, but he remained firmly opposed to all variations of it, including plate tectonics. Perhaps the old geologist's saying still applies: "I wouldn't have seen it if I hadn't believed it."

## NEH Proposes Core College Curriculum

In an education system where some college students can fulfill social science requirements by taking a course on "Lifetime Fitness," no wonder 40% of seniors (according to a recent Gallup poll) don't know when the Civil War occurred.

The National Endowment for the Humanities (NEH) has recently added its voice to the growing chorus of concern

over the scattershot education many college students are getting. It has prepared a report, *50 Hours*, in which it proposes a 4-year core college curriculum.

The report outlines general guidelines in five broad areas: it recommends six semesters on "cultures and civilizations" (including the origins of civilization, and Western, American, and "other" civilizations), 2 years of a foreign language, 1 year of mathematics, 1 year on the natural sciences, and 1 year on "the social sciences and the modern world." The plan says students should be required to write papers in every course.

Core courses should be related to other core courses, says the NEH. And they should be taught by "an institution's most distinguished faculty"—otherwise, "the stature of general education is diminished."

Such a policy would mean radical changes. According to the NEH, one can graduate from 38% of the nation's colleges and universities without taking any history course at all, much less Western civilization, which is optional at 78% of institutions. One-third require no courses in science.

The poll of 700 seniors revealed that many have dim knowledge of even the recent past—for example, only 62% could identify Gloria Steinem and Betty Friedan as feminist leaders of the 1970s.