

## Computers and the Third World

Representatives of more than 75 nations convened beneath the lazy Spanish sun earlier this month to thrash out a new world order — one that could afford developing nations more bargaining power with the nations and vendors that possess computers. Poor and largely rural developing nations — like India, Brazil and Tunisia — realize that computers can speed the time it takes them to develop into industrialized powerbrokers. They also realize that possessing computers and knowing how to make the most of them can be two entirely different things. Hence their sojourn to Torremolinos for the 10-day intergovernmental conference on Strategies and Policies for Informatics (SPIN).

The term “informatics” refers to the whole complex of issues involving the computer-assisted handling and management of data. Many developing nations came to the meeting frustrated and disappointed after trying to computerize.

Take Iran. The Irani government is described as a “computer junkyard,” according to the Sept. 18 *Computerworld*. The government’s use of computers varies by agency from about zero to 40 percent, *Computerworld* says: “While it may be hard to imagine a zero utilization factor, one agency ... has had a system in crates

on its premises for almost a year.” In some cases, government ministers mistakenly bought oversize and costly systems for their prestige value; in others, U.S. vendors oversold equipment to novices under the lure of quick and high profits, according to the weekly newspaper.

As a result of “getting burned,” developing nations are anxious to band together in hopes of forcing computer vendors — especially large multinationals such as IBM — to deal with them more equitably. And SPIN was a good place to begin forging those alliances. It was the first meeting to formally address on a global scale the technical, social, cultural and political issues of computerization. Those issues include: training local people as experts; anticipating regional unemployment and other social changes computerization can bring; and learning to find, use and share data and computer programs developed elsewhere.

SPIN conferences could develop into just an angry forum, says Irwin Pikus, a State Department official and member of the U. S. delegation. But developed nations could learn much from it, he said. If they can tailor special and supportive services, like those demanded by the developing world, they may find a bountiful market welcoming them with open arms. □

## The Great Depression: 40 years after

Stock market crashes and economic depressions have been known to send people crashing out of windows and, less drastically, to trigger emotional depressions and other problems. But little is known about what long-term effects a financial crisis may have on an individual.

Now, researchers report a follow-up study of 82 women who became mothers in Berkeley, Calif., in 1928 and 1929. The original study at that time was aimed at newborn development, but researcher Glen H. Elder Jr. used the extensive records to track down the women in old age (most were born between 1895 and 1910). Elder interviewed the women in 1969 and 1970 and evaluated them on a variety of physical and psychological health measures. Part of his results were presented last week at a symposium on “The Older Woman,” sponsored by the National Institute on Aging and the National Institute of Mental Health.

“The Great Depression exposed women to a class of life problems that bears some resemblance to problems experienced in old age — financial strain and the challenge of making do with limited resources, health disability and loss of spouse [through broken marriages],” Elder says. He divided the women into working class and middle class, and those “deprived” (economically) by the depression and

those “nondeprived.”

“Many of these women entered the labor force,” Elder says. “Though economic deprivation proved to be overwhelming and costly for some women, others seemed to manage successfully, even in the face of prolonged deprivation.”

Similarly, in their advanced years, some of the women fared better than others on measurements of financial security, general health, degree of disablement, illness proneness, self-care capabilities, energy level and psychological attributes, including dependability, givingness, insightfulness and productivity. Elder hypothesized, and confirmed, two trends:

- Economic deprivation in the 1930s increased financial strain in old age among women of low socioeconomic status.

- Depression hardship in the '30s also increased the likelihood of poor health around 1970 among elderly women from the working class. Deprived women from the middle class, however, “rank even higher than the nondeprived in old age on measures of physical and psychological health,” says Elder.

Elder attributes these phenomena to several factors. First, he says economic recovery occurred at a slower rate in the working classes because of the “prevalence of joblessness among the semi-

skilled and unskilled.” Second, lower class families naturally had less to start with when the depression hit and often “lost everything” during the '30s. Finally, he suggests that because many middle class women did have more financial reserves at that time, the depression actually may have strengthened them. Their experiences in working and coping with the hardships taught them “survival lessons” that helped them deal with the problems of old age, he says. □

## Desickling cells with a kidney machine

Kidney dialysis machines — gadgets that cleanse the blood of patients with kidney disease, then return the blood to their bodies — are receiving some novel uses of late. Not long ago Florida and Kentucky investigators reported that schizophrenics improved considerably after their blood had been dialyzed routinely, purportedly because the machine removed some blood chemical or chemicals implicated in the disease (SN: 7/8/78, p. 29). Now, starting early next year, dialysis will be tried on sickle cell anemia patients.

Sickle cell anemia is an inherited disease of the hemoglobin molecules in red blood cells, and a problem for one out of every 500 blacks in the United States. The disease takes its toll by producing sickling crises, in which not enough oxygen reaches a person’s red blood cells and the cells take on a sickled shape. The sickled cells then clog blood vessels, causing excruciating pain and tissue damage. Although a number of chemicals have desickled cells in the test tube and hence look promising for treating sickling crises, they tend to be too toxic for regular use by patients. Albert L. Babb, a biomedical engineer, and Belding Scribner, professor of medicine at the University of Washington at Seattle, asked: Why not remove blood from a patient’s body with a kidney machine, treat the blood with a desickling agent, then return the blood to the patient after it has been cleansed? Might such a treatment successfully counter sickling crises without endangering a patient? Babb and Scribner want to find out.

Starting early in 1979, they will test an advanced version of a kidney machine on sickle cell patients. The patients’ blood will be treated outside their bodies with sodium cyanate, which is one of the drugs that has looked promising for treating the disease for several years now (SN: 2/16/74, p. 105). The blood and drug will be mixed in a specially designed reaction vessel, and nearly all the drug will be removed from the blood before the blood is returned to the patient’s body. A computer will monitor the blood before it is returned and will automatically shut off the machine if the levels of the drug exceed safe limits. □