

## Now it's test-tube twins

Although the United States' first test-tube baby clinic so far has had no luck in getting *in vitro* fertilized human eggs to "take" in women's wombs (SN: 10/11/80, p. 231), a group of Melbourne, Australia, scientists are achieving a number of successes, according to an article in the Dec. 18/25 NEW SCIENTIST. Last year, Australia's first test-tube baby was "midwived" by Ian Johnston of the Royal Women's Hospital, Carl Wood of Monash University, Alan Trounson of Queen Victoria Medical Centre and colleagues. And now the researchers report that, by modifying their techniques, they have managed to get 10 more *in vitro* fertilized human eggs to take in women's wombs. Four of the fertilized eggs comprise two sets of nonidentical twins.

One of the modifications consists of obtaining eggs for *in vitro* fertilization after artificially inducing ovulation in prospective mothers rather than obtaining the eggs during the women's natural ovulatory cycles. This approach made it possible for the researchers to arrange the time of ovulation and *in vitro* fertilization in advance. Another of the changes consists of giving prospective mothers a fertility drug that sometimes produces more than one egg at ovulation. Thus, in some instances, the investigators were able to fertilize, *in vitro*, more than one egg from a prospective mother and then simultaneously implant two *in vitro* fertilized eggs back into her womb, increasing the chances of at least one of the eggs taking. In two of the women implanted with two eggs at the same time, both eggs took; hence the pending arrival of two sets of nonidentical test-tube twins. Other improvements were made in implanting an egg in the womb. □

## Health research may change under Reagan

It's still too early to know what changes or new initiatives Ronald Reagan plans for federal health and research agencies. But discussion of what his advisers have been studying—described by William B. Walsh, chairman of the President-elect's transition-team task force on health—offers some solid clues.

For instance, "the \$4 billion or so" budgeted for the National Institutes of Health "was not spent appropriately," Walsh said Monday during a Washington Journalism Center conference at the Watergate Hotel. Plans to rein the federal budget tighter over the next few years mean appropriations for biomedical research will probably level off, Walsh explained. But "just increasing funding does not increase quality research," the research cardiologist and Georgetown University professor added. The "only way to increase research funds" during these hard times, he said, "is to increase the efficiency of the funding process." For NIH that translates into "a redistribution of authority" so that the director "can run the place," Walsh said.

Too many of the national health institutes "don't respond to goals set by [the NIH] director; each institute acts virtually autonomously under the auspices of its own congressional sponsor, Walsh criticized. He indicated that the task force recommended to Reagan that the architecture of NIH's management be recrafted so that the research agency's director can redistribute biomedical funds throughout for a more equitable and efficacious use of precious federal dollars. Will such changes really come to pass? "I pray to God that they will," Walsh said, "but they won't take place in the first six months or year," when more pressing issues rivet attention elsewhere.

In addition, Walsh indicated that the Food and Drug Administration would work toward reducing regulations that he claimed are strangling profitability of the drug industry. He said there was a need to speed FDA approval of new drugs, to ease regulations affecting the export of drugs manufactured in the United States and to relax current restrictions involving clinical (human) trials of new drugs.

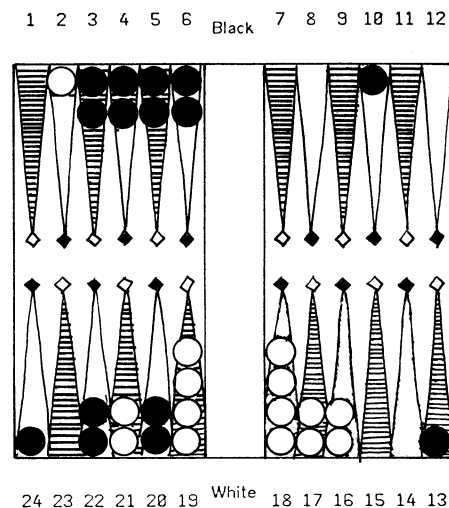
Research by industry—which often costs \$4 to \$6 million a year for each new drug—has dropped by two-thirds over the past 10 years among U.S. pharmaceutical firms. To encourage these firms to pump more private money into research, Walsh talked about extending the initial 17-year patent rights on drugs so that it begins on the date of market introduction, not discovery. □

## Growth hormone test

Healthy adult volunteers received the first doses this week of human growth hormone made by genetically engineered bacteria. The trial at Stanford University School of Medicine is expected to last 20 days to determine the initial safety of the bacterial product. Then year-long clinical trials on patients 4 to 13 years old suffering from hypopituitary dwarfism will begin in London (SN: 1/3/81, p. 8) and in several medical centers in the United States. The trials were announced by Genentech, Inc., the South San Francisco firm that has used recombinant DNA technology to produce substances including growth hormone and insulin, which is already undergoing clinical trials (SN: 1/3/81, p. 8). "For both hormones, recombinant DNA techniques hold the promise of unlimited supplies," Genentech says. □

## Teaching a machine the shades of gray

The die showed a 5 and a 1 for the challenger's turn in a match with the world backgammon champion. In a seemingly reckless manner, the challenger—playing black—moved one man from position 13 to 8 and another from 3 to 2, leaving several men standing alone, vulnerable to being sent home. But the player did not mind exposing additional men, because the reckless attack, coupled with the already fine defensive position of black, meant two chances to win. It was a highly imaginative and correct judgment that, previously, the challenger would have had difficulty exercising. The challenger was a computer.



The computer won the backgammon match with the help of a new program constructed by Hans J. Berliner of Carnegie-Mellon University in Pittsburgh, Pa. It was the first time that a computer beat a human world champion in an intellectual activity. The real significance of the backgammon match, though, lies not in that "first," says Berliner, but rather in the success of his computer program design in "capturing the essence of judgment...to allow machines to deal with relatively ill-defined, fuzzy situations." Berliner detailed the rationale behind his successful computer program at the recent meeting in Toronto of the American Association for the Advancement of Science.

Berliner explained that one of the original methods of designing game-playing programs—"telling" the computer in advance what to do in any given situation—cannot be utilized for games with numerous possible moves and sometimes conflicting rules. Another method that has been investigated involves a program that looks for the consequences of each option in a given situation by searching branching chains of possible moves and counter-moves before one is chosen. But, "It is