The Dimmest "Star"

Astronomers have discovered yet another possible "brown dwarf"—one of a family of hypothetical objects that would be too small to shine as stars, but that may provide most of the "missing mass" that seems to be required to hold the galaxies together with gravity.

Although a number of brown dwarf candidates have been found by other astronomers, says Philip Ianna of the Leander McCormick Observatory in Virginia, "This is the faintest star-like object that has been found to date." Ianna and Australia-based colleague Michael Bessell calculate their dwarf, which lies in the southern constellation of Microscopium, is 30% less luminous than any star measured.

Brown dwarfs, which would have less than 8% of the sun's mass, would be too small for nuclear reactions to begin at their cores. But if they are extremely numerous, as some astronomers believe, they could account for the mysterious gravitational force observed in stellar and galactic motions, a force too great to be due to the mass of observable objects. Ianna and Bessell estimated their object's extremely small mass by applying a standard formula that relates a star's mass to its luminosity.

The biggest uncertainty is the age of the object. Since the relationship of luminosity to mass depends on age, estimating the dwarf's mass is only a best guess proposition.

Social Science: NSF's Poor Relation

There has been growing discontent among social and behavioral scientists over what they see as paltry support for their disciplines at the National Science Foundation.

Last month, an advisory committee for the NSF's Biological, Behavioral and Social Sciences Directorate submitted the draft of a report in which it urged the foundation to consider "establishing a separate directorate for the social and behavioral sciences."

The committee, headed by Indiana University psychologist Linda Smith, said there is "severe underfunding of these disciplines" stemming from the sharp cutbacks that occurred in the early Reagan years. The directorate's current budget of $293 million allots $46 million for behavioral and neural sciences and $33 million for social and economic sciences.

The idea of a separate social and behavioral sciences directorate was first proposed by artificial intelligence pioneer Herbert Simon of Carnegie Mellon University in congressional testimony last year. But NSF director Erich Bloch has not shown any enthusiasm for the idea. In recent testimony before the House Science, Space and Technology Committee, he defended the current NSF structure and said he didn't see the need for more "stand-alone entities."

Changing U.S. Demography

The country is facing a "collision of two massive demographic forces"—the vastly increasing proportion of old people in the population and the rapid growth of racial minorities, particularly in the younger age groups. So said former San Antonio mayor Henry G. Cisneros at a recent conference, sponsored by the Population Resource Center, on demographic change and public policy in the 21st century.

By 2030, for example, 20% of the projected U.S. population of 301 million will be over 65, making retirees more numerous than teenagers. Said Carol de Vita of the Population Reference Bureau: "the whole country will look like Florida."

At the same time, by 2030 one-third of the population will be Hispanic, black, and Asian. But because of the higher birthrates—particularly among Hispanics—one-third of school-aged children will be from minority groups by 2000. In other words, as the PRC puts it, "from a demographic perspective, the 21st century has already arrived." And Californians are leading the way—by 2000, 92% will be living in counties made up of at least 30% minorities, Cisneros said.

One disturbing result of current trends, said University of Chicago sociologist Marta Tienda, is that without aggressive new efforts to improve the earning power of minorities, society will become even more stratified according to race. Cisneros reported, for example, that in 1967, the top 20% of the population had 40% of the income and the bottom 20% had 6%. By 1987, the gap had become more pronounced with the percentages changing to 43% and 4.6%.

Participants at the conference described the profound impacts that changing demographic patterns are having on public services, health systems, education, jobs, and the environment. But although they stressed that "demography is not destiny," they declined to confront the question of population growth. When an audience member asked a panel of experts what the country could do to determine "optimal" population levels, no one wanted to talk about it.

Truth in labeling. *Is this guy for real? Dinosaur specialists at the Smithsonian Institution in Washington, D.C., had their reservations about this Triceratops and its compatriots when they arrived this month at the National Museum of Natural History. Their creator, Dinamation International Corporation, is doing for dinosaurs what Ted Turner did for old black and white movies—the beasts are not only motorized and roaring at the top of their lungs, they're colorized. Lacking any physical clues, scientific advisers such as Robert Bakker, who is renowned for endorsing the warm-blooded and energetic view of dinosaurs, used living animals as the basis for speculative colorations. Hence, a zebra's camouflage stripes on an Apatosaurus (the old Brontosaurus) and the deceptive false eyes on this Triceratops. Will the public, seeing (and hearing) all this at the prestigious Smithsonian, take it as scientific gospel? Fear not. "Appropriate disclaimers" arrived with the displays that identify "the more speculative aspects of the exhibition." The only other question is whether parents will manage to read the fine print to their enthralled youngsters.*