the explosion is on the way up, but most are not noticed until after maximum. However, in a report on International Astronomical Union Circular 4216 (May 15), G. Meurer of Mt. Stromlo Observatory in the Australian Capital Territory says spectra he took indicate that brightness peaked April 21, well before the first sighting. Two more reports on the same circular indicate that the International Ultraviolet Explorer satellite has taken ultraviolet spectra.

Spectra will tell which type of supernova this is — Meurer says his show it to be Type I — and track its development. They may also tell something about the nature and dynamics of the "lane" of dust that lies across the center of Centaurus A. As luck would have it, the supernova lies behind the dust. Such dust lanes are features of several galaxies, and astronomers are interested in their nature and their relation to the dynamics and evolution of the galaxies that have them. Spectra and a profile of the supernova's brightness over time will also help refine the figure for the distance to Centaurus A.

— D. E. Thomsen

Space commission poses future agenda

Slick, full-color covers, numerous illustrations specially commissioned from some of the best-known artists in their field, and a $14.95 price tag are not the stuff of your average government report. But the National Commission on Space, established by Congress nearly two years ago for the express purpose of writing its report, takes an atypically lavish overview of its subject.

Formed to propose an agenda for the U.S. civilian space program's next 20 years, the group observes that those decisions will have a great deal to do with determining what the world of the 21st century will be like. "We're not predicting it," says commission chair Thomas Paine, a former administrator of NASA. "We are simply trying to say what we can make happen." Even so, the report itself observes, "we are confident that the next century will see pioneering men and women from many nations working and living throughout the inner solar system. Space travel will be as safe and inexpensive for our grandchildren as jet travel is for us."

It is more than mere irony, however, that the report appears amid the most wrenching reappraisal in NASA's history, born of the Jan. 28 Challenger disaster. Though the explosion that killed seven people was followed by the catastrophic failure of two unmanned rockets, it has produced renewed calls for reassigning many of the agency's payloads off of the space shuttle.

Only two days before the report's May 23 official release, for example, the National Research Council's Space Science Board strongly recommended return to a balanced fleet of manned and unmanned launch vehicles, rather than the shuttle-dominated policy that had been in effect before the Challenger mishap. "This policy, which has deprived the nation of launch vehicles for major scientific payloads for almost a decade," asserted the board, "has been devastating for space science." Decisions in recent years to reduce or eliminate production of expendable rockets for NASA "had the effect of making unmanned space missions, including those of space science, dependent on manned vehicles, the shuttle in particular, in a way that caused serious problems for both aspects of the space program," the board said.

In an even more strongly worded opinion in the May 30 SCIENCE, University of Iowa space physicist James A. Van Allen, who has worked in the field since before NASA's origin in 1958, proposes that NASA "suspend manned [space] flight indefinitely pending critical assessment of its justification."

In addition, he urges that the United States "postpone development of the space station." Plans for a U.S. space station were initiated by President Reagan in 1984, but have been opposed by many U.S. space scientists who fear that the station, like the shuttle, will draw off funds that might otherwise be used for scientific projects such as unmanned planetary missions. Even before Reagan's pronouncement, the Space Science Board reported it saw "no scientific need for this space station during the next 20 years" (SN:9/24/83,p.199). The Department of Defense, too, failed to add its support at the time, and though the station certainly has its advocates, it remains a less-than-unanimous goal.

The legislation authorizing the National Commission on Space, however, declared that in carrying out its responsibilities, "the Commission shall take into consideration the commitment by the Nation to a permanently manned space station in low Earth orbit." And the commission's report duly recommends that "the U.S. space station program be kept on schedule for an operational capability by 1994, without a crippling and expensive 'stretch-out.'"

However, the report, budgeted at $14 million, also calls for "an aggressive science program," as well as other steps that it envisions will point toward manned planetary exploration by the 21st century, and a six-fold increase in NASA's budget by 2035. *— J. Eberhart*

A world unready for its own hazards

The threat of nuclear war and other nightmares that humans could bring upon themselves have weighed heavily on the public mind for years. But the recent Mexican earthquake (SN: 9/28/85, p. 196) and the volcanic eruption of Nevado del Ruiz in Colombia (SN: 11/23/85, p. 326), each of which killed thousands of people, graphically remind us that nature possesses a violence of its own. Moreover, embedded in the geological record is evidence for mass extinctions that may have been caused by the impacts of asteroids or comets with energies several thousand times greater than the nuclear arsenal, and for volcanoes that erupted with a fury far exceeding any volcanic eruption in historic times.

The message of University of Chicago geologist Joseph V. Smith and other earth scientists is that, while there have been many improvements in geoscience and technology, "the earth is still flying blind" when it comes to recognizing and planning for natural hazards. Smith is rallying for an International Decade for Hazard Reduction, first proposed in 1984 by Frank Press, president of the National Academy of Sciences. In Baltimore last week, at a special session of the American Geophysical Union meeting, he and other scientists discussed the threats of earthquakes, volcanoes, asteroids and comets. A future session will focus on hazards from storms.

Hazards have been assessed in at least 12 countries for more than 30 volcanoes, according to C. Dan Miller at the U.S. Geological Survey (USGS) Cascades Volcano Observatory in Vancouver, Wash. But as Smith notes, more than 800 volcanoes in the world are potentially dangerous. For small to moderate-sized eruptions, says Miller, the technology now exists to monitor and assess these hazards. "But the problem is that we don't have the money to implement them," especially in developing countries, he says.

Even when the scientific work has been done, there are communication problems among scientists, the public and officials, notes Robert W. Decker at USGS in Menlo Park, Calif. "If [your warning] fails, you don't want someone to say you cried wolf, because you didn't," he says. "The wolf was there; he just wasn't hungry."

Cataclysmic eruptions, which occur on average about every 500,000 years and spew out as much as several thousand cubic kilometers of magma, are also a certainty for the future, says Miller. The effects of these events have not been well studied, but Miller notes that their ejected sulfate aerosols could produce "volcanic winters," which, like "nuclear winters," would severely affect climate