

gress cannot grant to an officer under its control what it does not possess."

Anticipating this constitutional challenge, the law's authors wrote into the Act a fallback provision: It requires that Congress authorize the mandatory budget cuts specified under the law. In "staying" its judgment for 60 days, the Supreme Court gave Congress time either to authorize the already enacted March 1 curtailments, or to remove the unconstitutional provision from the law. If neither occurs within the 60 days, those initial cuts could be invalidated. However, neither sponsors nor critics of the law expect that will be allowed to happen.

"Gramm-Rudman tried to insulate Congress from the hard choices," says Rep. Mike Synar (D-Okla.), one of those who spearheaded the law's constitutional challenge. If Congress proposed spending more money for popular programs than the law would allow, the now-invalidated provision would have left the President to implement cuts in those programs. "We argued this was wrong and the Court agreed," Synar says.

Nonetheless, Senators Rudman, Phil Gramm (R-Tex.), and Ernest Hollings (D-S.C.) have announced they will soon introduce an amendment—something they call Gramm-Rudman-Hollings II—to reinstate the original role of the Comptroller General and President. To circumvent the constitutional problem, this legislation would make the Comptroller General removable by the President.

— J. Raloff

Cerebral palsy: Earlier origins

Researchers, it now appears, know less than they thought they did about cerebral palsy. While conventional wisdom has linked the neuromotor disorder to traumas suffered during birth, a new report suggests that the path towards the disabling and sometimes fatal syndrome is most often taken closer to the time of conception. Though the finding, reported in the July 10 *NEW ENGLAND JOURNAL OF MEDICINE*, undercuts hopes for obstetric "saves," knowing what they don't know may redirect researchers and physicians.

The idea that cerebral palsy can be traced to circumstances during birth—to a lack of oxygen, for example—has held favor for more than a century, supported by studies that retrospectively looked for causes of specific cases. But this is the first time that researchers have looked at a random sampling of births (more than 50,000 of them, at 12 hospitals) to see if the apparent associations hold up.

Karin Nelson and Jonas Ellenberg of the National Institute of Neurological and Communicative Disorders and Stroke, in Bethesda, Md., looked at pre-

A new glimpse of old life



How did life on earth come to be? A new exhibit at the Smithsonian Institution's National Museum of Natural History in Washington, D.C., displays publicly for the first time some of the earliest known traces of life, all of which are helping scientists wrestle with the question of life's origin and development. Shown in the inset is one of the world's oldest fossils, a 3.5-billion-year-old stromatolite from western Australia. The rounded stromatolite mound is thought to have been built, layer upon layer, by communities of blue-green algae or bacteria, which some researchers suspect were capable of photosynthesis (SN: 2/15/86, p. 108). Some scientists think that at the time this stromatolite was formed, the planet may have looked like the painting above—a world dotted with shallow-water stromatolites, wracked by intense volcanic activity and devoid of plants.

What happened between the time of these earliest fossils and the formation of the planet 1 billion years earlier is a matter of much speculation, says the Smithsonian's Kenneth M. Towe, who was chief curator of the exhibit. Included in the displays is the 4.6-million-year-old

Murchison meteorite fragment. In this and other meteorites, researchers have found traces of amino acids and other organic compounds, leading some to posit that extraterrestrial bodies brought to earth the basic building blocks of life.

Also included are a few rocks, including a striking gray-and-red-striped "banded iron formation," that have shaped scientific thinking about the timing and development of the earth's oxygen-rich atmosphere. In addition, the exhibit contains fossil records of life as it began to advance and diversify; on display are remains of single-celled, nucleus-containing creatures that lived 1.3 billion years ago, as well as 570-million-year-old jellyfish and other soft-bodied, multicelled creatures.

Future exhibits may benefit from a recent discovery reported in the June 19 NATURE. Andrew H. Knoll at Harvard University and his co-workers found a rich collection of 700- to 800-million-year-old fossil bacteria, algae and fungi in east Greenland limestones. According to the researchers, the find demonstrates that limestones, which have been poorly explored, are good places to hunt for early microfossils.

— S. Weisburd

pregnancy risk factors such as maternal retardation, as well as variables during pregnancy (such as drugs taken) and delivery. None of the factors accounted for a large share of the cerebral palsy cases. Even when the researchers grouped together the "best" risk factors, the combination failed to predict nearly two-thirds of the cases of cerebral palsy, and the "overwhelming majority" of children determined by these factors to be at highest risk did not in fact have the syndrome. "We probably do not know what causes most cases of cerebral palsy," the researchers conclude.

Because problems during labor and delivery did not turn out to be important predictors of cerebral palsy, the researchers say that it now seems that ab-

normalities of delivery often are markers of earlier brain damage—with roots perhaps as early as conception—rather than causes of it. The finding is in some ways discouraging, as it means that interventions at delivery come too late to help. But it does explain why increasingly sophisticated obstetric techniques have had little impact on the frequency of cerebral palsy. It may also help to stem the malpractice suit-spurred flight of obstetricians from practice, Ellenberg says. "The reason that obstetricians are successfully sued is . . . that [people] go back and look for problems in the delivery," he says. "You're always going to find something that went wrong. . . . But if you eliminate all the risk factors you would not eliminate cerebral palsy."

— L. Davis