

for heavy communications satellites.

Brazilian plans are more tenuous. For a decade, the government has been talking of launchers to place remote sensing and meteorology satellites into orbit, though little seems to have been done.

Judy Redfearn

Polish science advice

Reforms in limbo

One of the casualties of the Polish government's sudden suspension of the Solidarity trade union at the weekend may well be the draft bill that would have made it obligatory for government agencies to consult "scientific experts" before making important decisions. News of the bill came in a communiqué issued last month after a meeting between the Prime Minister, General Wojciech Jaruzelski, the Primate of Poland, Archbishop Jozef Glomp and Lech Walesa, leader of Solidarity.

To be effective, the proposed bill would have had to ensure that consultations were more than an empty formality. In some cases it would seem, past governments acted without even an appearance of consulting scientists. A notorious case was the siting of vast industrial plants — the Skawina aluminium smeltery and the Lenin steel mills — just outside Krakow. The decision to develop industry in the area in the 1940s had political overtones but meteorologically Krakow is a very poor site because of the limited circulation of the air. The toxic fumes from industry have undermined the health of the population and made the produce of farms unsafe within a radius of 50–60 km.

Until September 1980, any public discussion of such issues was impossible. Within a month of the signing of the Gdansk accords, however, a new Club of Polish Ecologists was established, based in Krakow, which early in January succeeded in having the obsolete production lines at Skawina (which had been emitting hydrogen fluoride) closed down. General Jaruzelski has been a strong supporter of moves to give scientists a louder voice, and he seems committed to continuing with consultations. But exactly who will be involved in any future talks is now unclear, as a new format is likely to emerge after a brief hiatus.

A second new bill now being prepared is aimed at reforms in the Academy of Sciences. The academic secretary of the academy is at present directly responsible to the prime minister and has himself quasi-ministerial rank. In recent months there has been a considerable movement within the academy to change this anomalous status by making the academic secretary responsible only to his fellow academicians. It seems likely that the prevailing "state of emergency" will mean a considerable weakening of provisions in the bill aimed at increasing the independence of the academy. **Vera Rich**

Creation on trial

Battle engaged

Washington

While a federal judge in Little Rock, Arkansas, listened to the closing arguments this week in a case claiming that a new state law which requires the teaching of "creation science" violates the separation of church and state, both sides in the dispute were already sharpening the arguments for the next round of what promises to remain an escalating battle of wits.

In Washington, the National Academy of Sciences held the first meeting on Monday of a committee made up of prominent scientists and legal advisers who will prepare a legal brief on the scientific status of the theory of evolution to be presented by the academy as an *amicus curiae* ("friend of the court") document, either to the Arkansas court if there is enough time, or in any future legal proceedings.

Meanwhile the creationists are working on a revised version of their "model bill" used as the basis of the Arkansas law passed in March, requiring equal efforts to be devoted to teaching the theory of evolution and creation science in school biology classes. The new bill is designed to meet some of the legal challenges thrown up in the Little Rock proceedings and elsewhere.

Whichever way the Arkansas verdict goes, there is a good chance that the fight will make its way up to the Supreme Court. And the supporters of creation science are unlikely to be put off by an adverse legal ruling, since they claim to be backed by a groundswell of popular support.

The academy panel is being chaired by Dr James Ebert, vice-president of the National Academy of Sciences and president of the Carnegie Institution of Washington. Others on the panel include Dr Steven Weinberg, professor of theoretical physics at Harvard; Dr Preston Cloud, professor of biogeology at the University of California, Santa Barbara; and Professor Norman Newell, curator emeritus in the department of invertebrates at the American Museum of Natural History in New York.

Several legal experts have been included on the panel to advise on the constitutional issues raised by the creationists. These include Mr Peter Barton Hutt, previously general counsel of the Food and Drug Administration, and Dr Richard Maserve, a staff member of the Office of Science and Technology Policy under the Carter Administration. Both are now members of the Washington law firm Covington and Burling.

The legal brief will concentrate on providing an academy-endorsed statement on the definition of science which, it is hoped, will help both courts and state legislatures distinguish the philosophical status of the theory of evolution from creation science.

The academy is also considering

producing a booklet to summarize current thinking on evolutionary theory.

The main claim being put forward by the state attorney general, Mr Steve Clark, in Little Rock is that, since holes can be picked both in the theory of evolution as a conventional science and in creation science as a conventional religion, the two are "just as scientific" and "just as non-religious" as each other.

The American Civil Liberties Union (ACLU), which has filed the case against the state of Arkansas on behalf of several local religious groups and school teachers, has so far had no difficulty in generating substantial support, from both the legal and the scientific professions, in preparing its case. A prominent New York law firm for example has been providing free legal support — including extensive research and the services of eight back-up attorneys in Little Rock — which would normally cost many hundred thousand dollars.



"Next witness"

ACLU has received help and advice from between 60 and 70 scientists in preparing a brief. Among those called to the witness box who gave a vigorous defence of evolutionary theory and challenged the claims of creation science were Professor Francisco Ayala of the department of genetics at the University of California in Davis, a member of the new National Academy of Sciences committee; Dr Gary Dalrymple, a geologist who is an associate director of the Western region of the US Geological Survey; and Harvard evolutionary biologist and historian Dr Stephen Jay Gould.

In contrast, although the state attorney general's office is presenting a number of scientists to put the creationist interpretation of human origins, few have significant standing in the scientific community. Attorney General Steve Clark complained last Thursday that several scientists had refused to testify in defence of the new law, suggesting that they had been subject to "peer group pressure".

Not all creationists have been happy with the way that their case is being handled. Two of the more prominent attorneys associated with the creationist movement, constitutional expert Wendell Bird and Virginia attorney John W. Whitehead, complained that they had been excluded