

# UNESCO chemical arms conference opens in Paris

- Soviets ready to destroy chemical weapons
- Poison gas the poor man's nuclear deterrent

## Paris

THE French President, Francois Mitterrand, opening a marathon five-day conference on chemical weapons in Paris on Saturday, reminded the 143 national delegates that "this is not a tribunal". Recent accusations in the United States that Libya is building a massive chemical weapons plant, compounded by its shooting down of two Libyan fighter planes last week, had put Arab states on the defensive and created a cloud of hostility even before the debates had begun.

As some nations only agreed to attend if there would be no finger-pointing, Mitterrand, as host to the conference, is believed to have asked the United States to calm down when he met the Secretary of State, George Shultz, on Friday.

But what was to have been a diplomatic gesture to reaffirm an existing ban on the use of chemical weapons had already, by Saturday evening, acquired political muscle. In a surprise gesture, the Soviet Foreign Minister, Eduard Shevardnadze, raised the stakes, agreeing to halt production of chemical weapons and to destroy existing stocks, even before a formal treaty has been signed.

The conference is the result of initiatives first by the US President, Ronald Reagan, then by Mitterrand, proposed at the tribune of the United Nations General Assembly last September. The original aim was to reinforce the 1925 Geneva Protocol, drawn up to prevent a recurrence of the horrendous casualties of chemical weapons during the First World War. By 1975, when the United States ratified its signature, 97 states had signed the protocol.

A further 12 have joined since then. But the protocol only outlaws the use of chemical arms, not their manufacture or stockpiling. Even so, there have been flagrant contraventions of the protocol, most recently when Iraq used chemical weapons against Iran and its own Kurdish population.

According to estimates in the United States, as many as 22 nations are suspected of possessing chemical weapons, but only two — the United States and the Soviet Union — officially admit having stocks. Against what appears as an increasingly cynical disrespect for the Geneva Protocol, Mitterrand hopes the conference will go further, leading to the worldwide ban on the "use, manufacture or stockpiling" of chemical weapons. According

to the French Foreign Minister, Roland Dumas, a draft agreement has already been drawn up which, he hopes, all national delegations will sign on Wednesday when the conference ends.

Such an agreement could give a welcome push to the 40-member United Nations disarmament committee which has been battling in Geneva for 18 years to ban the production and stockpiling of chemical weapons. The committee has met with two major stumbling blocks.

First, non-industrialized countries see chemical weapons as a "poor man's nuclear bomb". Their presumed deterrent effect is particularly valued by countries such as Syria, faced with the nuclear capability of neighbouring Israel. Indeed, Iraq's use of chemical weapons is thought to have played a role in ending its war with Iran. But, say critics, this surely shows that possession of chemical weapons is not a deterrent to their use in war — an argument that has nevertheless been defended by the United States, the Soviet Union and by France who have only agreed not to use chemical arms first in a conflict.

Second, it is difficult to verify that nations are not secretly producing chemical weapons. Most poison gases are produced by combining chemicals that have legitimate industrial uses. Mustard gas, for example, is made by mixing hydrochloric acid with thiodiglycol, an agent used to improve ink-flow in ballpoint pens. Modern sophisticated chemical manufacture makes it easy to divert a legitimate plant to the production of weapons gases and to conceal the process in time for an inspection. Furthermore, the minute examination which could reveal sinister uses of a chemical plant would also leave nations vulnerable to industrial espionage by international investigators.

On Sunday, the conference was still dominated by mud-slinging between industrialized and developing countries. But the Soviet move will challenge the United States — who have recently raised the temperature by designing a new generation of 'binary' chemical bombs — to follow suit. This is unlikely unless Arab nations change their stance. The remaining three days are therefore likely to be used to explore ways of softening entrenched attitudes. More than 75 foreign ministers are in Paris for the talks, and they are making the most of the opportunity for informal meetings. Peter Coles

## Backing for Libya

PRESIDENT Nicolas Ceaucescu of Romania, who frequently presents himself on the world stage as an advocate of disarmament, now argues that less-developed nations should be allowed to have chemical weapons — until such time as the superpowers destroy both their chemical and nuclear arsenals. Last week, he said that Romania would not commit itself to any international agreement that dealt with chemical weapons in isolation (see left). "Ultimately, even chemical arms can be a deterrent for those who have no nuclear arms. . . It is difficult to believe that many peoples will want to remain unarmed, to be in a position — as is the case of Libya now — to be told 'unless you obey the will of one country or another we come and bombard you'."

During the past year, Romania has antagonized other countries with actions ranging from destruction of villages (flooding Hungary with refugees), chemical fumes pouring into Bulgaria and Ukraine, a scandal over hazardous wastes imported into the Black Sea port of Sulina, and the alleged diversion of heavy water intended for a Romanian nuclear power plant to Israel. If, as many conclude, Ceaucescu's remarks are indirect confirmation that the disputed Libyan chemical plant at Rabta is not simply a civilian facility, then two questions arise: how did he know this; and why reveal it? V.R.

## Benveniste cont. . .

Dr Jacques Benveniste, whose work on the alleged 'molecular memory' of water put him at the centre of a major controversy last year (see *Nature* 333, 816, 334, 287 and 335, 759; 1988), has been challenged by the popular magazine *Science et Vie* to reproduce his experiments in a 'controlled' context stipulated by the magazine. But he has refused, saying his research is not accountable to people "not even qualified for the job of porter" in his laboratory. P.C.

## Numbers game

BUSINESS and finance courses are attracting undergraduate students to universities in droves, while numbers in some science disciplines are increasing only slowly or decreasing, according to statistics published in Britain this week by the Universities Statistical Record. Between 1985–86 and 1987–88, the number of undergraduates studying business and finance increased by 16 per cent from 9,300 to 10,800. The greatest increase among the science disciplines was 5.6 per cent, to 16,800, in the biological sciences. There were smaller increases in those studying engineering, technology and mathematics, and decreases in physical sciences, in medicine and dentistry and in veterinary science and agriculture. The number of postgraduate students increased in all sciences except engineering and technology. C.McG.