

Acid News

A newsletter from The Swedish NGO Secretariat on Acid Rain



Three NGO- delegates at the Conference: Hubert V. David from the EEB i Brussels.. Mats Segnestam from Sweden and Armin Rosencranz from California USA.

The Environment 82 Conference in Stockholm EFFORTS STARTED TO SOLVE THE ACIDIFICATION PROBLEMS

Towards the end of June this year, a major international acidification conference lasting for three days was held in Stockholm, Sweden. The Swedish Government hosted the conference, in which a large number of Ministers responsible for the environment, and other official delegates, took part. A special meeting of experts was held prior to the Ministerial meeting.

The Non-Governmental Organisations came to play a prominent role in the work of the Conference, through discussion and through the pressure they brought to bear on the delegations from

different countries, and, also, through the special resolution put by the NGOs to the Conference delegates.

The most important result

The most important result of Environment 82 is that all Common Market countries now recognise that one country shall not pollute another. This conclusion was underlined by the assembled NGO representatives at a press conference during the Ministerial meeting.

Without Environment 82 it would certainly have taken considerably longer time to get the ECE Convention on Long-range Transboundary Air Pollution ratified.

The environment and nature conservancy organisations were amply represented at the Conference. The NGOs

THE SWEDISH NGO SECRETARIAT ON ACID RAIN

c/o The Swedish Society for the Conservation of Nature
Kungsholms Strand 125 S-112 34 Stockholm Sweden Phone: +46 - 8 - 54 14 70



presented a united front on various issues, which was made easier by the intimate collaboration that took place between the various organisations during the Conference. The Swedish NGO Secretariat on Acid Rain was responsible for co-ordinating the activities of the NGOs, together with the Swedish Society for the Conservation of Nature. Several "heavyweight" environment organisations from both Europe and North America were present at the Conference. The European Environmental Bureau (EEB), for example, was represented by its Secretary General Hubert V. David from Brussels, while David Hawkins was present on behalf of the National Clean Air Coalition in the USA. The EEB is an umbrella organisation for some 60 major environment organisations within the Common Market, while the National Clean Air Coalition is made up of between 35 and 40 environment and labour groups in the USA.

Air polluters

"I'm disappointed that France, which is a major air polluter in Europe, only sent an ambassador to Environment 82, and that England sent only a junior official: England pollutes the air of Europe very strongly," said Hubert David from the EEB at the press conference arranged by the NGOs.

David went on: "As early as in 1972, at the UN's big conference on the human environment in Stockholm, the scientists knew about the problems of acidification. But at that time no one listened. Now there are politicians who are listening with increased interest, as damage from acid rain increases in Central Europe. Environment 82 does not mean that a solution to the acidification problem has been achieved, but it does mark the beginning of an effort to solve it".

Mats Segnestam from the Swedish Society for Conservation of Nature said at the same press conference: "The joint statement published by the Environment 82 Conference will be too mild and too weak. A final document must establish with a great deal more emphasis that the acidification of sulphur following the combustion of coal and oil is dangerous, and is one of the most important environmental issues of our time.

"I am pleased, however," Mats Segnestam went on, "that the Environment 82 experts set a concrete limit value for how much acid rain the countryside can take at maximum. Even if I am very sceptical, in principle, about threshold limit values, this can have a restraining effect in the long term.

"In the future, there must be more international consultation on emissions. If a

country, for example, builds a new coal-fired power station, then the countries affected should be brought in to discuss emissions to a greater extent than is at present the case.

The NGO statement

On the second day of the Conference, David Hawkins from the USA presented a ten-point statement on acidification. "Stop Acid Rain! An International NGO Statement to the 1982 Stockholm Conference on Acidification of the Environment" is distributed as an appendix to this issue, and can also be ordered in larger numbers from the Swedish NGO Secretariat on Acid Rain. In this document, the NGOs stated, among other things:

- Today there can be no doubt that man-made sulphur and nitrogen compounds result in the acidification of soil and water, causing entire ecosystems to degenerate.
- Some argue that we do not know enough about the nature and effects of acid rain to take action. This argument is specious, dangerous, and in direct contradiction to the ECE Convention of 1979 on Long-Range Transboundary Air Pollution. Moreover, the argument was soundly rejected at the expert meetings held in Stockholm June 21-24, 1982. It is no longer a question of *whether* measures are to be taken to reduce emissions, but rather what measures to take, when and on what scale.
- All measures resulting in emissions reduction are important and beneficial. We favour those measures with the broadest and quickest impact on reducing the total sulphur load to the atmosphere.
- Our patterns of energy production and consumption are largely responsible for acid deposition. Accordingly, national energy policies should be framed to reduce our excessive use of energy, and to increase our reliance on renewable energy resources. Both of these policies would substantially reduce acid rain and its effects.

David Hawkins spoke on behalf of the European Environmental Bureau, a Brussels-based coalition of 61 leading environmental organisations in the 10 Member States of the European Community; the National Clean Air Coalition, a US grouping of 25 environmental and labour groups; the Environmental Liaison Centre, Kenya, an international NGO with more than 200 member organisations from all regions of the World, and seven Scandinavian environment organisations. ■

By a dying lake in Western Sweden: "So lovely – and so awful!"

"It's so lovely – but it's so awful to know that what you are seeing is a dying environment," says Didy Coljee, from Holland.

She is standing on the shore of an acidified lake in Svartedalen on the west coast of Sweden, not far from Gothenburg. Didy was one of the people taking part in the international acidification camp arranged by the Swedish Youth Association for Environmental Studies and Conservation in June this year, in collaboration with IYF. This course was part of an effort to create an international opinion that will ensure that the conventions reached at the official level will be translated into action.

One of the problems about Sweden's acidification is that it is not "visual". Svartedalen, one of the most acidified tracts in Sweden, is a large, coherent recreation area of mountains, forests, lakes and fens.

The water is clear, the white bog moss grows luxuriantly along the shores of the lake, the water-lilies are blooming *en masse*, and everything seems supremely healthy.

"It's too splendid-looking. You'd have a much better chance of putting your argument across if it had been dirty, if the lakes had silted up," says Gerhard Weich from Mainz in West Germany.

So when the Swedes want other countries to reduce their discharges of sulphur, their first task is to explain that this really is a serious problem.

For this reason Sweden is not working exclusively through official channels: the country's environment and nature conservancy organisations are also trying, in other ways, to get people concerned with the environment involved in the problem.

Last year a major international conference was also held, with people from environment organisations from the whole of Europe, from the USA, and from Canada, at the invitation of four Swedish environment organisations. A report from this conference, which was held in Gothenburg, can be ordered from our Secretariat.



The group visiting the »Lake Gårdsjö project». Studying the effects of soilacidification by lysimeter tests in a spruce forest area on the Swedish west coast.

Other countries

The course in Svartedalen is a continuation of this work. The Swedish Youth association for Environmental Studies and Conservation of Nature invites in people from sister organisations in other countries, and together they go out into the forests, measure the acidification, analyse the lakewater and subsoil water, look at lake beds and shores, etc.

It is not just a scientific exercise. It is also a question of experiencing the Swedish countryside, of sitting by a lake at dusk,

of walking along soft paths between tall pines, of seeing animals and plants.

A limed lake

Those taking part have made study visits, for example, to Gårdsjön – a lake that might be called the flagship of Swedish acidification research. For several years now a large number of projects have been under way there, projects in which researchers are studying the lake's flora and fauna, the water running into it and from it, the growth of the trees, the acidity of precipitation, the composition of the subsoil water etc. This year they have added lime to the lake for the first time, and are now making an intensive study of the effects.

"It surprises me a bit that the big problems in Sweden relate to the lakes. This is a fairly new question for us in West Germany, where it is the damage to our forests that has attracted most attention," says Gerhard Weich. "I would think that my government is fairly indifferent to what may be happening to a Swedish lake. I don't really know what I can do when I get home, but I think this visit will result, for example, in exhibitions in which we point to our own acidification problems."

Didy Coljee from Holland has been in Sweden quite a lot.

"We don't have as much power as we should like. But we can always help to see that the matter is debated, and we can try to get out and study our own countryside with the help of the knowledge we acquire here," says Didy.

Equally important

Members of the course came from Poland, West Germany, Holland and Hungary. They made up quite a small group, travelling in two Volkswagen buses and a car. They were hardly "people in power".

And yet, perhaps, it is through this sort of work that results will finally be achieved – work that is at least as important as that which takes place in the form of resolutions, conventions and ministerial meetings. Because unless there is the public opinion – and a strong public opinion – there is not likely to be any cleaning of effluent gases, or other measures against acidification in Europe as a whole.

A new acidification course under IYF's auspices is planned for next year – the emphasis this time being on damage to forests in West Germany. ■

(The above text is based on an article by P. Sandberg in the Swedish daily newspaper Dagens Nyheter, 1 July 1982).

A cross-section of information on acid rain...

The interest in acid rain really has been put centre stage by the Environment 82 Conference. Various printed matter has been published which we believe may be of interest to conservancy and environment groups in different countries. Some of this material we have been able to distribute as appendices to this issue, while other material can be ordered directly from the publisher concerned.



A splendid book of popular science on acidification

Prior to the Environment 82 Conference a special group of Swedish experts produced a 200-page report "Acidification Today and Tomorrow". This report has now been edited into a work of popular science, which has made it unusually lucid and instructional. It is richly illustrated, and constitutes one of the most topical collections of facts on acidification available today. A summary of this report will be published in the autumn.

Our secretariat has a few issues of this report available for distribution (free of charge) to Non Governmental Environmental Organizations in other countries. If you are interested, please contact us.

Summary of the Environment 82 final document

A summary of the Environment 82 Conference is to be published this autumn. It will be fairly brief, and will contain resumés of the more

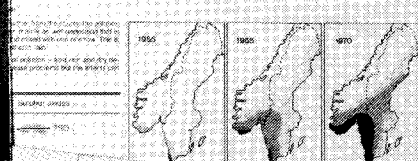


important discussions, and the final document from the Conference. Can be ordered from The Ministry of Agriculture, S103 33 Stockholm, Sweden.

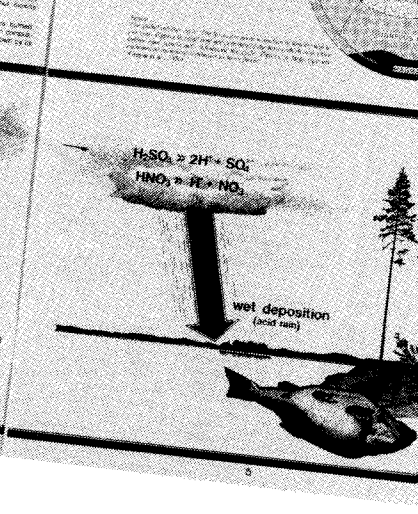
NGO statement on acid rain

As indicated elsewhere in Acid News, the NGOs participating in Conference 82 as observers presented a statement during the Conference. This statement has been printed by the Swedish NGO Secretariat on Acid Rain. Those interested in spreading a number of copies of this statement should contact our Secretariat in Stockholm.

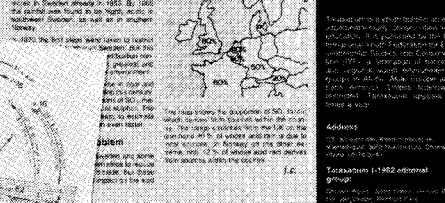
What causes acid rain?



What causes acid rain? The answer is simple: it is caused by the burning of fossil fuels. The burning of fossil fuels releases large amounts of sulphur dioxide (SO₂) and nitrogen dioxide (NO₂) into the atmosphere. These gases react with water vapor to form sulphuric acid (H₂SO₄) and nitric acid (HNO₃), which then fall to the ground as acid rain.



The problem grows... Acidification is a very real and growing problem. It is caused by the burning of fossil fuels, which releases large amounts of sulphur dioxide (SO₂) and nitrogen dioxide (NO₂) into the atmosphere. These gases react with water vapor to form sulphuric acid (H₂SO₄) and nitric acid (HNO₃), which then fall to the ground as acid rain.



The damage to the environment... Acid rain causes significant damage to the environment. It can harm forests, lakes, and buildings. It can also cause respiratory problems in humans. The damage is most severe in areas where acid rain falls frequently and in large amounts.

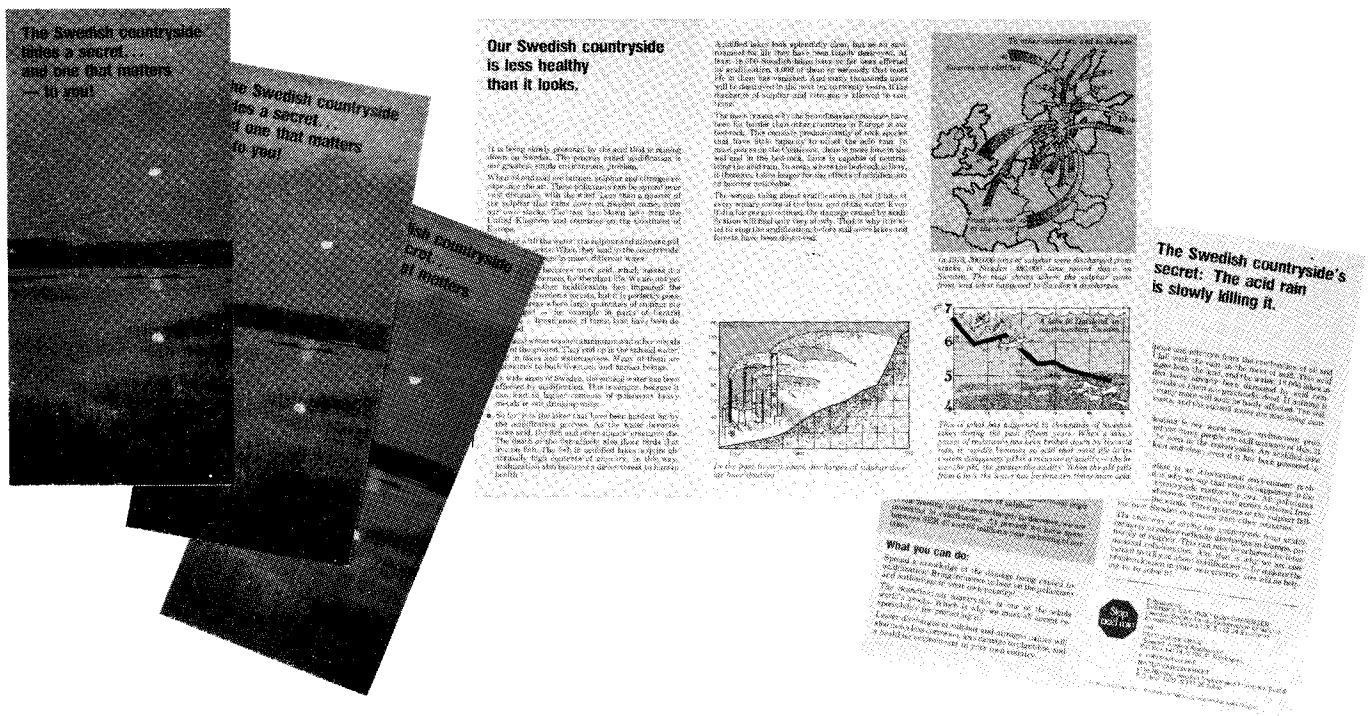


Special issue of Taraxacum

The International Youth Federation for Environmental Studies and Conservation (IYF) has published a special issue of its periodical Taraxacum, devoted to acidification. The essential facts on acidification in an international perspective are here presented on 24 professionally laid-out pages. Copies can be ordered from IYF Headquarters, Klostermøllevej 48, DK 8660 Skanderborg, Denmark.

Mini-paperback on acidification from the Swedish forest industries

Interests in the Swedish forest industries sector have published a 32-page paperback with the emphasis on the threat presented by acidification to the forests, and their growth. It is available in both English and German, and can be ordered from Sveriges Skogsvårdsförbund, Box 273, S-182 52 Djursholm, Sweden.



External information material

During the spring, the National Swedish Environment Protection Board compiled a great deal of information on acidification, some of it designed for international use. The following material can be ordered:

- **tourist folder** "The Swedish countryside hides a secret... and one that matters to you". Published in collaboration with the Swedish Society for the Conservation of Nature and the Swedish Anglers Association. Opinion-forming information on the ravages of acid rain in Sweden, in 4-colour print. Also available in German.
- **postcards** with four different *motifs* and brief informative text on acidification in English and German. Free. 4-colour print.
- **mini-posters**, format 210 x 197 mm, black-and white. Seven different *motifs* relating to acidification (with text) are available. The edition is limited, but organisations interested in arranging small-scale exhibitions etc. can contact the publisher.
- **lapel-buttons** "Stop Acid Rain" (available also in German)

All this material can be ordered from The National Swedish Environment Protection Board, Information Department, P Box 1302, S171 25 SOLNA, Sweden. ■



Vad kan vi göra?

Försumningen
skapa ut
regenera
konst

- Rätt
- Men
- En
- Effek
- Över
- Ut
- De
- För

Den nya sjösjukan.

Hur går det med skogen?

Försumningen. Vårt kanske största miljöhot någonsin.

Försumningen av mark och vatten är ett av 1980-talets mest akuta och omfattande miljöproblem. Igenomskärningen för försumningen finns i dräbba och i den skandervälta löven. Igenomskärningen finns i dräbba och i den skandervälta löven. Igenomskärningen finns i dräbba och i den skandervälta löven.

Kadmium i skördarna?

Bytesbalansen.

De största försumningarna finns på kontinenten och i Skandinavien. Försumningen finns i dräbba och i den skandervälta löven. Igenomskärningen finns i dräbba och i den skandervälta löven. Igenomskärningen finns i dräbba och i den skandervälta löven.

Livets vatten.

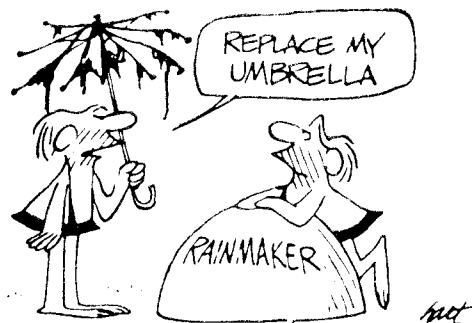
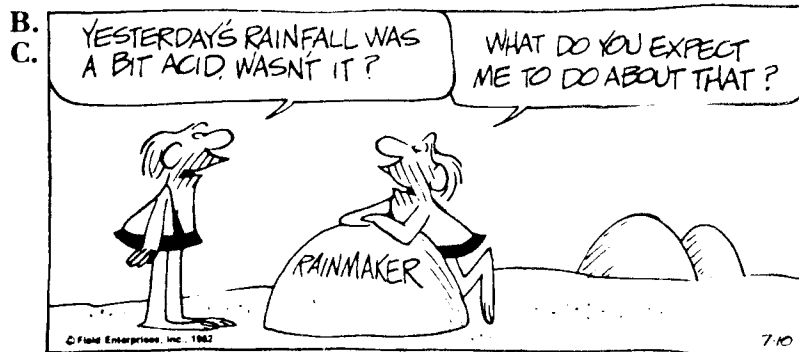


Grundvattnet är livets vatten. När grundvattnet skadas är också människans hälsa hotad. Genom det sura nedfallet har i dag många hushåll så surt och smittat vatten att grundvattnet fräts sprider på några decimeter. För ett korn av 100 000 var grundvattnet fräts sprider på några decimeter. För ett korn av 100 000 var grundvattnet fräts sprider på några decimeter.

Naturvårdsverket

Naturvårdsverket

Naturvårdsverket



The Acid Rain Secretariat in the future

The first stage in the work of the Swedish NGO Secretariat on Acid Rain has concluded, in and with the Environment 82 Conference. We hope that its activities will continue, but at the time of writing it is not entirely clear how we shall be off financially. A certain general monitoring will in any case be maintained. We hope, however, that the Secretariat will be manned full-time from 1 November, and that this will mean, among other things, the continued publication of Acid News.

With this number of Acid News, I am also winding up my work at the Secretariat, and moving on to other duties. I should like to thank all those I have come into contact with during my time at the Secretariat, and who have contributed ideas and stimulation.

Stockholm, October 1982
Bo Thunberg/Coordinator

T H I S W E E K

Science and politics don't mix at acid rain debate



B RITISH researchers and civil servants returned from a conference in Stockholm last week convinced that acid rain poses a real threat to forests and woodlands throughout Britain. In the next few weeks, they will tell ministers that it would be in Britain's interest to cut emissions of sulphur from fossil-fuelled power stations. And they will press for bigger grants to study the effects of airborne sulphur on soil and plant growth.

One senior civil servant at the conference of experts on acid rain told *New Scientist*, "Frankly, we thought the recent report of Central European forests dying from acid rain attack was a scare story got up by some pressure group."

But after some lengthy discussions with Professor Bernhard Ulrich, the West German biochemist who was a leading figure behind the "scare", British delegates believe that the diagnosis is correct. They will report that the woodlands of South-East England are just as likely a target of acid rain as are upland conifer plantations. The woodland trees could suffer a falling rate of growth and shorter lives.

The final report of the experts' conference says that one million hectares of forest in Central Europe have suffered damage by sulphur in the form of gases, acid rain and particles transferred to pine needles from mists and low cloud. Fred Last, chairman of the Natural Environment Research Council's committee on the effects of air pollution and assistant director of the Institute of Terrestrial Ecology, believes that the area of

forest affected is nearer two million hectares.

Ulrich's work adds a novel dimension to the acid rain debate. His is the first

Fred Pearce, Stockholm

strong evidence that acidic pollution affects terrestrial as well as aquatic life. Last says that Ulrich's investigations into the effects of acid rain, both in leaching nutrients from soil and in releasing toxic elements such as aluminium, are crucial. They suggest that attack on trees may be widespread even when there are no visible signs of damage. And attack probably occurs at levels of acidity that are common in both Britain and continental Europe.

Ulrich says that trees in West Germany may eventually have lives of only 30 to 50 years and that death may be sudden when acidity in the soil reaches a certain level. A drought could trigger thousands more deaths, he says.

Overall, Ulrich's revelations have pulled attention away from the Scandinavians, who tried to use the experts' conference to highlight damage from rising levels of acidity in Sweden's and southern Norway's thousands of lakes. Most delegates seemed more concerned about the damage caused by sulphur carried over short distances as gases and aerosols than with the effects of long-distance transport of acid rain. But, if industrial nations such as Britain and West Germany accept that sulphur from factories is causing damage in their own forests, they could help other nations' problems by acting to cut those emissions.

That is certainly the view of British civil servants who attended the conference. They believe that ministers will listen when they are told that the woodlands of Cambridgeshire and Essex, and the forests of the Lake District and Galloway are under attack, or that attempts by the Forestry Commission to plant new forests in the Pennines have failed because of the effects of sulphur pollution.

The Swedes said they were happy with the experts' report but they do not count the experts' conference a total success. They pressed scientists to recommend a target maximum for sulphur deposition rate throughout Europe of 0.5 grammes/sq. metre/year. But in one working

party, Dr Gwyneth Howells, from the CEEB's scientific staff, could be heard strenuously opposing any such limit. It implied an impossible 80 per cent cut in sulphur emissions, she said, and she won the argument. The final experts' report merely noted that "lakes in sensitive areas... have in general not been acidified when the catchments received a sulphur load of 0.5 grammes/sq m/year or less". But that did not stop

Swedish agriculture minister Anders Dahlgren telling the opening session of



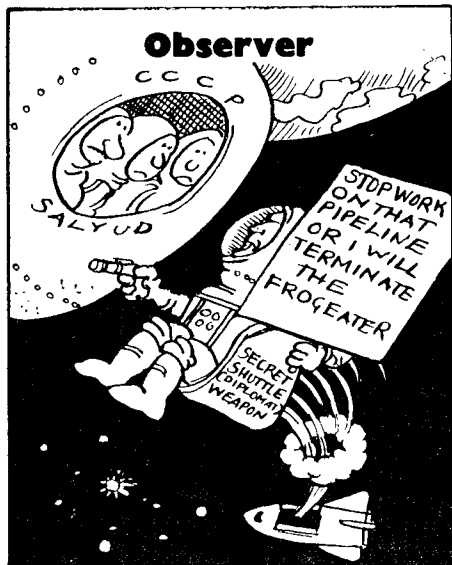
Acid rain damage—the threat widens

the ministers' conference that "the scientists agreed upon a limit value for sulphur deposition." They did not agree any such thing. The experts failed to meet their brief to establish "strategies and methods to control emissions of sulphur and nitrogen ox-

ides". Their report reached "no firm conclusions" and merely noted that "clear goals have to be established". Nevertheless, the report was firm in its affirmation of the effects of sulphur emissions on lakes and forests.

But this week's ministerial conference took on a very different aspect. Giles Shaw, junior minister at the Department of Environment, wrote his speech before the experts' conference began and politics dominated the scene. For instance, the Swedes set up the conference as a political act and ministers like Shaw attended the conference only because it would have been damaging not to do so.

A fresh batch of civil servants arrived from Britain carrying the message, "We are here to see that nothing political emerges which we do not want." Americans arrived noisily, sat through the last day of the experts' conference, then handed out a line-by-line attack on a glossy report that the Swedes gave out before the conference. Much of their concern was that action to cut emissions of sulphur could not be justified economically. The hostile tone of the Washington-drafted attack so angered American scientists in Stockholm that it was swiftly withdrawn. ("Treat it as deep background, would you?" I was told, Watergate style.)



"Mon Dieu! It is le General Haig back on active service!"