



After years of decline, non-profit consultancies – science shops – are starting to reinvent themselves, says Alexander Hellemans.

In 1972, a group of idealistic chemistry students at Utrecht University banded together to help anti-capitalist countries. They set up one of the first 'science shops', with the aim of helping non-profit clients solve problems. One of their early projects involved developing disinfectants to help the Vietcong fight disease. Much of the impetus behind that project was antipathy towards American involvement in Vietnam.

"The approach then was 'We will improve the world,'" says Caspar de Bok, project coordinator of the biology science shop in Utrecht. "Subsequently, the idealistic character of these projects has subsided. Now we have several professional organizations that are well embedded in the universities in the Netherlands."

Since then, science shops have more or less shed their countercultural roots, banding together and expanding their reach. Their projects are less militant and more practical — areas explored include noise pollution, environmental problems and health risks such as the possible effects of electromagnetic radiation from radio transmitters. The transformation and expansion of these services could mean jobs for people interested in research with social, rather than commercial or purely academic implications (see "Jobs on the shop floor", opposite).

Science shops emerged in the 1970s, in part as a response to 'for-profit' science. They were organized to bring science to those who either cannot afford to pay for research, or who would not be able to interest the research community in their questions. In the 1980s and 1990s the science-shop concept spread throughout Western Europe and to Israel, South Africa and Romania. But during the past decade the activity of science shops has slowed. Over the past five years, three science

shops have been closed in the Netherlands and they have disappeared entirely from France and Belgium.

GETTING ORGANIZED

But the concept is now showing signs of a comeback. A consortium of European science shops and the US equivalent, community research centres, are creating a professional organization, the International Science Shop Network (ISSNET, see below left). The organization could help bring together disparate shops, raise their profile and give them a greater voice in issues of science and society at a time when science's role in society is increasingly being questioned.

Individual science shops have a history of working together. For example, members of the seven science shops in Utrecht are already linked to form a small network. "Because we are so small, the Utrecht network is very helpful," says Patricia Huisman, coordinator of the physics shop in Utrecht, adding that a larger international network would be invaluable.

Much of the backing for the international network is coming from the European Commission in Brussels, which funded a set of projects that investigated how an international network of science shops could be set up.

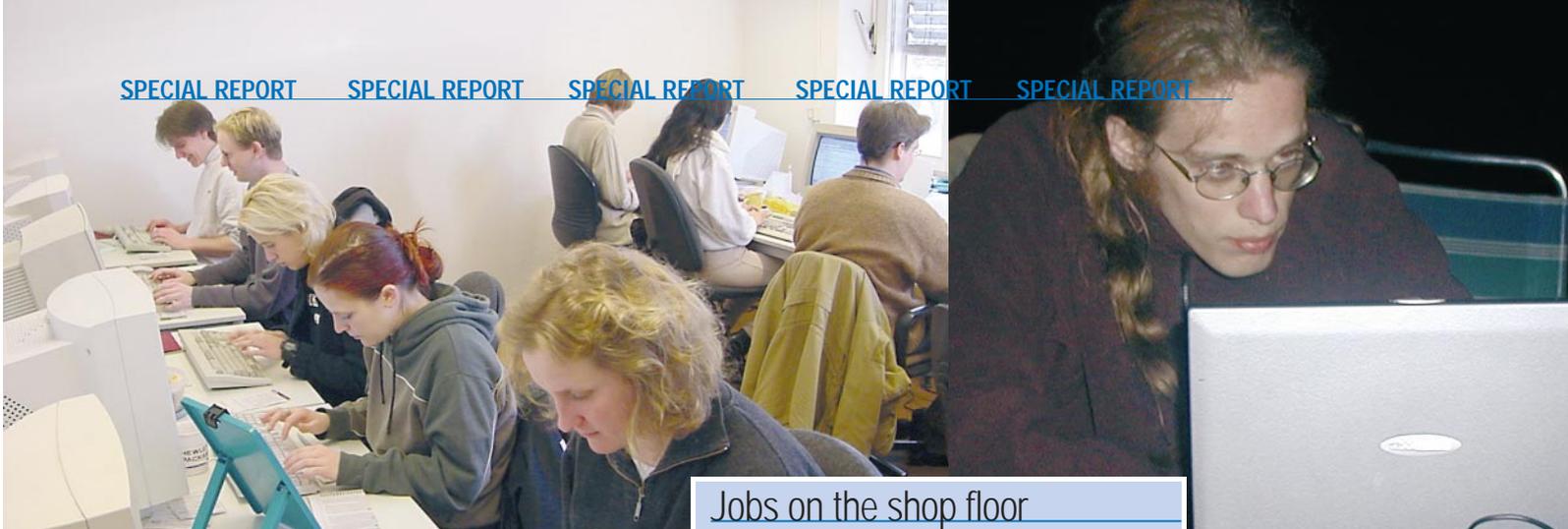
J.J. SMIT



Expanding horizons: science shops, such as the physics shop run by Frits van den Berg (below right) in Groningen, are starting to forge international links.

ISSNET proposals

- A list of different ways of operating science shops located in participating countries.
- An inventory of support mechanisms for the creation of new science shops in various countries.
- The structure of a training programme for science-shop coordinators.
- A blueprint for the international publication and dissemination of results and studies.
- The creation of a public database of science shops, and a model for Internet communication.
- A study on the influence of science shops on university curricula and research.
- A study on the potential for international science-shop cooperation.



Jobs on the shop floor

“Ultimately we hope that with a strong network of science shops we can better serve the needs of social organizations for research, and to give the public better access to scientific research,” says de Bok. A database connected to a website will allow members to find out which science shop already has experience in a certain area. The network will also aim to direct efforts into countries where there are still no science shops.

Although the proposal will have to compete for funding, the European Commission is now actively encouraging the formation of a new network for science shops. “The importance of the relationship between science and society is higher than ever, and the scientific community cannot stay isolated,” says Rainer Gerold, director of science and society at the European Commission.

An international network will help the local science shops avoid isolation, but it may also have an influence on science itself. “We can re-evaluate what we expect from science — is the success of science only dependent on the production of research papers, or should we change the kind of incentive structures to produce research that benefits communities?” says Nicole Farkas, a graduate student at the Rensselaer Polytechnic Institute in Troy, New York, who spent a year studying science shops in the Netherlands.

MANY MODELS

Farkas notes that there is no one model for shops — even in one country. The Dutch science shops are largely viewed as service providers for non-paying ‘clients’. But some Dutch shops do take on projects for payment, whereas others are strictly non-profit.

Shops vary even more widely between countries. In the Netherlands, science shops are mainly funded by universities, of which they are a part. That is not the case in Germany. “Some of our projects are funded by the government, but also by the European Union,” says Norbert Steinhaus who directs the science shop in Bonn. “We are working with foundations, we are working with the city of Bonn.” Dutch science shops do their own research, whereas the Northern Ireland Science Shop functions as an intermediary, linking community groups to researchers at the universities, says Eileen Martin at the Belfast-based shop.

It is perhaps in the United States where the diversity is the widest. Many community research centres are

In the Netherlands, students can do part of their course-work in a science shop, or be employed part-time. For many the experience is invaluable — especially when students are interested in society-oriented topics. Ilse van Veen, a biology student at Utrecht University, recounts how, after two large research projects, she discovered that her future was not in the lab. “So I looked for other possibilities and ended up at the science shop.” She found that she liked the social dimension of her project, investigating how the overpopulation of pigeons in cities can be controlled by environmentally friendly methods.

In some cases, science shops become a career choice. For Patricia Huisman, coordinator of the physics shop in Utrecht, her part-time

position with the shop allows her to combine work with family.

Science-shop experience can help students to become scientific professionals, says Caspar de Bok, project coordinator at Utrecht’s biology shop. “We often see students enter management positions,” he says.

Unfortunately, experience with science shops is sometimes undervalued. “It is a lot of work for the science shops to do even a small number of projects. You have to understand how much work it takes even to do one project successfully,” says Nicole Farkas, a graduate student at the Rensselaer Polytechnic Institute in Troy. “But in the end it is not even considered a profession, and it is difficult to get people to stay in a science shop as a career,” she adds. A. H.

Conscientious work: science shops offer research projects with a social dimension.



Shopkeepers: Utrecht’s Caspar de Bok (above) and Bonn’s Norbert Steinhaus.



associated with universities, but the majority are non-profit organizations and non-governmental, says Jill Chopyak, who is the executive director of the Loka Institute in Amherst, Massachusetts.

This diversity of approaches to setting up science shops will ideally be reflected in an international science shops network. Having such a repository will allow prospective shopkeepers to choose the model that works best for their community — which is where the shops emerged from in the first place. ■

Alexander Hellemans is a science writer based in Naples.

General Secretariat Dutch Science Shops

♦ <http://www.ssc.unimaas.nl/LSW/indexuk.htm>

The Loka Institute ♦ <http://www.loka.org>

ISSNET ♦ <http://www.bio.uu.nl/living-knowledge/confinfo1.html>