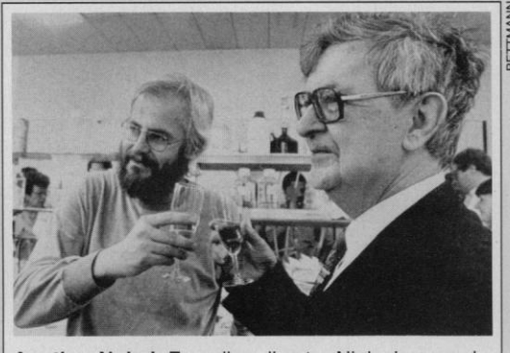
An Institute Without Bosses

BASEL, SWITZERLAND—Ask Fritz Melchers, director of the Basel Institute for Immunology, how this tiny European laboratory of 50 scientists has won several Nobel Prizes and gained an enviable international reputation in its 22-year lifetime and he'll give you a cryptic answer. The institute, he says, is "scientifically chaotic and technically Swiss."

That the institute's support staff and management pride themselves on their Swiss perfectionism is no surprise. The city of Basel has built its reputation on the quality of its biomedical research: It is home to the university with its famous Biozentrum, Ciba-Geigy's Friedrich Miescher Institute, the huge basic research labs of Sandoz and of Hoffmann-La Roche—and the Basel Institute of Immunology, also supported entirely by Hoffmann-La Roche.

But "scientifically chaotic?" The chaos comes from the institute's unique commitment to its researchers' independence and equality. Age and experience may vary, but at the institute there is only one scientific rank, that of "member," which is held by anyone with a Ph.D. Most researchers work with just one technician each—and that's it. There is no hierarchy and "every scientist in the house has the right to be independent," says Melchers.



BETTMANN

Another Nobel. Founding director Niels Jerne welcomes member George Köhler to the club.

This "horizontal structure," as the institute officially calls it, was not originally planned. Niels Jerne, the Danish immunologist who became the institute's first director, initially had difficulties recruiting established people to the institute because of its links with Roche. "At that time, people were simply afraid to place their fate in the hands of a company," says ex-member Norman Iscove, now at the Ontario Cancer Institute. But Jerne had less trouble attracting young researchers, and, rather than appointing bosses, he decided to honor their wish to work as equals. "This type of structure was unheard of in Europe. It was considered shocking. People thought it would never work," says Iscove.

The gamble paid off. Within a few years the institute had built a sterling international reputation. Both Jerne and Susumu Tonegawa did their Nobel Prize–winning work there, and George Köhler was a member when he shared a Nobel Prize with Cambridge immunologist César Milstein for developing monoclonal antibodies.

The first hint that the Basel Institute is an enclave from "the real world," as some members call everywhere else, is its setting. A visitor steps off the busy main street into a small green courtyard with an endlessly turning model of the DNA double helix by Swiss artist Jean Tinguely. Inside, instead of the usual laboratory posters of metabolic pathways or genetic maps, the walls are lined with photographs of the parties for which the institute is famous; the staff has produced both an opera and a ballet about the immune system.

Aside from its intimate style, it is the freedom from daily worries over money and administration that makes the institute "close to paradise," as one member puts it. "As an assistant professor in America you don't spend much time worrying about science," says Charley Steinberg, an American who has been at the institute since it opened. "You worry about grants, teaching, department heads, and your struggle to run a group. [The Basel Institute] succeeds because young people can spend their time thinking about science."

Several researchers have made use of their freedom to move into unconventional areas. Experimental organisms include sponges, turtles, and reptiles—not exactly objects of mainstream immunological study. "I never could have done the work I did here anywhere else," says Jim Kaufmann, a 10-year veteran who studies the evolution of the immune system and now works on salamanders. "Their T-cells don't do much in our standard assays," he says, "but they don't seem to be sick. We want to know why not." Alongside some of the more bizarre creatures are some of the world's best facilities for working on frogs (which fascinate immunologists because their immune systems totally reorganize as they turn from tadpole to frog) and sheep (ideal for following the maturation of lymphocytes).

Diversity of people and backgrounds is also crucial to the institute's success. "If we were six or seven principal investigators, each with our own group, [the institute] would be much more narrowly focused," says member Gek-Kee Sim. And that diversity, in turn, nurtures collaborations, even tempting members into areas where they might otherwise fear to tread. "When I first came here I wanted to grow human T-cells, which is tricky," says Gillian Griffiths. "I wouldn't have tried it on my own. But I went upstairs to Antonio [Lanzavecchia], and it worked right away."

The Basel Institute has only one obvious catch. Researchers cannot forget productivity in this scientific garden of Eden: The typical 2-year contract serves as a reminder that they can be cast out. "There's lots of worry about the next contract," says one member, although another qualifies this by saying that "if you're doing well you don't have to worry." For many researchers, though, success at the institute carries an ironic twist: They begin to want a group of their own. Each year, some 10 members leave the institute and set out to build the traditional scientific groups possible only in the "real world."

–Patricia Kahn

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ing that there is a big difference between running a small, focused organization like EMBO and a European research council.

EUSEB is the other likely focal point for developing a new pan-European structure—at least in the view of its leaders. EUSEB president Hamish Keir, professor of biochemistry at the University of Aberdeen, wants the society to help bring biological disciplines together through meetings and workshops and do all the things FASEB does. In addition, Keir envisions using the society's network of biologists to give better advice to the EC.

That's just for starters. "Twenty-five years from now I'd like there to be a European research council with hundreds of millions," says Keir optimistically. But all that could be just a pipe dream, for EUSEB is facing immediate problems that threaten its very existence—it's running out of money. EC help is going to be essential in the early stages. Expect some years to pass before it's clear whether EUSEB (or Philipson's "NIH") could be in a position to lead Europe's biologists toward their own common market—and whether molecular biology is going to lose that label: "80% Made in America."

–Alun Anderson

With reporting by Michael Balter and Peter Aldhous