



A conversation with Gottfried Schatz, Basel

“Faculties divide more than they unite!”

Gottfried Schatz, retired biochemist from the University of Basel, talks about the poor condition of European universities, the difficulties of young researchers in starting a career, and his own life after retirement.

At the recent meeting of the European Life Science Organization (ELSO) in Dresden, you said that university professors should retire around the age of 65. That’s quite a provocative statement in an era when universities are changing their employment rules to keep professors longer in the research business, isn’t it?

Gottfried Schatz: I have often been misquoted on this point. On the one hand, I feel strongly that we professors should have to retire at a certain age, because most of us become less innovative and less productive as we age. On the other hand, I also suggest that universities should have the flexibility to make exceptions for exceptional people and offer rolling contracts to those few who continue strongly in spite of their age. Some of our Swiss Nobel laureates such as Rolf Zinkernagel or Kurt Wüthrich may be such examples. However, this is really quite rare.

That sounds like a well-defined position, but one with the potential for creating enemies.

Schatz: Indeed – but making enemies was easier than losing friends and I did lose some friends because of my position on this issue. Some accused me of trying to rationalize my own early retirement but in reality I tried to do what I preached. Also if you are in science politics and never make enemies, you must be doing something wrong.

You retired at age 63. Why didn’t you want to stay in research?

Schatz: I was always passionate about doing research and gained a lot of satisfaction from interacting closely with my research group. However, at the same time I missed the emotive aspects of life – and of myself. If you are in research and have a family, there is little room for anything else. Retirement seemed to me a good way of exploring that other part of me and of giving more of myself to the people close to me. I

also longed for the chance to reflect – and perhaps write – on matters which I considered to be important. All these plans needed not only time, but also silence – and the life of a professor is full of noise. My “retirement” has so far been one of the most exciting and satisfying periods of my life.

In your lecture at the ELSO meeting you also warned that today’s universities are in danger because they are no longer places of science and education.

Schatz: Unfortunately our universities are beyond being in danger – they have already missed the boat. Most of them are not very exciting places. Universities should be hotbeds of new ideas. They should be ticking intellectual time bombs that constantly shake up our society with new ideas. Instead, they are now among the most conservative of our institutions. Many of them resist any change, in part because they are being run by bureaucracies that do not know how science works and what science needs. I have attended countless meetings on university reform where discussion focused only on politics, money and organization; science was never an issue. In fact, the word “science” was never even mentioned. This just reflects the fact that many of our universities are not run by top scientists, but by University Boards composed of business leaders, administrators, and politicians. It is, however, essential that some of our best scientific minds lead universities and granting agencies. The priorities of business people, bureaucrats and politicians are usually quite different from those of science. For example, a university leadership should develop long term scientific strategies.

An example of how to do this is EMBO. EMBO (The European Molecular Biology Organization) was founded about 40 years ago by scientists as a private foundation and has consistently upheld the principle of sci-

entific quality over political or administrative expediency. That’s why it has always enjoyed the respect and the support of its constituency – Europe’s best biologists. European universities might do well to follow EMBO’s example. I can only hope that the new European Research Council (ERC) will adopt the same standards – standards that the Framework Programs of the European Union have missed by a wide mark.

The ERC is only funding young scientists right now. Was that a wise decision?

Schatz: Yes, given the scarcity of funds during this early phase. Young scientists setting up their first independent research group often have trouble getting enough money to do this at the scale that is needed in today’s highly competitive environment. For example, our European universities often fail to attract top young scientists from the USA because the grant support these young scientists can expect in Europe is so much less than they could get in the USA. Of course, there is no guarantee that a US agency would fund them at all, but if their grant applications are successful, they can pull in a lot of research support early in their career. Here in Europe the chance of this happening is essentially zero, except perhaps at the Max-Planck-Institutes or other non-university institutions. Yet these first years are critical, because it is then that a young scientist must show what she or he can do as an independent researcher. This is also the time when grant support is the best scientific investment.

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Recently, many scientists in Europe have argued for tenure track. However, in the United States, scientists criticize that

system. One issue is teaching. Young professors complain that teaching isn’t taken into account when it comes to evaluation.

Schatz: At most good US universities, tenure-track professors have to teach less

than permanent professors. It was a capital sin of the German junior professorships not to consider this important issue.

Other US scientists said that tenure-track professors are less likely to publicly criticize their university or colleagues because they fear the consequences.

Schatz: There is, unfortunately, some truth in this but most other academic hierarchies are worse. A large department with a strong chairperson gives assistant professors much more freedom to criticize than a small institute where the single institute head often decides on the outcome of a Habilitation and I won't even talk about the dependency of permanent assistants.

So you're saying that tenure isn't an optimal system but we don't have a better one?

Schatz: Exactly!

Some more words about European universities. Are they all in the same poor condition?

Schatz: There are differences, of course, but only few of them are doing well. If we consider prominence in the basic sciences, Oxford and Cambridge come to mind first, but others, such as the two Swiss Federal Institutes of Technology or the Universities of Stockholm or Munich are clearly above the European average. Also many other universities have at least one great department. However, as most of Europe's publicly funded universities are not allowed to select their students, they cannot compete on an equal footing with their US counterparts.

Do you see any way out of this dilemma?

Schatz: Yes, if all parties concerned – and that includes the political leadership – could focus on the needs of science and arrange everything around these needs. Until this happens, many of our best young biologists will attempt to start their career either in the USA or at privately funded European institutions, such as the Friedrich-Miescher-Institute in Basel, the Institute for Molecular Pathology in Vienna, a Max-Planck-Institute in Germany, the MRC Laboratory for Molecular Biology at Cambridge and other such places. These



Schatz as PhD student in Graz

usually offer excellent facilities, a minimal bureaucracy and a strong commitment to excellence. Most of our public universities are weak on these counts. Faculties are a striking example of how universities are out of sync with modern science. Faculties are historical relics that have very little to do with the way science works today. They divide more than they unite and are too heterogeneous to serve as instruments for maintaining high scientific standards. I hate to think of how often I, as a biochemist have had to pass judgment on a candidate who presented a talk on geophysics or geography to our science faculty.

If you could, would you close all faculties?

Schatz: Yes, and I would replace them with large departments which unite scientists with similar research goals. Such structures are also indispensable for tenure track to work properly allowing professors to take sabbaticals without undue disruption of the teaching obligations. Then the department not individual professors would be responsible for meeting all teaching obligations. This is much better than entrusting this important duty to individual professors. Finally, a large and well-run department is also a good defense against the possibility that a single individual dictates the fate of young staff members.

Do you see a chance for a change?

Schatz: Yes, but I am afraid that the changes I see are happening too slowly.

Is this because those people that should be removed are usually the decision makers? They will not kill the goose that lays the golden eggs.

Schatz: Older professors could do a lot of good here. They have international connections, experience, often a lot of power – and nothing to fear. They should spend much more time trying to improve their universities and help their younger colleagues. New ideas are the life blood of a university – and young people are a prime source of new ideas. For this reason it is very important to give the younger faculty as much say as possible in academ-

ic decisions. They are not yet accustomed to the status quo and could tell us which university structures and university habits do not serve science – and should be discontinued.

In your essay on the "Ideal University" you argue also for more emphasis on teaching.

Schatz: Yes, I feel very strongly on this point. We older professors give most of our young colleagues the idea that teaching just takes time away from research and therefore endangers an academic career. When I was young and looked at a job offer, I always asked about the "teaching load", but never about the "research load". I am afraid that most young scientists behave that way. And you cannot really blame them, because tenure and international recognition come with success in research rather than success in teaching. Our universities have largely neglected their main mission of helping young people to develop critical and independent thinking. The main "product" of university teaching should not be experts for the job market, but autonomous minds. To fulfil this mission, teaching should not only convey factual information, but expose the students to strong scientific minds who will share their insights on science, the world, and themselves. To reach this goal, performance in teaching should routinely and anonymously be evaluated by the students; the evaluations should be made public and be given great weight in decisions on tenure or other promotions. Then all professors, including the young ones, will give teaching the role it deserves.

Good idea. If you consider teaching so important why didn't you stay at the university to give courses?

Schatz: Because I passionately believe that university teaching should be tied to research. When distinguished scientists give scientific lectures long after they have stopped doing research, I can nearly always sense that a certain spark is missing. When I retired from the lab, I immediately stopped giving scientific lectures. Instead, I now lecture to the public, to politicians and other decision makers, and to students on the nature of science, on scientific problems worrying the public, or on what it takes to be a successful scientist. I am spending much of my time writing articles on science in the *Neue Zürcher Zeitung*, Switzerland's most prominent daily, and sometimes receive dozens or even hundreds of responses from readers around the world. There is so much to do – and so little time to do it!

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