

## Multi-author Reviews

### Perspectives in cell biology

#### *Editorial Note:*

*This issue of Experientia is based on the meeting Perspectives in cell biology which took place in August 1996 at the Biozentrum in Basel and was organized by the working group of Professor Dr. Gottfried Schatz on the occasion of his 60th birthday.*

*We would like to thank all contributors for their reviews.*

### Prefatory remarks

E. Carafoli

*Institut für Biochemie III, ETH (Swiss Federal Institute of Technology), Universitätsstrasse 16, CH-8092 Zürich (Switzerland)*

I know it would embarrass Gottfried Schatz if I were to use this occasion to eulogize him: after all, he is only 60, and we all know he still has many years of first-class research ahead of him. Yet his personality looms so large that any discourse on him, even a restrained one, will unavoidably contain laudatory overtones. One could of course escape by being anecdotal, and my association with Jeff has been so long that I would have quite a repertoire of episodes on him if I were to decide to go this way. But it would be unfair: at the risk of disappointing him, I will have to say something about his research accomplishments. Most of his colleagues are familiar with his later work on the mechanisms of the transfer of proteins across mitochondrial membranes, and with his earlier work on the cooperation of the mitochondrial and nuclear genomes in the construction and assembly of the key enzyme of the respiratory chain, cytochrome oxidase. In both areas, he has made landmark contributions, which, as is typical of Jeff's work, were always creative and based on novel concepts, and have thus opened new research avenues. But I know that Jeff wants to be especially remembered for something he did much earlier, as a young assistant professor in the department of biochemistry of the University of Vienna: quite simply, he discovered mitochondrial DNA. As often happens in science, when areas of work grow and expand, those who did the groundwork tend to be forgotten, confused in a cloud of history for a younger generation that no longer knows who did what. The mitochondrial genome is, of course, a topic which has rapidly undergone phenomenal expansion, branching into areas as diverse and as important as molecular evolution and genetic pathol-

ogy. In fact, as I write today, it seems hard to believe that only 30 years ago the existence of mitochondrial DNA was seriously questioned; yet it was so. And thus we are all greatly indebted to Jeff for that memorable contribution out of the old Vienna laboratory.

There is another general aspect of Jeff's work which I would like to stress, even though it is not linked to a particular contribution. Jeff has been faithful to mitochondria throughout his entire scientific life, which started at a time when bioenergetics was dominated by what we now call noninvasive research, with endless discussions on nonentities like the infamous 'squiggle'. There were, to be sure, exceptions, and it is only fair to mention in this connection the Enzyme Institute in Wisconsin where David Green, from the very beginning, had approached bioenergetics using molecular tools. The other prominent exception was, of course, the laboratory of Efraim Racker, and I believe it was no coincidence that Jeff decided to work there as a post-doctoral fellow. He very rapidly absorbed the philosophy of the place, contributing greatly to the molecular trends which became responsible for arresting the decadence of bioenergetics as a field, and for its eventual vigorous revival.

As I said above, I have known Jeff for a very long time: throughout the years, especially after we both decided to relocate in Switzerland, we have developed a very close friendship, which is now one of the things I prize most. We have thus met countless times, but I still vividly remember the first, and I relate this because it occurs only rarely that one has the clear perception that a young person will make it big one day; it certainly occurred to me on that occasion. It was at a symposium

on bioenergetics that Britton Chance had organized at his country estate in Pennsylvania after the 6th International Congress of Biochemistry in New York. The symposium was actually held in the barn of the estate, and was thus aptly renamed by Theodor Bücher, as older colleagues may still remember, the 'Compostium'. And in those unusual surroundings this gentle-looking young man, dressed improbably in an impeccably white shirt, proceeded to dissect in a suave yet firm way one of the leading authorities in the area of bioenergetics of the time. What a superb performance it was: I do not know if Jeff remembers me approaching him afterwards to tell him how greatly impressed I was. On my side, it certainly became clear that day that this young man was well on his way to greatness in science. And incidentally, it also showed what a great communicator he was, which everybody who has heard him speak at a congress or in the classroom will emphatically confirm.

Then, in 1974, after his stay in Racker's lab at the Public Health Research Institute of the City of New York, and a longer stay first as associate professor and then as professor at Cornell University in Ithaca, New York, Jeff arrived in Basel. I had relocated in Zurich at the same time and believe it was a feeling of mutual affinity, which we had developed after our first encounter at the 'Compostium', together with the proximity of our two new laboratories, that drew us closer. We met frequently, and I came to know Jeff as a man of culture who ideally fits the cliché of the renaissance intellectual whose mind is open to a wide range of problems: the

exact opposite of so many scientists of today, who take no interest whatsoever in matters outside their spheres of activity. Jeff's deep knowledge of music and his skills as a violin player are, of course, widely known, but what I came to discover was a man with a genuine zest for exploring the great themes of human thought, a man who enjoyed the challenge of a dialogue – sometimes a confrontation – on such themes. We developed the habit of meeting every now and then, midway between Basel and Zurich, to walk for a few hours in the beautiful hills of Switzerland. On those occasions we hardly ever talked science, but we became involved instead in deep discussions of art, literature, philosophy and – albeit more rarely – politics. So involved, in fact, that we invariably got lost, and frequently ended up miles away from where we had intended to go and had to struggle back to our cars across the fields, stopping at isolated farms to ask for directions. I know Jeff will smile at reading this, but I might as well take this occasion to tell him that becoming lost in the hills while discussing the meaning of life comes as close as possible to my idea of a perfect afternoon . . .

Well, this is Jeff Schatz to me. Others could certainly dwell in a more detailed way on his success as a scientist, discuss more competently his skills as a violinist or describe with more appropriate words his charisma as a lecturer. Having known Jeff so well, what I would like to say after all can be made very simple: here we have a person of very unusual charm and even more unusual qualities. One of those who come about only very, very rarely!