

Reminiscences¹

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Once more Prof. Walter Baltensperger has attended the call of the wild. He is retiring from ETH, Switzerland, and will move to continue working at the Centro Brasileiro de Pesquisas Físicas (Brazilian Center for Physics Research). As a specimen of that far frontier I am extremely happy.

I also feel highly honored for the opportunity of addressing this distinguished audience at the closing session of the 1992 Gwatt Conference dedicated to Baltensperger on the occasion of his sixty fifth birthday. And I take the opportunity to thank my all time friends of this land who always make my visits to Switzerland so pleasant and enjoyable.

I want to take these next few minutes to present an overview of Baltensperger's long career and varied achievements. In particular during the last three decades at the light of my reminiscences which, above all, tell of his remarkable human qualities in the common and scientific life.

Walter studied at ETH. He made his diplom work in 1951 under the supervision of W. Pauli and R. Schafroth on a subject which was very important at that time, namely "On the theory of impurity centers in Silicon". The theme had been suggested by Prof. G. Busch.

He obtained the Ph.D. with Rosenfeld in Manchester in 1954. Started in nuclear physics but ended up being the only student of Rosenfeld working in solid state physics. The subject of the thesis was the theory of conduction in impurity bands. It was the first major paper on that question and much referred to. H. Fröhlich was co-referent.

Apparently at that time, he was first contaminated with the tropical disease. I know at least one of his latin american colleagues in Manchester: Dr. J.J. Giambiagi from Argentina.

They must have told some convincing stories about the southern hemisphere because in 1954 he starts working at Instituto Tecnológico de Aeronáutica (Aeronautical Institute of Technology) in São José dos Campos, São Paulo, Brazil, orienting students and lecturing; his lecture notes of that period are in the library of CBPF. And then he over did it (as

¹Talk at the closing session of the 1992 Gwatt Workshop on Magnetism, dedicated to Professor Walter Baltensperger in his sixty fifth birthday, (Oct. 15–17.10, Gwatt, Switzerland).

it almost invariably happens with visitors of Brazil which stay for some months): he met charming Miss Igna, native of Santos, São Paulo, whom he married in 1957.

He returned to ETH, in 1959 to work as research associate with Prof. G. Busch. At that time he worked on two papers which are now fashionable: “Superconductivity in antiferromagnets” with S. Strässler and “Long range interactions between magnetic moments in semiconductors” with A.M. de Graaf.

During 1962 he was visiting professor at Brown University, Providence, Rhode Island, U.S.A.

In 1963, again the call of the wild (and now most probably also the gentle influence of Igna), brings him back to Brasil, this time to the Brazilian Center of Research (CBPF), in Rio de Janeiro. He came with a fellowship from Ford Foundation.

I met Walter for the first time at CBPF in Rio de Janeiro in 1963. I was pursuing my MS degree there. Dr. Giambiagi, his former colleague at Manchester, and whom I knew my undergraduate in Argentina, was also by chance visiting CBPF and strongly recommended me to take Baltensperger as thesis advisor. During the next three years he was my MS and then PhD thesis advisor, and we have been collaborating since, for 29 years. By the way, my MS thesis, directed by Baltensperger, was the first Master Thesis in Physics presented in Brasil.

I also want to mention that his enchanting daughter Vera was born in Rio during this period. He has two older sons: Fabio and Guido.

In 1965 Walter returned to ETH as Associate Professor for Theoretical Physics. I came to ETH later that year to continue my Ph.D. work and remained there as scientific collaborator until 1969. I have beautiful memories of the friendly atmosphere of Hochstrasse and Gloristrasse, even considering the “terrifying literaturstunde” that we held together with Busch’s group every week. I must admit, however, that since Baltensperger always felt responsible for the welfare of his students, one had a pleasant feeling of protection (kind of immunity).

Along these almost three decades of collaboration I came to appreciate and enjoy his style of doing physics. He has what I consider a healthy earthly approach to Theoretical Physics. Most of the problems, if not all, which he considered worth to tackle originated in some way or another in the labs. They were motivated or inspired by discussion with experimentalists. As examples I could mention lines of research which were explored such as: Liquid metals and Magnetic semiconductors (extensively studied in Busch’s lab by H. Güntherodt, Mentz, P. Wachter), and Polarized electrons (by H.C. Siegmann, Felix Meier, M. Landolt). And, more recently, micromagnetism.

While holding the permanent position in Zurich, Baltensperger was compelled innumerable times to spend some periods of time in Mexico and Brasil as visiting professor.

The human factor is very important in any collaboration and it is one of his highest points. He is always calm, affable, patient (even beyond endurance as I can testify) and low key in his excitements. Open to discuss his ideas and physics problems with anybody (no classified subjects), always keeps a soothingly low profile; his unpretentious and cooperative attitude are certainly one of the keys to his success in the wild frontier. Personally, I must admit that as a student, and up to today, as scientific collaborator and friend, he gave me support through the most trying vicissitudes of which life does not spare us. I have been witness that this is his general pattern of behavior.

As a member of Amnesty International, he shared the 1977 Peace Nobel Prize.

On another aspect, he presided for several years the ETH Committee which studies the research proposals to determine the allocation of funds (Forschungskommission). The importance of this Board cannot be overemphasized. Hence, his opinions on science policy carry weight. To put it mildly, I understand that he is not sympathetic towards big projects (so called big science) and advocates the support of small groups which are doing or have done a good job.

In regards to attitudes towards science, and to end this talk, I would like to refer something anecdotic which happened while I was working in Mexico.

It needs a little introduction to put into context a short letter I received from Walter almost 20 years ago, which in its moving simplicity exposes his philosophy and some general trues which are periodically obscured, independent of latitudes, when societies are pressed by economic difficulties.

Around 1973, while working at the Research Center of the National Polytechnic Institute in Mexico City, we decided with a dear colleague, Dr. Feliciano Sanchez, that in view of the perils and difficulties involved in the making of the then fashionable and vast scientific plannings, it would be both interesting and wise, to listen what the people who had actually contributed to the main developments (let's say Nobel prizes) had to say about the relationship between science and society. For this we wanted to organize a conference under the auspices of the Mexican Academy of Sciences. On this project, we badly wanted the advice of closest friends on the opportunity and utility of such a meeting, and in this sense we wrote to Walter. The letter included also a multiple choice test: the project is a) completely crazy, b) crazy, c) it's valid because it's ours, d) no comment, e) looks good, f) it's genial.

I reproduce Walter's answer:

ETH

15.1.1974

Dear Jorge and Feliciano,

What I think about your project?

- a) It will be a success. People will come. They will talk and listen. If you make proceedings, they will be read.
- b) No conclusions will be reached. The local authorities are pleased since it was a success.
- c) There is a danger that people think that this is scientific activity or at least that scientific projects should be directed through such discussions.

My own view is that science is like a sport for the nerves instead of the muscles. Its major benefit is that it's good for the brain. Sometimes, though rarely, somebody discovers something. Actually you can profit from that even if the discovery is made elsewhere. The true product of research in your county as well as in mine are people, who are trained to think, to decide, to solve. Therefore the project of research should be exciting. It is of little importance whether the line of research pleases the sociologists or economists or ecologists.

Well: good luck!

Walter

P.S.: Let an Anglo-Saxon revise the invitation!

For the sake of authenticity I have not followed his last advice in this occasion.

But reminiscences, however pleasant, have always a flavor of end of the road and I want to interpret the early retirement of Walter as nothing more than a joyful and tropical begin the begin.