THE EMBO JOURNAL

Obituary

Hermann Bujard (1934–2020) – pioneering researcher and visionary science politician

Bernd Bukau[1], Michael Lanzer[2], Fritz Melchers[3] & Gerlind Wallon[4,*]

Hermann Bujard

On July 31, 2020, Hermann Bujard (*16.04.1934) passed away. Hermann pioneered our understanding of gene promoters, developed the widely used Tet system to induce and precisely tune gene expression, and advanced the development of a malaria vaccine from basic research to phase I clinical trials. He was also an exceptional person who touched many people's lives as a teacher and mentor, an advocate for liberal research structures similar to those he implemented at the Center for Molecular Biology of Heidelberg University (ZMBH), and a visionary science politician.

Hermann was born in 1936 in Heidelberg, Germany, and grew up in Freiburg as one of five children of a protestant priest. He often said that the high moral values taught and lived by his father had imprinted him for life. After his PhD in organic chemistry in Göttingen, Hermann left for the United States in 1962, inspired by the tea hours held by Manfred Eigen, to do his postdoc with Charly Heidelberger and Gobind Khorana in Madison, Wisconsin. After only 2 years, he was offered an assistant professorship at the Southwest Center for Advanced Studies in Dallas, Texas, where he started his research on DNA structure and DNA–protein interactions. When he was appointed as a professor of molecular genetics at Heidelberg University in 1970, he, his wife, and two children moved to Heidelberg where he changed his focus to study transcriptional control mechanisms in prokaryotes. Hermann teamed up with a colleague, Peter von Sengbusch, to work out a new curriculum, which transformed teaching at the faculty. Well-trained students with a strong background in molecular biology soon became a treasure of the faculty.

In the early 1970s, EMBO invited proposals for a laboratory to be set up somewhere in the Federal Republic of Germany. Munich initially seemed the most likely choice, but Hermann, Peter, and Ken Holmes, during long nights, worked out a compelling proposal, so that Heidelberg eventually got the nod for the EMBO/EMBL campus. The proposal offered EMBO young talented local students taught by the modernized biology curriculum, and scientific cooperation with local university departments, as well as the Max Planck Institute for Medical Research and the German Cancer Research Center (DKFZ). The EMBO site committee arrived in Heidelberg after having been wined and dined in Munich, and Hermann and his fellow campaigners, including the mayor of Heidelberg and the directors of the different institutes, took them to rather more down-to-earth boisterous student pubs. The enthusiasm of the locals and the unique status that the EMBO Lab would have in Heidelberg apparently convinced the committee. This success also shows a characteristic of Hermann that runs like a red thread throughout his life: He was never shy to take on a challenge and had the intelligence, political wit, and tenacity to pull it through.

One of us (Fritz Melchers), at the time the director of the Roche-owned Basel Institute for Immunology (BII), proposed to Roche's president to hire Hermann as the director of a newly established section of Molecular Biology. Hermann, having grown unhappy with the conservative environment at the University of Heidelberg at that time, accepted and set up biomolecular research at Roche. His influence on the future development of the company cannot be overestimated: He established the use of large molecular weight pharmaceuticals, based on his expertise on gene expression, which has transformed Roche into what is today one of the largest pharmaceutical companies.

After 3 years at Roche, he was hired back to Heidelberg in 1986 to direct the newly established ZMBH. Many visits to the ministry in Stuttgart were necessary to give it the constitution and departmental structure that he desired, drawing on his experience of the departments that he had seen in the United

1 University of Heidelberg, ZMBH, Heidelberg, Germany
2 Department of Infectious Diseases, University of Heidelberg, Parasitology, Heidelberg, Germany
3 Max Planck Institute for Infection Biology, Berlin, Germany
4 EMBO, Heidelberg, Germany
*Corresponding author. E-mail: wallon@embo.org
DOI 10.15252/embj.2020106981 | The EMBO Journal (2020) e106981

States. He wanted early independence for young scientists, and an institute structure that offers scientists maximal freedom to pursue challenging research questions. Under his 10-year directorship, the ZMBH developed into an internationally highly recognized research center that promoted countless successful research careers.

Hermann had brought with him from Roche a new project: the quest for a malaria vaccine. He set up collaborations with Yeya Touré and Ogoabara Doumbo in Mali and went several times to Africa to collect serum samples in endemic areas, once contracting malaria himself. He often talked about the children who were most at risk and that many of them would no longer be alive when they returned a year later to collect more samples. He identified the major surface protein 1 (MSP1) as the, in his well-argued but challenged view, most promising candidate for a protective antigen.

At that time, his group worked on a tetracycline repressor-based gene switch, the Tet system, together with his PhD student and later postdoc Manfred Gossen. Heidelberg University felt that the challenge and effort to patent this were too large, so Hermann set off to do this himself. His company *TET Systems* was able to market and innovate the technology such that it is still today, some 25 years after the initial discovery, making good profits from licensing, which Hermann used to finance the development of the malaria vaccine. This was very much needed, since Hermann had to realize that while the German government was happy to fund his basic research on malaria with millions of Euros, there was no money available when it came to translate his findings into an experimental vaccine.

In 2007, at the age of 73 and well into his retirement, Hermann was asked to take on the directorship of EMBO for a short interim period until a new director was found. His directorship turned into 3 years during which he launched The EMBO Meeting and changed the management structure of EMBO Press among many other reforms. Crucially, yet unnoticed by many, he saw to it that the status of EMBO as a not-for-profit organization registered in Switzerland, but located in Heidelberg, was rendered legally sound.

After his short but decisive stint at EMBO, he returned to concentrate on the malaria vaccine. In order to continue the clinical evaluation of MSP1, Hermann founded *Sumaya Biotech* in 2014. However, since it was difficult to find capital, he eventually financed the manufacturing of full-length MSP1 under GMP conditions and the first-in-human study mostly out of his own pocket. *Sumaya Biotech* will continue to evaluate MSP1 in clinical trials and test the prime/boost strategy in challenge studies in Africa.

Hermann's impact on German parasitology cannot be overestimated. He was instrumental in revitalizing this discipline in Germany and contributed to a road map commissioned by the Deutsche Forschungsgemeinschaft (DFG). Hermann further helped shaping the Zentrum für Infektionsforschung at the University of Würzburg, where he served as chair of the scientific advisory board.

Over the course of his long life, Hermann has received numerous prizes and awards for his scientific oeuvre, such as the Beckurts Award, the Prix Yvette Mayent, the Robert-Koch Gold Medal, and the Medal of Merit of the Federal State of Baden-Wuerttemberg. But he was most proud of the feedback from his former students who praised him as a great teacher and mentor. With his sharp mind and impressive knowledge in broad aspects of life, he was an inspiring and stimulating discussion partner, not afraid of controversies. At the same time, he had a fine sense of humor and was a delightful and charming storyteller. Hermann was a great scientist, a charismatic and disarmingly humorous colleague, mentor, and friend.

Honoré de Balzac said that you live twice: once in reality, the second time, in memories. *In OUR memories.*