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ScienceDirect
Journal of Theoretical Biology 252 (2008) 544–545
Journal of Theoretical Biology
www.elsevier.com/locate/yjtbi

In Memoriam

Memories of Reinhart Heinrich

I first met Reinhart at the symposium that Athel Cornish-Bowden organised at Il Ciocco in April 1989 that brought together numerous researchers interested in the control and design of metabolism. We connected immediately, because we had many things in common and were so like-minded.

After much discussion of the evolution and optimisation of metabolism, our first work was on the optimisation of glycolysis. Paco Montero had the first important idea that the aim of evolution was to maximize the flux of ATP production, and this has been instrumental for all subsequent work in the field.

I saw that Reinhart's theory of the optimization of enzyme kinetic parameters was very important, but hard for students. I wondered whether it could be presented with a simplified example limited to the essential facts. I proposed it to Reinhart, and, although he was not sure that it could be done, we ploughed ahead anyway. It proved not to be as easy as I had hoped, but also not as difficult as he had thought, and when he saw the finished paper, he spontaneously exclaimed that he could finally explain the theory to his students!

Reinhart had one of most lucid minds I have ever known; he could understand difficult new concepts at first sight, although he also said that he needed time to understand them well and to be able to discuss them, and that he needed to see them in mathematical formulas to believe them, which was not always easy for me. He was an indefatigable and persistent worker, and he was always calm. I never saw him anxious or agitated, never seeming to worry about things others might anguish over, able to bear any setback without getting upset, and knowing how to accomplish everything before deadlines.

Reinhart was very serious in his work and in his life, but he was a very amusing, delightful person, always a smile on his face. His sense of humour was characteristic, and we both liked telling jokes. He was a recognised literary author, and his enthusiasm for music was another point of empathy between us. He played the violin and I have heard him movingly play fragments of concertos by Beethoven, Mendelssohn and Bach.

In April 2000, Reinhart secured lodging for me in the lovely house for at Humboldt University, where María Rosa, my wife, came to spend a few delightful days with me, and spent time talking with Nana, Reinhart's wife. We spent a couple of days in Dresden at Reinhart's mother's home and heard the concert in Dresden Cathedral for Bach's St. Matthew's Passion, which Reinhart loved and liked to play on his violin. This was a sensational performance, but there was no applause at the end, because, as he explained to us, there is never applause in a church in Germany. There are some things about Germans that are hard for Spanish people to understand!

Reinhart was always worried about world peace. He was very sensitive to human suffering, was especially troubled about the state of Georgia, Nana's native country, and was a regular contributor to reconstruct the Dresden Cathedral.

The social, political and economic changes in Germany greatly excited Reinhart. He saw his Institute grow and secured a spacious place for himself and his group to work, where he kept a poster of La Laguna University as well as the typical satellite photograph of the Canary Islands that I had given to him. We worked together several weeks every year in Berlin and Tenerife.

When Reinhart died I was lecturing on some of his scientific contributions. When the next day, after I had learned of the tragic news, I had to continue, I showed my students a slide with a picture of him with some of his mathematical formulas and told them of his death. Then I could hardly contain my tears.

My laboratory notebooks and files are full of memories of Reinhart, which I keep as valuable treasures. When a close friend and colleague dies, one thinks of the common projects that never will be realized together, and this deepens the sadness of a very personal loss. One thinks of how much richer life has been because of his friendship, and laments the new, even greater things that might have been.

Now that Reinhart is not with us, we who have worked with him have to shoulder the main task of every responsible scientist, one that every scientist hopes that others will do: continue with his research, working along

0022-5193/$ - see front matter
doi:10.1016/j.jtbi.2007.07.018

the lines that he helped formulate. We must ensure that his scientific school and the lines of research that he initiated will not be lost; we must make an exceptional effort for an exceptional man. Our pain is that he cannot be here to share these next steps.

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