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OBITUARY

Liberté, Egalité, Modularité: In Memory of Werner Callebaut (1952–2014)

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Werner Callebaut, the scientific director of The KLI Institute, professor of philosophy, president of the ISHPSSB, editor-in-chief of *Biological Theory*, and dear colleague of innumerable members of the academic community, died in Vienna, Austria, on November 6, 2014, at the age of 62. We deplore the loss of a brilliant intellectual, a philosopher in the full meaning of the word, and a sparkling mobilizer of ideas.

Werner was born in Mechelen, Belgium, on October 7, 1952. His early leaning towards learning and knowledge had already come to the fore as a schoolboy, when he would dig for Roman archaeological remains in his family's backyard and had developed a liking for academic publications. He was notorious for getting on his teachers' nerves by "knowing too much." After visiting high school at the Koninklijk Atheneum Vilvoorde, he went on to study philosophy at Ghent University, where, in 1983, he received his PhD with a thesis entitled "Contribution to a General Theory of Rationality on Evolutionary Foundations—With an Application to the Organization of Scientific Knowledge." He subsequently pursued an academic career that led him via the Universities of Brussels, Limburg, and Ghent to Hasselt University, where he became a professor of philosophy in 1995. Following two visiting fellow periods at the Konrad Lorenz Institute for Evolution and Cognition Research (The KLI Institute), he moved to Austria and, in 1999, became the scientific manager and eventually the scientific director of the KLI while continuing a part-time affiliation at Hasselt University and offering courses at the University of Vienna.

Rarely have I met anyone who understood the workings of science better than Werner did. Equally profoundly, he understood and unflinchingly pointed his finger at the conceptual deficits in science. Werner's ambitious philosophical quest derived from an early-formed conviction that the humanities-based approach to the philosophy of science needed to be overcome. While learned in classical philosophy, logic, ethics, and epistemology, it was his firm opinion that "real" philosophy of science needs to be concerned with, and based on, science. He became a role model for this attitude by extensively studying theoretical and empirical evolutionary biology, from which he derived his view that epistemological naturalism was the inevitable philosophical consequence of Darwinian theory. He fought strongly for this naturalized approach and, influenced by the work of Herbert Simon, extended it to the philosophy of economics, exploring the evolutionary study of human decision making. Furthermore, in his philosophical examinations of the theoretical content of biology, Werner used his method to address the multiple challenges from different fields of biology to the standard theory of evolution, devising a perspectivist take to handle incompatible models in scientific practice. To him, perspectives represented analyses at different levels of a system that, necessarily, can coexist at the same time but may lose explanatory rigor when they are combined. Together with Ron Giere (2006), Bill Wimsatt (2007), and Bas van Fraassen (2008), Werner advocated a philosophy of science according to which science cannot—as a matter of principle—transcend the human perspective. He integrated these views and applied his own version of scientific perspectivism to the conceptual issues associated with the modeling of complex, multilevel, and multiscale phenomena (Callebaut 2012). He suggested that this approach could be extended to

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Werner Callebaut at the Gulbenkian Museum, Lisbon, July 2012

a perspectivist kind of theoretical biology that includes its philosophical metalevel (Callebaut 2013).

Werner's scientific achievements are numerous indeed. With his book *Taking the Naturalistic Turn* (Callebaut 1993) he likely laid the foundation for another major step in the philosophy of science, following the linguistic, the Popperian, and the Kuhnian turns. In the introduction he remembers: "I was going to show the world that it could be done"—and he did. Essentially, the book combines—in a new literary form—interviews in which different scholars separately answer questions on key issues in philosophy of science, but the responses are intertwined in the form of fictitious conversations among the interviewed and with the interviewer—Werner himself. Through this new mode of presentation, it became possible to highlight an emerging tendency towards a new theory of science, one that would be substantially informed by the biological sciences instead of the traditional predominance of physics. Thus Werner's name will always be linked to a philosophy of biology that is intimately based on a naturalized epistemology.

In theoretical and evolutionary biology, Werner will be remembered as an early supporter of the extended version of evolutionary theory currently in the making, having himself contributed to it with his conceptualizations of biological modularity (Callebaut and Rasskin-Gutman 2005) and the Organismic Systems Approach (Callebaut et al. 2007)—much distinct from DST, by the way. Based on his observation that the classical "Modern Synthesis" never had been a "synthesis" in the true meaning of the term and, thus, had no essence, he saw the reform of this nearly century-old framework of evolutionary theory as an ongoing project, but not as the kind of iconoclasm the traditionalists shakingly fear. He argued that the current dialectical (horizontal and lateral) extensions of the Modern Synthesis theory will inevitably require major conceptual reshuffling (Callebaut 2010). This, he felt, is likely to go beyond gradual "extensions of" the existing framework but, instead, will result in a pluralistic and non-reductionist Extended Synthesis that is built on many more evolutionary factors than the classical Synthesis (cf. Laland et al. 2014).

Lately, Werner was much concerned with the conceptual and societal consequences of "big data biology," including the various facets of bioinformatics, systems biology, omics biology, and synthetic biology (Krohs and Callebaut 2007). He was not only critical of its essentially ahistorical approach but also took seriously Carl Woese's (2004) warning that "a society that permits biology to become an engineering discipline, and that allows science to slip into the role of changing the living world without trying to understand it, is a danger to itself." He advocated rigorous opposition to such postmodern tendencies. Likewise, Werner will remain known for his contributions to evolutionary economics (for which he was preparing a special issue in *Biological Theory*) and the "bounded rationality" principle he cherished (Callebaut 2007). Other themes he had focused on at various stages of his career, on all of which he left salutary marks, included reduction and emergence, limits of adaptation, the interaction of development and evolution, biological information, and evolutionary approaches to culture.

Werner's service to the community was substantial as well. As a university professor he loved to teach and always prepared extensive readings for his students. It was difficult for him to imagine that not everyone taking his courses was prepared to read several hundred pages—until next week. In fact, some of his biology students didn't expect to read anything at all. In addition to his teaching, Werner served on numerous committees, both at the university and the EU level. He took seriously his role as the editor-in-chief of *Biological Theory* and served on several more editorial boards of scientific journals. An efficient facilitator, he organized and co-organized innumerable conferences, symposia, workshops, lectures, and other events. One of his favorites was the EASPLS summer school, which, due to his initiative, was held at the KLI for the first time last year. He was a member of the Belgian Society for Logic and Philosophy of Science, the British Society for the Philosophy of Science, the Centre National de Recherche en Logique, the European Association for the Study of Science and Technology, and the History of Science Society.

Since 2013, Werner had served as president of the ISHPSSB, the International Society for the History, Philosophy, and Social Studies of Biology, his beloved "Ishkabibble," an institution he regarded almost as extended family. With much excitement he was planning to cope, during his presidency, with some of the pressing issues for the society, such as its "uncontrolled growth" (due to its

formidable success), which he had felt was stretching the limits of its organizational capacities. He had also planned to work on reaching a better balance of philosophers, historians, and social scientists at future meetings. And, always striving for improvement, he had meant to increase the international representation in the society, reaching out to scholars from Eastern Europe and other regions. He was greatly looking forward to the 2015 meeting at Montreal, where he had expected to announce some of his plans for future development. Now it will be left to others to tackle these issues.

Ever since Werner joined the KLI in 1996, the two of us have closely collaborated on the development of this unique institution. What had started as a loose forum of interdisciplinary discourse at the intersection of theoretical biology, philosophy, history, and the social studies of science required institutionalization. We closely worked together on establishing the KLI as an international center of advanced study in natural complex systems. Werner's contributions as the scientific director of the KLI were fundamental. We founded the Altenberg Seminars (a thematically structured lecture series at the University of Vienna), the Altenberg Workshops (a series of exclusive workshops on selected topics that impact the advancement of biological theory, of which more than 30 have been held so far), the Vienna Series in Theoretical Biology (a book series on theory and philosophy of biology with MIT Press), and collaborative summer schools with fellow institutions - one in Philosophy of the Life Sciences (together with Egenis, SEMM, IHPST, IUFE, and several others) and one in EvoDevo (together with the Istituto Veneto di Scienze, Lettere ed Arti). But the enterprise most closely linked to Werner, the one to which he devoted all his enthusiasm and energy over the past few years, was the scientific journal devoted to the conceptual integration of evolutionary, developmental, and cognitive science. It had been his dream, since his student days, to run his "own" journal, and so he worked hard at replacing the former KLI publication *Evolution & Cognition* with a much broader and much more international format, *Biological Theory*– first working with MIT Press and later with Springer. His tireless efforts brought the journal to an unparalleled level of perfection and scientific quality.

"Scientific director" was only one of the hats Werner wore. Sure, he organized lectures, symposia, and workshops, handled the fellowship applications, sent them out for review, etc. But, at the same time, he was a fatherly figure for countless junior fellows, visitors, and students, taking everybody who came through under his wing. Everyone had to have had "*Stelze und ein Krügl*" before leaving Vienna! There was no issue that could not be discussed with Werner, and thus, together with Eva Lackner and Isabella Sarto-Jackson, he represented the infamous KLI task force that would handle any problem, from broken laptops to broken love. What a pity that he was unable to take his seat in his dedicated office in the new KLI institute building at Klosterneuburg, for which the door plate was ready, appropriately saying "Assessore."

Werner was a cosmopolitan, both in the scientific and the cultural sense. Fluent in four languages, he easily moved between cultures and traditions in light conversation and academic discourse. He possessed the kind of overwhelming anecdotal personality that is frequently found in extensively read scholars. Remember how he sat under Bill Wimsatt's desk? Or how a certain professor would not take any questions after his talk? Or how he had lost his backpack, his laptop, his cellphone—all through intricate circumstances that happened to coincide at various locations on this planet? He would have sold his future for a good story—maybe he did. What Salman Rushdie once said about his deceased friend Chatwick equally applies to Werner: "to be together with him meant to listen willingly." We all were willing.

Of Werner's many endearing personality traits one stood out formidably: his extremely social attitude and helpfulness, rooted in a deeply felt conviction of *egalité*. This was true at all levels, whether in academic, or social, or even financial matters. He was convinced that human beings needed to assist and support each other, and he was bitterly disappointed when he discovered that the behavior of his conspecifics sometimes didn't match his standards. But that wouldn't prevent him from continuing his altruism. During his career, for instance, Werner must have written hundreds of letters of recommendation, and many of them brought success for the person he had written for. Or another example: he spent several days—and nights—helping with the copy editing of a large conference program booklet of nearly 400 abstracts last summer, although he was in no way responsible for the organization of that event. He read and corrected every single entry and, I am sure, many participants were surprised by what a nice abstract they had written—some may even have discovered the real point they were going to make in their presentation.

Werner was devoted to an intellectual life. He wanted to read, think, write, talk. Besides the massive reading load associated with his research and editorial work, he was an avid consumer of literature and newspapers. Not content with reading for himself, he read at the same time for his friends and colleagues, keeping their interests in mind. I will thoroughly miss his weekly delivery of newspaper clippings! Naturally (no pun intended), one of the themes that occupied him most was the threat to the intellectual kind of university as we knew it. We would frequently greet each other (half) jokingly with "*tout est perdue*"—all is lost—by which we meant the disappearance of the knowledge-based university in exchange for an efficiency-seeking enterprise. Despite (or

maybe because of) his expertise in economics, Werner was a strong critic of the economized university model now in fashion. He loved to quote Münch's (2011) dictum: "When the scientific enterprise becomes transformed into economics, you need economics to explain the workings of science." The world Werner has left corresponds no longer with his ideal world of academic *liberté*, where knowledge, understanding, intellect, debate, criticism, etc. were the fundamental qualities. Certainly it was no coincidence that a 2011 symposium in his honor at Hasselt University was entitled "*De toekomst van wetenschappelijke vrijheid*"—"The future of academic freedom." He confided that the depressing answer was: none.

We owe Werner a lot. His sharp wits, his encyclopedic knowledge, his critical stance, and his ever-caring attitude will be sorely missed. We will remember him standing in contemplation of a philosophical problem or an object of interest, often times—unfortunately—smoking one of his inevitable Gauloises cigarettes: the red ones, not the blue ones! Unwavering, he stood for freedom in academia, equal rights in society, and the primacy of science (for which "modularity" was a proxy). "*Liberté, Egalité, Modularité*" was our battle cry.

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