Psychologica Belgica
2008, 48-4, 303-308.
DOI: http://dx.doi.org/10.5334/pb-48-4-303

OBITUARY

PROFESSOR PAUL BERTELSON

Paul Bertelson died at the dawn of the 26th of November 2008 as he was approaching 82, after more than one year of a sadly disabling illness during which he nevertheless kept active his clear reasoning, superb memory and fine sense of humour. He preserved during that painful period the extraordinary love of the beauty of life and concern with science and people that characterised his whole existence.

Paul's historic contribution to the discipline of experimental cognitive psychology deserves to be recalled in the journal of the Belgian psychology. To him, science has always been universal, but, aware that it develops also in a local context, he never failed to support the Belgian Association for Psychological Science (the former *Belgische Vereniging voor Psychologie/ Société Belge de Psychologie*) and other national institutions, and to play a leading role in their activities.

For half a century, since the middle of the last fifties, Paul Bertelson made a great, intense and passionate contribution to the science of mental life. By creating and developing the *Laboratoire de Psychologie Expérimentale* at the *Université Libre de Bruxelles* (*ULB*), by producing scientific papers that are jewels of rigour, style and theoretical preciseness, and by delivering illuminating conferences and talks around the world and – not less important for him – by constantly exchanging views in meetings with plenty of old friends, young researchers and students. Paul was definitely happy in his scientific milieu, and so often, after coming back from a congress or workshop, he has taken a recapitulative pleasure telling whom he had met and what they had discussed together. Even beyond the overall quality of the conference, because, for him, science was also the joy of friendship.

Paul did not write a full book, in spite of his impressive record of articles, his creativeness and involvement in many areas of his discipline together with a deep understanding of the history of theories, concepts and methods. We were a few from the old lab to benefit from this knowledge, so often during the coffee breaks in the "garage" or in the staircase near his office, and we sometimes asked him why he would not put such ideas in written form, but it seems that he was afraid of missing something important. Paul used to write and rewrite each paper many times until eventually he felt satisfied with it. In contrast, he could prepare a well-structured oral presentation in half an hour. I remember a conference in 1976 in which he had to give the first paper in the afternoon session (it was published in a book two years later); for lunch he bought a sandwich and a glass of wine and began to sketch some ideas; I had a few minutes of anxiety until he told me "look, I'm going to organise it this way…" and less than one hour later I heard a marvellous talk.

Paul became a psychologist after obtaining a graduation as commercial engineer. As commercial engineer, Paul's desire was already to study the mechanisms of things, so that he got a grant to study economical theory at the Graduate School of Harvard but he fell ill and did not go. The critical event at that time, he wrote, has been his encounter with André Ombredane, a neuropsychologist with large and deep knowledge in many domains, who impressed Paul, made him discover psychology and supported him when, after obtaining the graduation in Psychology at the ULB in 1955, Paul wanted to do a PhD in experimental psychology and leave Brussels for the Applied Psychology Research Unit in Cambridge, where he stayed for two years and met great men such as Frederic Bartlett and Donald Broadbent. In 1959 he got his PhD at the ULB. The decease of Ombredane forced Paul, for the happiness of those who later learned to do science with him, to take an important role in teaching, but also, for his disappointment, to become a "part-time" researcher, as he said of himself.

Fortunately, Paul obtained quite soon the creation of a Laboratory of Experimental Psychology that became world-widely well known. He headed the lab until he became Emeritus Professor in 1990, and during all those years Paul welcomed in his lab many great scientists such as Saul Sternberg, Mike Posner, Isabelle Liberman, Alan Baddeley, Pat Rabbitt, Tony Marcel, John Marshall, Freda Newcombe, Colwyn Trevarthen, Peter Bryant, Willem Levelt, Carlo Umilta, Giacomo Rizzolatti, Alfonso Caramazza, Michel Imbert, François Bresson, Marc Jeannerod, Jacques Paillard, Jean Requin, and many others. Some of them were designated *Doctor Honoris Causa* of the *Université Libre de Bruxelles*: Robert Hinde, Richard Held, Donald Broadbent, Alvin Liberman, Tim Shallice, and Jacques Mehler.

In the beginning of his career, Paul lived the emergence and rapid development of experimental cognitive psychology, inspired by the concepts of systems and communication theory, of psychophysiology, and of generative linguistics. The great project of analysing mental processes scientifically was again alive, continuing the work of scientists from the end of the XIX century like Donders and Helmholtz. Paul, influenced by Broadbent's general theory of human performance, who became a founder of modern cognitive psychology, examined the temporal relationship between elementary processes using reaction time tasks, and found that reactions to repeated stimuli led to a latency reduction, what he called the "repetition effect" in a paper published in *Nature*. This effect was not predicted by information theory, which took only the stimulus presentation probability into account, and was the precursor of one of the presently most used methods in cognitive psychology and cognitive neuroscience, the priming effect. Quite interestingly, in the seventies, with one of his PhD students, he also showed one of the first dissociations between unconscious processes and conscious representations, the finding that stimulus probability affects the speed of its identification but not the judgment of stimulus presentation order. Given that science, or the teaching of it, is sometimes amnesic, those contributions are something that thousands of young researchers that are currently running priming experiments and distinguishing between conscious and unconscious processes might like to know.

During a second stay in Cambridge as the holder of the Kenneth Craik Research Award in 1964-65 – one could say that Paul belonged almost as much to British as to Belgian psychology, but the truth is that he rather belonged to world psychology –, Paul initiated research on the psychological refractory period phenomenon, i.e., the fact that when a new stimulus arrives during the reaction to a previous stimulus the subjects' response to the new stimulus is delayed, and his findings supported the hypothesis of a limited capacity mechanism. At the same time he launched studies on the temporal course of the preparatory adjustments to reaction, a field of research in

which he was joined some years later by two of his brilliant students and future colleagues, Jesus Alegria and Daniel Holender. It was also at this time that he played a significant role in the steering committee of the "Attention of Performance" symposia.

Paul had always been deeply interested in perceptual processes, not only through his teaching but also as researcher. Since the beginning of the seventies until almost his death, he allocated much of his creativity and intellectual energy to the study of how people adapt to conflicts between sensory data presented in different modalities. First with Monique Radeau, another of his former students who became a leading full researcher in Paul's laboratory, on how conflicting visual and auditory data interact to determine judgments about the spatial origin of events, and in the last fifteen years of his career, mainly with his colleague, lover and beloved wife Beatrice de Gelder, from Tilburg University, on the relations between audiovisual interactions in space localisation and in speech identification. All this work has contributed to reject the classic idea that the sensory modalities are independent and his findings are indeed in the line of the present concern with intermodality.

Paul also devoted much attention to the relation between the cognitive functions and their neurobiological substrate. He suggested me to do my graduate and PhD theses on the auditory laterality effect, which signals a functional difference between the cerebral hemispheres. For almost fifteen years, we collaborated very tightly first to assess to what extent this effect was linked to neurophysiological constraints or to spatial attention factors, and second to use the laterality effect, in audition as well as in vision, not only as a way of specifying the functional hemispheric differences, but also as a way of discriminating between perceptual processes of different nature and complexity. Paul was particularly interested in the different processes involved in physiognomic recognition. An interesting aspect of our collaboration is that at some time we diverged in our theoretical preferences. Whereas I was (probably too much) persuaded that the analytic *versus* holistic or configurational processing distinction provided a good characterisation of the hemispheric differences, Paul was (probably too much, also) quite sceptical about it. He invited me to publish jointly a "failed prediction" applied to the Ponzo illusion that was based on that dichotomy, and I accepted. But three years later it was his turn to publish with me and with Isabelle Peretz, who made her PhD thesis under our joint supervision, a paper in which our dividing dichotomy successfully predicted a shift in ear differences in melody recognition through an analytic *vs*. holistic strategy inducement. This is only one of the many illustrations of the respect Paul always had for the data and for the freedom of thought in his own laboratory as everywhere.

While we were debating with each other on the issue of hemispheric specialisation, Paul became involved in the cognitive neuropsychology

movement, in particular in the annual "European Workshops in Cognitive Neuropsychology" and in the meetings of the group constituted around the "Neuropsychologia" journal. It is also since then that Paul developed a close friendship with Xavier Seron, accompanied by many deep intellectual exchanges.

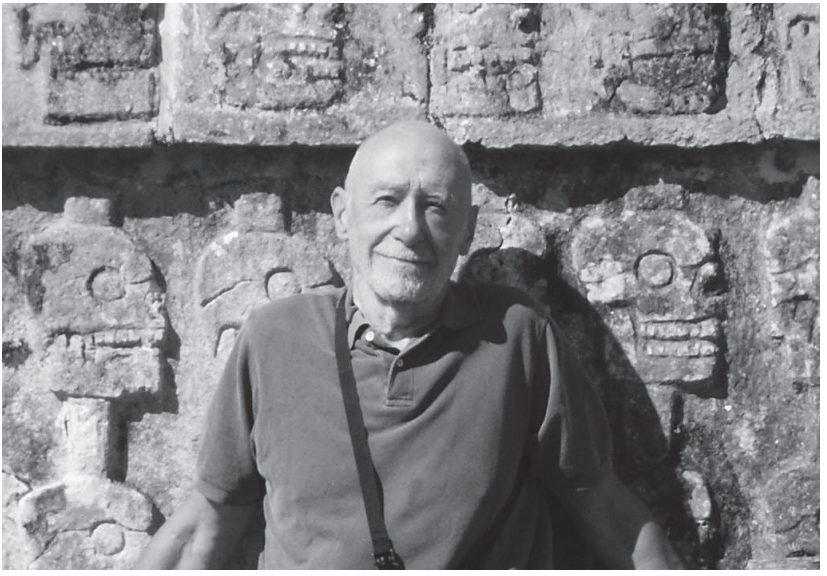
Near the middle of the seventies Paul opened another path of research – in psycholinguistics – that became one of the strongest of his career. In part due to the inspiring influence of Jacques Mehler, whom Paul had invited as visiting professor, but first of all because of his more ancient interest in the perceptual processes involved in the reading activity, he examined the relevant literature, weighted the arguments of the people who viewed reading as mainly a visual behaviour and of those who talked about "language by ear and by eye" (the title of a book that impressed him much), called Daniel, Jesus and me, and announced that we, all four, would give together an advanced course on reading, which rapidly took also the form of a scientific project. It was the starting step of a wonderful enterprise, with lasting consequences for Paul and his lab and closest collaborators. Paul was both the director of the quartet, defining the main ideas about the recognition of written words, and the initiator of a line of research on tactile reading, with the ingenious collaboration of Philippe Mousty, at that time his PhD student; Daniel specialised on the writing systems and on their cognitive implications; and Jesus and I received the mission of studying the acquisition of literacy and its conditions, these particularly through the examination of illiterates.

Alain Content joined this group as PhD student under the joint supervision of Paul and me, and later developed autonomous work on both reading and spoken word recognition. Jacqueline Leybaert, also PhD student under the supervision of Jesus, developed a long series of studies on the psycholinguistics of deafness, and Paul saw in Jacqueline his first scientific grandchild. But Paul was still young enough to educate another child, the last one, Régine Kolinsky, who first worked on psycholinguistics, then on visual perception and cognition, then on musical cognition, then again on psycholinguistics, then on neuropsychology and neuroscience, and thus inherited Paul's obsession with everything that is mental life. Paul's life was also that: including Monique, already mentioned, his eight intellectual children and grandchildren, all permanent members of the lab. Out of the lab he also influenced many younger Belgian researchers, some of whom are today distinguished ones. A great scientist and a great educator of scientists!

Visiting professor as holder of the Francqui Chair both at the *Katholieke Universiteit Leuven* (1982-1983) and at the *Université Catholique de Louvain-la-Neuve* (1990-1991), also visiting professor at the *Centre Universitaire de Luminy*, Marseille (1971-1972), and at the *Università degli Studi*, Padova

(1991), Paul Bertelson was awarded with the Ernest-John Solvay Price for the Human Sciences (1991-1995 period). In 1994, he and four colleagues decided to create the European Society for Cognitive Psychology. He mostly contributed to the development of this presently important Society, of which he was president in 1990-1992, and which delivers a Paul Bertelson Award since several years. In 1992 he was co-president, with Géry d'Ydewalle, of the International Congress of Psychology held in Brussels.

Paul was great as scientist, professor, man and friend. He lived freely and with a strong sense of humour, for reason and for passion. He was a worker and a creator, even in not much known ways: with the sensitivity of an artist, he has fixed for many years in dozens of photos the tragic inner world of old men and women. Maybe this has prepared him to approach death with the lucid dignity of the exceptional man that he had always been.



José Junça de Morais
Université Libre de Bruxelles
jmorais@ulb.ac.be