

David J. P. Barker, 1938–2013

David Barker, the father of the discipline known as the Developmental Origins of Health and Disease, died on 27 August 2013. He was one of the world's most influential scientists over the latter part of the 20th century and throughout the emerging 21st century. While he became known for his seminal observation that heart disease was inversely related to birthweight among residents of Hertfordshire England, few now recognize that his pathway to prominence was paved by his scientific training and educational choices made earlier in his life. Thus, he was 'programmed' to be the world's expert on programming, the process by which early life conditions lead to vulnerability for disease in later life.

David loved the study of nature as a child. He studied beetles and plants during his grade school years where he found pleasure in their classification. Later, as a medical student, he worked with the acclaimed zoologist, J. Z. Young with whom he published his first paper in *Nature* in 1961 on the topic of testosterone and bone density. After completing his medical degree, he sought to gain expertise in epidemiology. He became a research fellow at the Queen Elizabeth Centre, University of Birmingham, where he worked under the highly regarded Tom McKeown. At this point in time, his specific interests in development began to emerge. His PhD thesis topic was entitled 'Prenatal influences and subnormal intelligence'. After having spent time in Africa and having served as a Professor of Clinical Epidemiology in the MRC Environmental Epidemiology Unit at the University of Southampton, David was chosen as its director in 1984, a post he held until he retired in 2003.

As director of the unit, David's brilliance became evident in two ways: (1) he had an uncanny gift for enticing highly talented scientists to join his team. One might argue that the epidemiology team assembled by David was among the best in the world. Among those was the talented statistician Clive Osmond on whom David relied for the remainder of his life. (2) David provided brilliant insights into the biology of chronic disease and its association with developmental processes. It was these lucid insights for which he became known.

The often told story of the origin of the fetal origins theory (the Barker Hypothesis) is worth retelling because of its insight into David's keen mind. When David and colleagues found that the geographical distribution of neonatal

deaths in England could be superimposed with deaths from cardiovascular disease, they drew a conclusion that would have been illogical to many. They concluded that the high neonatal death rates in Northwest England and the comparable high adult death rates in the same areas arose from a common cause – poor growth in the womb. This insight was a 'eureka moment' for David, which he remembered vividly forever after. Nowadays, an epidemiologist would, perhaps, have looked for a common infectious agent or an environmental toxin that took advantage of the vulnerable states of both the newborn and the elderly. But the Barker team took a riskier line of thinking. They concluded that a person's risk for acquiring a chronic disease in their lifetime is related to the robustness of their growth in their formative years. No one contests this view today.

While David was a practicing physician, he nevertheless lived and breathed science. He and his much loved wife, Jan, enjoyed contemplating the wonders of human biology and its plasticity. He loved working with scientists of all stripes and he especially enjoyed collaborations with colleagues in Helsinki, Amsterdam, Marseille, Riyadh, Atlanta, Portland and elsewhere. After his retirement as director of the MRC Epidemiology Unit, David spent a significant portion of each year in the USA, where he shared his life with American scientists and health care advocates. He traveled extensively across the US paying visits to dozens of scientists at different universities and speaking at national scientific meetings.

At the time of his death, David had published some 500 papers and had, perhaps, become the greatest repository of knowledge on the biology of human chronic disease that ever lived. As his light has now faded, we are left without his ongoing brilliant insights and amazing humor. But he has shown us the path that we must follow and the vast unfinished mysteries that remain locked within the developmental origins story. We can honor David's memory by making new exciting discoveries – the ones that always made him smile.

Kent L. Thornburg
Heart Research Center, Bob and Charlee Moore Institute for
Nutrition & Wellness, Oregon Health & Science University
(Email: thornbur@ohsu.edu)