In Memory of Ray Reiter (1939–2002)

Fiora Pirri, Geoffrey Hinton, and Hector Levesque

“Only one same reason is shared by all of us: we wish to create worlds as real as, but other than the world that is.”

This quotation from John Fowles’s The French Lieutenant’s Woman concludes Ray’s 1980 paper, “A Logic for Default Reasoning,” one of the most influential and widely cited papers in all AI. The quotation captures what was special about Ray: He had an adventurer’s desire to go beyond the boundaries of our current understanding, together with a mathematician’s insistence on precision.

Ray the adventurer was always eager to try new ideas and directions. He was not afraid to enter murky areas, and he always left them better illuminated. He introduced terms to the AI community such as default logic, closed-world assumption, and cognitive robotics; he opened avenues of theoretical research with new resolution proof methods and logics for nonmonotonic reasoning, diagnosis, and action; and he was the prime mover in the Cognitive Robotics initiative that has led to a whole new program of research. And he was an adventurer in more than just ideas. He frequently traveled to remote locations to add to his extraordinary collection of rare and exotic lepidoptera.

Ray the mathematician loved to reveal the underlying structure of problems. He used his incisive intelligence to find his own solutions to major open problems, such as the frame problem. He also found new interpretations of established formalisms, such as rediscovering and reinterpreting McCarthy’s situation calculus.

Ray dedicated his life to his research with the wonder of a child, the fearlessness of an explorer, the precision of a mathematician, and the tirelessness of a researcher who found shallowness and confusion intolerable. He leaves a legacy of groundbreaking, deep insights that have changed the course of AI.