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PROFILE OF A MATHEMATICIAN: JOHN BLATT

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John Blatt was born in Vienna in 1921, into an intellectual and musical family characteristic of interwar Jewish Vienna. His father was a well-to-do physician. The family fled the Nazis in 1938 and settled in the U.S., where John gained a first degree in physics from the University of Cincinnati and, in 1946, PhDs from both Cornell and Princeton. He married a fellow Cornell student, Sylvia. At MIT in the next few years, he wrote with Victor Weisskopf the textbook *Theoretical Nuclear Physics*, long a standard introduction to the field. Despite its age, a recent reader writes "as good an introduction to the nuts and bolts of theoretical physics as has ever been written." It and a number of his papers in nuclear physics are still very widely cited.

From 1948 to 1953 Blatt was at the University of Illinois, at the time the University built the Illiac, possibly the most advanced computer in the world at that time. At a time when most leading mathematicians (with the notable exception of John von Neumann and Alan Turing) were involved in high abstraction and not interested in computers, Blatt's background in theoretical physics allowed him to appreciate the potential of computers for solving mathematical problems, and for the rest of his life he was a leader in the introduction of computing to the mathematical world.

Unhappy with the political atmosphere in America in the McCarthy years, he moved to Australia and took up a position with Sydney University's School of Physics. His successful joint work there on the then emerging field of superconductivity is summed up in his *Theory of Superconductivity* (1964). Butler and Blatt's *Modern Introduction to Physics* and *Kinetic Theory of Matter and Mechanics* demonstrated again his talent for clear exposition. His enthusiasm for computing and connections with Illinois helped convince a major donor, Adolph Basser, to put the winnings of his horse's victory in the Melbourne Cup towards the building of the Silliac, the next generation of the Illiac machine. (When the money ran out, as is the way with such projects, the situation was saved by Basser's horse winning the Melbourne Cup again.)

As was to happen a number of times, Blatt's forceful personality resulted in conflict with his colleagues, and in a few years he was ready to leave Sydney University. Philip Baxter, the Vice-Chancellor of the comparatively young University of New

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South Wales, admired aggressive personalities, and recruited Blatt as foundation Professor of Applied Mathematics (1959-1984). His research interests moved in a more mathematical direction, and he contributed important papers in optimal control and a range of related areas of applied mathematics, including the nuclear three-body problem, statistical mechanics, and the fitting of smooth curves to data. With immense energy he built up the staff and research student numbers in applied mathematics at UNSW. Nevertheless he "did not suffer fools gladly", as it is often euphemistically put in obituaries. He is remembered as saying even of honours students "Zey are complete cretins - zey understand nussink." His period as head of the School of Mathematics was again marked by conflict, but Baxter's decision was to some extent vindicated by Blatt's success in attracting to the University several other outstanding mathematicians, notably the Hungarian pure mathematician George Szekeres. His foresight in this regard eventually led to UNSW's overtaking its older sister, Sydney University, in mathematical research. His introduction of computing to first year mathematics teaching, based on his clear introductory text, *Basic FORTRAN IV Programming*, also gave the University a lead which was not followed by other Australian universities for some time.

In the 1970s Blatt turned to economics. The much-discussed "unreasonable effectiveness of mathematics" in physics contrasts with the "unreasonable ineffectiveness of mathematics" in the social sciences such as economics. Blatt hoped to explain this in terms of the commitment of mathematical economists to over-simple models, such as linear regressions. His attempts to predict better with the use of more complex models were not, however, greatly successful. His 1983 book *Dynamic Economic Systems* summarises his work in this area.

A more harmonious side of his personality was evident to those with whom he played chamber music. He was a pianist at almost professional level, with a deep understanding of the music of the classical Viennese period.

Blatt retired to Israel with his second wife, Ruth, in 1984, and died in Haifa in 1990. He was survived by four children, two of whom became computer scientists.