

Part I

Introduction

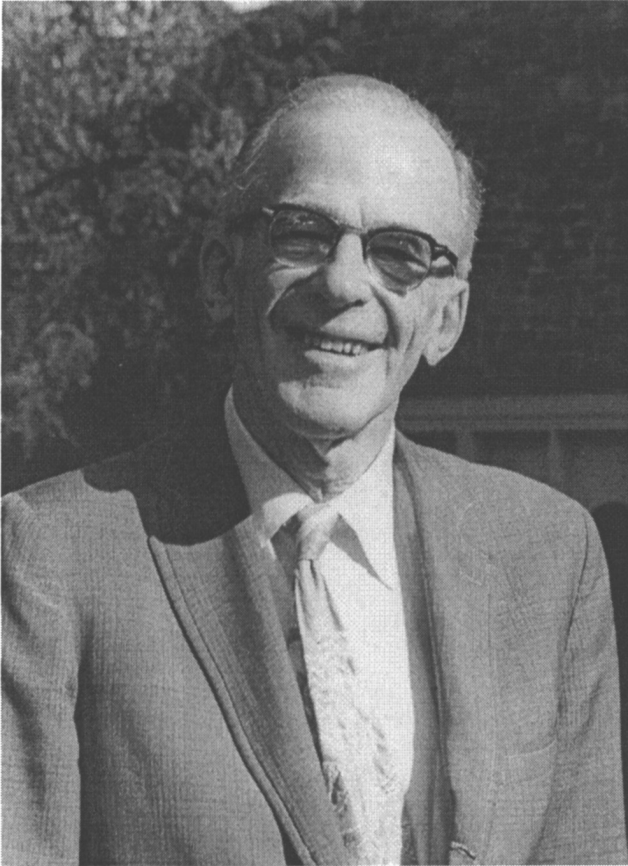


Sunday evening reception: the participants ...



... and the LOC in good spirits.

Lyman Spitzer 1914 – 1997



Some fifty years ago, aged 33, Lyman Spitzer was appointed to succeed the legendary Henry Norris Russell as Director of the University Observatory at Princeton. Lyman was undaunted, he knew what needed to be done and he set about doing it. There can have been few selection committees in the academic world that ever made a more appropriate choice.

Much later Lyman wrote an autobiographical sketch “Dreams, Stars and Electrons”, published in the 1989 issue of *Annual Reviews of Astronomy and Astrophysics*. Here he explains what drove him on and how he came to achieve the many diverse successes of his long career.

He had long been interested in the study of interstellar matter. Soon after going to Princeton he also became deeply involved in more general plasma physics by starting the “Project Matterhorn”. As the name implies Lyman

was a keen mountaineer, but the project has the very serious aim to find a means of confining a very hot plasma with a view to generating power from controlled thermonuclear reactions.

For anyone else this would have been more than a full-time occupation. Not so for Lyman. Together with Martin Schwarzschild he began plans for astronomical observations to be made well away from the Earth's surface. In Martin's case the aim was to get clear pictures unaffected by atmospheric twinkling, and he was content with using high altitude balloons. Lyman wanted to observe in the ultraviolet and he insisted that he needed to place instruments into a satellite right outside the Earth's atmosphere.

His advocacy and planning led to the launch of the Copernicus satellite in 1972. It was an immediate success. Molecular hydrogen was detected in absorption against the background of early type stars. This was highly significant and confirmed the presence of H_2 , in addition to that of atomic hydrogen (H) that had long been known. But even more important was the detection of a low density interstellar component containing some highly ionized species, like O^{+5} ; this discovery revealed that large volumes of interstellar space are intensely hot, at 10^6 K. There was a question that Lyman had long been asking but that no one had answered. What is it that keeps the HI clouds confined to a relatively small filling factor in interstellar space? The existence of the hot intercloud medium provided the answer. In this very real sense Lyman had long anticipated the problems that have been discussed at IAU Colloquium 166 on the Local Bubble.

The organisers of this conference felt, quite naturally, that Lyman should be asked to give the opening talk, and he had accepted the invitation, but it was not to be. It is fitting that the colloquium has now been dedicated to his memory. The enthusiasm of the participants and their many splendid contributions show that Lyman's insights are as fruitful as ever, and will long continue to be so.

In St. Paul's Cathedral in London there is a plaque in honour of the architect Christopher Wren, who built it and much else besides. Incidentally Wren was also professor of astronomy at Oxford. The inscription reads "Si moenumentum requiris, circumspice", which might loosely be translated "If you need a memorial to Lyman, read on". I like to think that he would have been pleased to see what we have done with his ideas.

Manchester, August 1997
Franz Kahn