

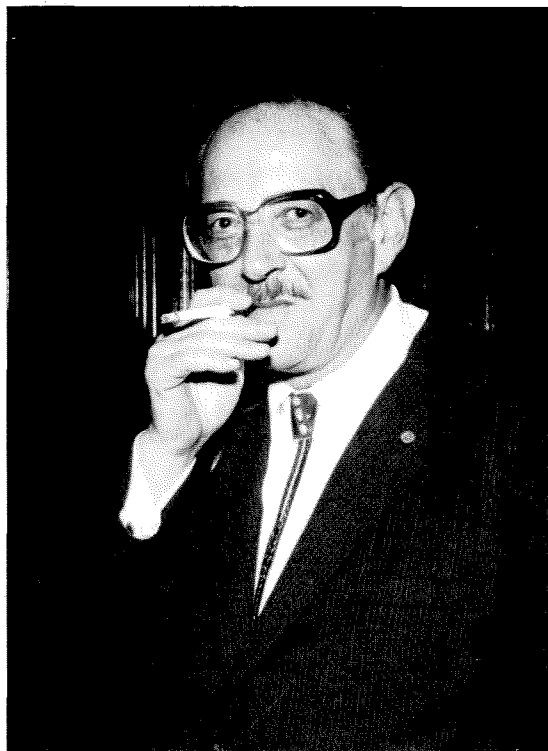
# Caltech Applauds Crafoord Laureate

ON NOVEMBER 20 friends and colleagues of Gerald J. Wasserburg gathered at Caltech's Athenaeum to honor him as recipient of the 1986 Crafoord Prize. Awarded annually by the Royal Swedish Academy of Sciences, the prize for work in mathematics, astronomy, geosciences, or biosciences is one of the scientific community's most prestigious honors. The award cited Wasserburg, the John D. MacArthur Professor of Geology and Geophysics, for his "major impact on our knowledge of the universe, focusing on the origins and history of the solar system and its component bodies. His work has established a time scale for the development of the early solar system and the formation of the planets, the moons, and the meteorites."

Wasserburg's laboratory, which he dubbed the "Lunatic Asylum," is world renowned for its precise measurements of tiny amounts of radioactive isotopes, whose decay on a fixed time scale has provided Wasserburg a means of dating moon rocks, meteorites, and interplanetary dust. He also served for many years as adviser to NASA in planning the Apollo space programs. He was recently named chairman of the Division of Geological and Planetary Sciences.

Wasserburg received the \$138,000 prize (shared with Claude Allégre of the University of Paris) and gold medal from Sweden's King Carl Gustaf in September. The November dinner, coordinated by Barclay Kamb, gave colleagues from Wasserburg's 31 years at Caltech the opportunity to offer toasts and recollections. Short excerpts from those remarks appear on the following pages.





*Above is the real Jerry Wasserburg, winner of the 1986 Crafoord Prize. At left, in caricature, he attacks the moon, which appears to be undergoing "terminal cataclysm," a term invented by Wasserburg for the moon's last bombardment by proto-planets, which formed its current surface. Other guests at the "Mad Tea Party" are, clockwise from left: Sam Epstein, Harold Urey, Dimitri Papanastassiou, Clair Patterson, Paul Gast, and Willy Fowler. Moon creatures cavort about various souvenirs of Wasserburg's career, including some famous lunar rocks and a broken sword representing his frequent battles with NASA on matters of science policy and space exploration. COMPLEX is the Committee on Planetary Exploration of the National Academy of Sciences, which Wasserburg headed for many years.*



photos by Florence Helmberger

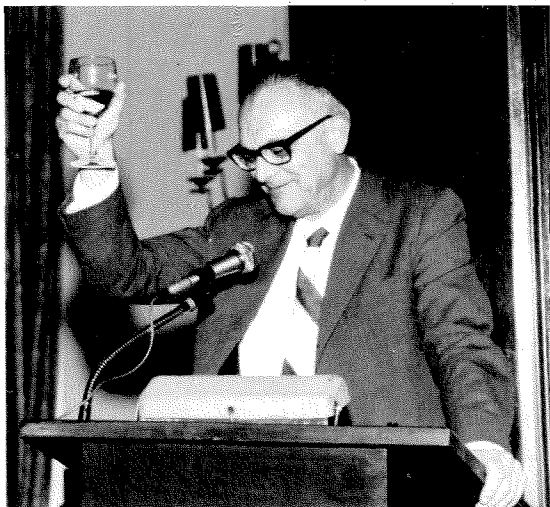
*Jerry Wasserburg and his wife Naomi pose with the Crafoord gold medal.*



*"The Crafoord Prize is considered comparable to the Nobel Prize. It's a prize in what I might call the "higher sciences" — that is, those sciences that involve a higher organization of matter and higher complexity than is dealt with by the physicists and chemists. Those sciences include the biological sciences, higher mathematics (which is certainly higher), astronomy (what could be higher than astronomy?) and also the earth sciences, which might be called the lower higher sciences."*

**Barclay Kamb**

Professor of Geology and Geophysics  
 (The picture — not the moon but the surface of a cell — is a gift to Wasserburg from Jean-Paul Revel, the Albert Billings Ruddock Professor of Biology.)



*"Join me in a toast to Jerry, a consort of Swedish royalty, a man of quality, a man of exquisite taste in science and other things, and a man who keeps us intellectually honest — most of the time. And in a very, very personal sense a man whose steady stream of oracular pronouncements over the years has posed a very significant challenge to my analytical capabilities of understanding and has tested my intelligence and my endurance. Prosit!"*

**Rochus Vogt**

Vice President and Provost; R. Stanton Avery Distinguished Service Professor and Professor of Physics



*"It is now 31 years since Jerry left the University of Chicago and came to Caltech as a young man with a head full of ideas and a pocket full of isotopes. And he proceeded to build around these things a very special Lunatic Asylum. Since then, as I've tried to understand isotope geochemistry, it seems that Jerry has not only measured isotopes, but has also invented quite a few. On behalf of the number one division of geological and planetary sciences I invite you to join me in a toast to the number one medalist in geochemistry and cosmochemistry."*

**Peter Wyllie**

Professor of Geology, former chairman of the Division of Geological and Planetary Sciences

*"I first met Jerry when I arrived at the University of Chicago and began teaching a course in quantum mechanics. There was a young person sitting in the front row — very bright-eyed, bushy-tailed, obviously intelligent, paying close attention to every word I said; in fact he was prepared to criticize almost every word that I said. . . . Now, 36 years later, Jerry is still hyperactive, bright-eyed, bushy-tailed, obviously intelligent, and in spite of all of these characteristics very lovable. . . . As a result of his great intelligence, his tenacity, his hard work, Jerry has received many honors that reflect on him, his family, and upon Caltech. Jerry, we're extraordinarily proud of you."*

**Marvin Goldberger**  
Caltech President

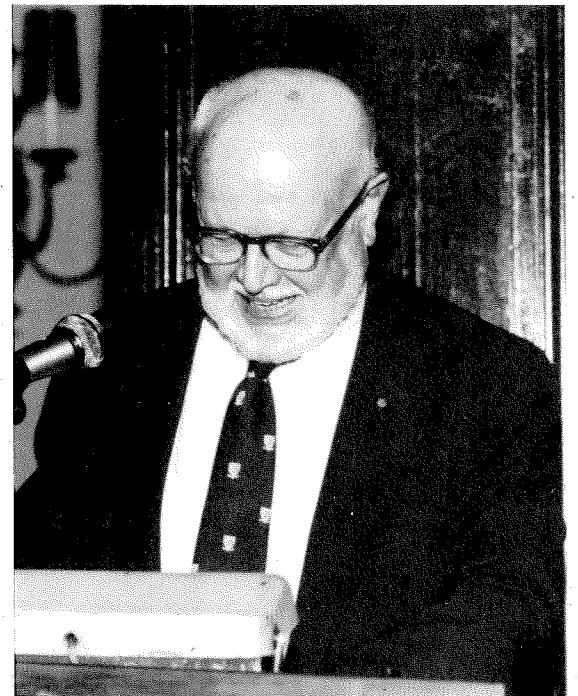




*Long-time colleague Sam Epstein (left), the William E. Leonhard Professor of Geology, praised Wasserburg for being "unusually well prepared to be a leading figure in the great leap forward that took place in the geosciences in the last 30 years." He also called him "a warm, caring person" but one who "plays a terrible game of cribbage."*

*"Jerry makes all of us toe a tough line, but in doing so he helps us immeasurably, and I am for one infinitely grateful to him. Jerry not only asks questions; he answers them. In areas of my own interest Jerry's answers are the definitive ones. He has determined the average age of the chemical elements in our galaxy; he has determined the time of formation of the solar system; he has established the chronology and evolution of the earth, the moon, and the meteorites; I could go on and on. To reach these answers Jerry has invented and produced ultra-clean, high-precision mass spectrometers, which are capable of measurements on samples of the order of one ten billionth of a gram and even less. . . . In this day and age when many conjectures in geology, physics, astronomy, and especially cosmology receive instant acclaim, a period of popularity, and then pass into oblivion, Jerry's work has stood out for endurance with the passage of time. Jerry has shown us that careful, precise, significant measurements can bring us a true and permanent insight into the nature of the physical world. On that insight the rest of us can build."*

**Willy Fowler**  
Nobel Laureate, Institute Professor of Physics, Emeritus





*"To me he has been a good friend, but another thing he has done is provide respectability to the solar system. Those of you who have wasted taxpayers' money on NASA programs must realize that not many astrophysicists some years ago thought that the solar system amounted to a hill of beans. This attitude was turned around by the application of nuclear physics in the work started by Harold Urey, the work on isotopic composition of the elements — the understanding of the processes that led to the generation of elements. The ability to look back before what is knowable, using lunar samples, meteorites, pieces of the earth, to find out what's there — that's what has made Jerry's work so creative and so distinctive. We now know something about 5 billion years ago."*

**Jesse Greenstein**

Lee A. DuBridge Professor of Astrophysics,  
Emeritus



*"Getting Jerry Wasserburg to Caltech was quite an educational experience in itself. In 1954-55 we had two openings in the geology division for young assistant professors, and at that time we had identified what we thought were three really outstanding candidates. We finally solved our dilemma . . . [by doing] everything short of putting the division gem collection in hock, and we hired all three. That was a vintage year — they all had brilliant careers. (The other two were Leon Silver and Clarence Allen.)"*

**Bob Sharp**

Robert P. Sharp Professor of Geology,  
Emeritus



*"As a field geologist, Jerry taught me a very thorough lesson — on the outcrops he questioned all of my precepts. So since then I have always followed two major principles: 1) Always ask questions, and 2) always question the answers (distinctly Wasserburg). . . . In describing how he has approached the work and what has made the difference, I think it comes down to two things: One is a capability to analyze situations and look ahead and see what the consequences of these are. The other is that driving desire to be on the cutting edge of technological excellence. . . ."*

**Arden Albee**

Professor of Geology  
Dean of Graduate Studies