THE REMARKABLE VINCE SCHAEFER

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He is sometimes called the "Father of Modern Rainmaking". He stands tall in the atmospheric sciences as the one who has opened up the flourishing fields of cloud physics and weather modification research and technology. He has a deep and private devotion to his country and his Catholic faith. And he shares strong bonds of family love with wife Lois, son Jim, and daughters Sue and Kathy.

Ph.D. anthropologist Jim recently wrote of this father ------"Quartz crystal hunting, stalagmite watching, arrowhead finding, diatom photomicrographing, pipe threading, fly fishing, log splitting, newt trapping, apple grafting, mountain climbing, deep powder skiing, kite flying, cloud chamber gazing, Navajo rug hunting, small particle counting, ice nuclei looking, bushwacking high mountain lake fishing, cross-country driving, log fire talking, asparagus hunting, wildflower hunting, trilobite rock splitting, cloud watching, rain ph measuring, barn rebuilding, cross-country ski hiking, rare meat cooking, wood working, varve carving, tree pruning, mileage guessing, lightning stalking, hailstone polishing, timothy chewing and other activities are a part of my relationship with you. The appreciation of Nature and accommodating it while learning is something all of us who have known you identify as a core feature of our times with you. These we shall always cherish and try to nurture in others around us".

When I think of Vince Schaefer I think of a very special friend, a warm, able, strong person who has given and continues to give a remarkable gift to our society. He gives his gift in at least the following several ways: 1. a man of unquestioned integrity, intellectual honesty and high moral character; 2. a leader of young people who has helped hundreds of our youth to enjoy the excitement of exploring in science; 3. a natural philospher who keenly and open-mindedly observes those things about him and who has an uncanny ability to relate and inter-relate these observations into the fabric of scientific progress; 4. his famous experiment during July 1946 with dry ice in the cold chamber, and perhaps equally remarkable was his immediate recognition of the importance of this serendipitous event to the future of weather modification research; 5. his pioneering efforts in placing high value on meteorological field work and his establishment of several long-term field stations, including the Whiteface Mountain Observatory in New York, the Arizona Field Station at Flagstaff, 12 years of Yellowstone Park wintertime experimentation, and field stations at Lake George, and Scoharie Valley in New York, and at Moose, Wyoming; 6. his large and significant written contribution to science -- he has published 258 papers to date; 7. his continuing research to measure the atmospheric fine particles and ozone on a continental scale. This along with his thought-provoking theories on gaseous-aerosol reactions which he suspects are inherent balancing features of the global atmosphere.

Dr. Vincent J. Schaefer's professional career in science began in 1931 when he was selected by the Nobel Laureate, Dr. Irving Langmuir, to be his laboratory assistant. Schaefer was at that time a model maker in the instrument shop of the General Electric Research Laboratory.

Within a few years he became a Research Associate, working with Langmuir on basic studies in surface chemistry. During this period, Schaefer's studies and published papers included: ion absorption by monolayers, light scattered by single and built-up molecular layers, methods for conditioning molecular surfaces, the properties of protein monolayers, and the reduction of the evaporation of water caused by the presence of a compressed molecular layer on the surface.

In 1943, he became involved with atmospheric studies, first in the problems of radio static aboard military aircraft caused by flights through falling snow, and later in many aspects of aircraft icing problems. Much of this work was conducted at Mt. Washington Observatory during the mid-40's, and was done in collaboration with Dr. Langmuir and members of the Observatory.

In 1954, he left the G. E. Research Laboratory, after being with the company for thirty years, to become Director of Research of Munitalp Foundation. His work with the Foundation led to the establishment of Project Skyfire within the U. S. Forest Service, to the support of a number of projects in atmospheric physics and electricity, some of the early work of Rheil, Fujita, Fuquay and others.

In 1959, he inagurated the first summer program in the atmospheric sciences, supported by the National Science Foundation, for high ability high school students. Between 1963 and 1968, with support of the Charles F. Kettering Foundation, he conducted a summer field program for high ability students. Nearly 500 students from all parts of the United States have participated in these programs. These summer programs were organized by the Natural Sciences Institute, of which Schaefer is founder and the Director.

Dr. John Spengler, a member of the Department of Environmental Health Sciences, Harvard University, recently wrote to Vince about his NSI experience--- "It was twelve summers ago that you led us up the San Juan Mountains of Southern Colorado. The smallest mountain onion and bog sediments that we were too quick to step over, to the grandeur of an evening electrical display were the elements of your classroom demonstrations. You showed us how, and then challenged us to observe. And from the simple vibrations of a drop evaporating on a hot plate, my latent appetite for discovery emerged. Your lessons have left a lasting impression.

Now, in 1976, the year of your "pseudo-retirement", you are once again leading the way for many of us. In observing your continuing exploration of nature, we see you demonstrating the key to vitality, the excitement, thrill, and delight of discovery".

In 1959, Vince Schaefer was appointed Distinguished Lecturer in Science at the State University of New York at Albany, and is now Professor Emeritus of the Atmospheric Sciences, and past Director of the Atmospheric Sciences Research Center. He retired in June of this year from his position at the State University.

Schaefer has received a number of awards, including:

Oustanding Young Man of the Year by Junior Chamber of Commerce in Schenectady, 1940,

Elected a Fellow of the Rochester Museum of Arts and Sciences, 1943,

Award for Outstanding First Paper by American Geophysical Union, 1948,

Recipient of the Robert M. Losey Award of the Institute of Aeronautical Science, 1952,

Award for Outstanding Contributions to Applied Meteorology of the American Meteorological Society, 1957,

Recognition by the American Meteorological Society as a Certifieid Consulting Meteorologist, 1960,

Elected a Fellow in the American Association for the Advancement of Sciences, 1955; the Woods Hole Oceanographic Institute, 1959, the Commonwealth Scientific and Industrial Research Organization of Australia, 1960; and the American Meteorological Society, 1967.

Received an Honorary Sc.D. from the University of Notre Dame, 1948.

Vince Schaefer likes to talk about Langmuir University where he received his higher education. Langmuir University was one of the most exclusive educational institutions that ever existed. Few people gained admittance. There was no curriculum. Classes were never held on a schedule. A diploma was the last thing anyone thought of. Dr. Irving Langmuir, the Nobel Laureate and one member of the university faculty, would come to his laboratories at the General Electric Research Laboratory, Schenectady, N.Y. and just start talking, writing and working. Sometimes he wrote on a blackboard, sometimes he doodled on a piece of paper, and sometimes he wrote vigorously in his notebooks. Always Langmuir was intensely keen and his eyes shone as though a bright light was burning deep inside. One advantage Langmuir University had over other schools was that the students could earn as they learned.

With his latest birthday on July 4, 1976, Vince is now 70 years old. In early August, he told the International Weather Modification Conference gathered in Boulder, Colorado: "I am going to continue to do what I have been doing". He then proceeded to describe his broadly ranging studies of atmospheric particulates and gases. It is apparent to all who know him that Vince keeps going because he is built that way. You can see it in his gardens and greenhouse in his backyard; he does solar energy experiments there. You can see it in the basement of his home; there's a microscope in a closet; a darkroom and photo laboratory in one corner, a surface chemistry experiment tank in another (the one used by Langmuir when he won the Nobel prize), large and small cold chambers with spot lights, racks of tools and instruments, and in front of the huge fireplace some comfortable chairs where he spends countless hours in joyful reading. You can see it in his study filled

with notes, books and papers. You can see it at six or seven o'clock every morning when he is up and outside with his Gardner Counter measuring the fine particles in the atmosphere, and making notes which begin another day of observations. You can see it in the unusual beauty of his color slides, indicative of extra care he gives to photography. You can see it in his face as he looks at clouds and speaks of them as though they were members of the family.

I awoke this morning

with devout thanksgiving for my friends,

the old and the new.....

the lovely and the noble minded,

as from time to time they pass my gate.

Who hears me,

Who understands me, becomes mine

- a possession for all time.

Emerson