

*The Presidential Address*

## Volunteers advancing environmental technology

*ASHRAE incoming President David S. Butler addresses the Society's theme for the coming year*

*The text of the inaugural address delivered at the Annual Meeting of the American Society of Heating, Refrigerating and Air-Conditioning Engineers Inc., Vancouver, British Columbia, Canada*

Over the years, I have seen ASHRAE improve environmental technology. You, the member/volunteer, are responsible for all those advancements through your involved work writing standards, reviewing *Handbook* chapters and organizing chapter seminars. Another area is through research. Get ready to see the message, which is made possible by you.

Volunteers advancing environmental technology—I want to speak to that. But first, let me say that I am deeply honored and very grateful for the opportunity to serve as your president as we leave the '80s and enter the '90s—the final decade of this century. It is, indeed, an exhilarating experience and, at the same time, a humbling experience. It is so because one does not achieve in a vacuum.

Throughout my ASHRAE experience, many people have provided motivation, encouragement, guidance and support. And, you, my peers, have trusted the stewardship of the Society to me.

ASHRAE—a technical Society that serves the public—our sole objective is stated in our bylaws:

“—advancing the arts and sciences of heating, refrigeration, air conditioning, ventilation, their allied arts and sciences, and related human factors for the benefit of the general public—”

In doing so, we also must recognize the effect of our technology on the environment and natural resources in order to protect the welfare of posterity. My objective as your president this next year is to emphasize the volunteer aspect of ASHRAE while giving equal billing to what you, the volunteers, do—advance environmental technology.

I believe in order for us to truly anticipate the future and to understand where we, as a technical Society, are going, we must first understand the past and the present.

The last 15 years have brought about dramatic change in the way we live and conduct our business. In 1972, we experienced the Arab oil embargo, which resulted in an energy cost crisis. Since then, our energy costs have doubled approximately every seven years. But more importantly, it has caused us to focus on the fact that our energy resources are, indeed, finite and our indigenous supplies are waning.

In 1975, ASHRAE assumed international leadership in the development and promulgation of building energy conservation standards by developing Standard 90, which created an entirely new “mind-set” for energy-efficient building design.

Beyond this, we, as a Society, have witnessed massive government deregulation and its impacts. Now, we are seeing tax reform, which is revolutionizing building investment strategies for building owners and developers. Short-term owners are becoming long-term owners—with a strong focus on energy-efficient buildings and effective building systems management.

### Corporate owners

This addresses the increased interest of corporate owners in the quality of the environment in their building—the quality necessary for the health and productivity of the occupants.

Wendell Wilkie, the Hoosier republican opponent of Franklin Roosevelt in 1940, after an around-the-world trip, predicted a “one-world” economy. We have indeed transitioned from a national economy to a global economy with the ensuing balance of trade and currency devaluation upheavals we are experiencing today.

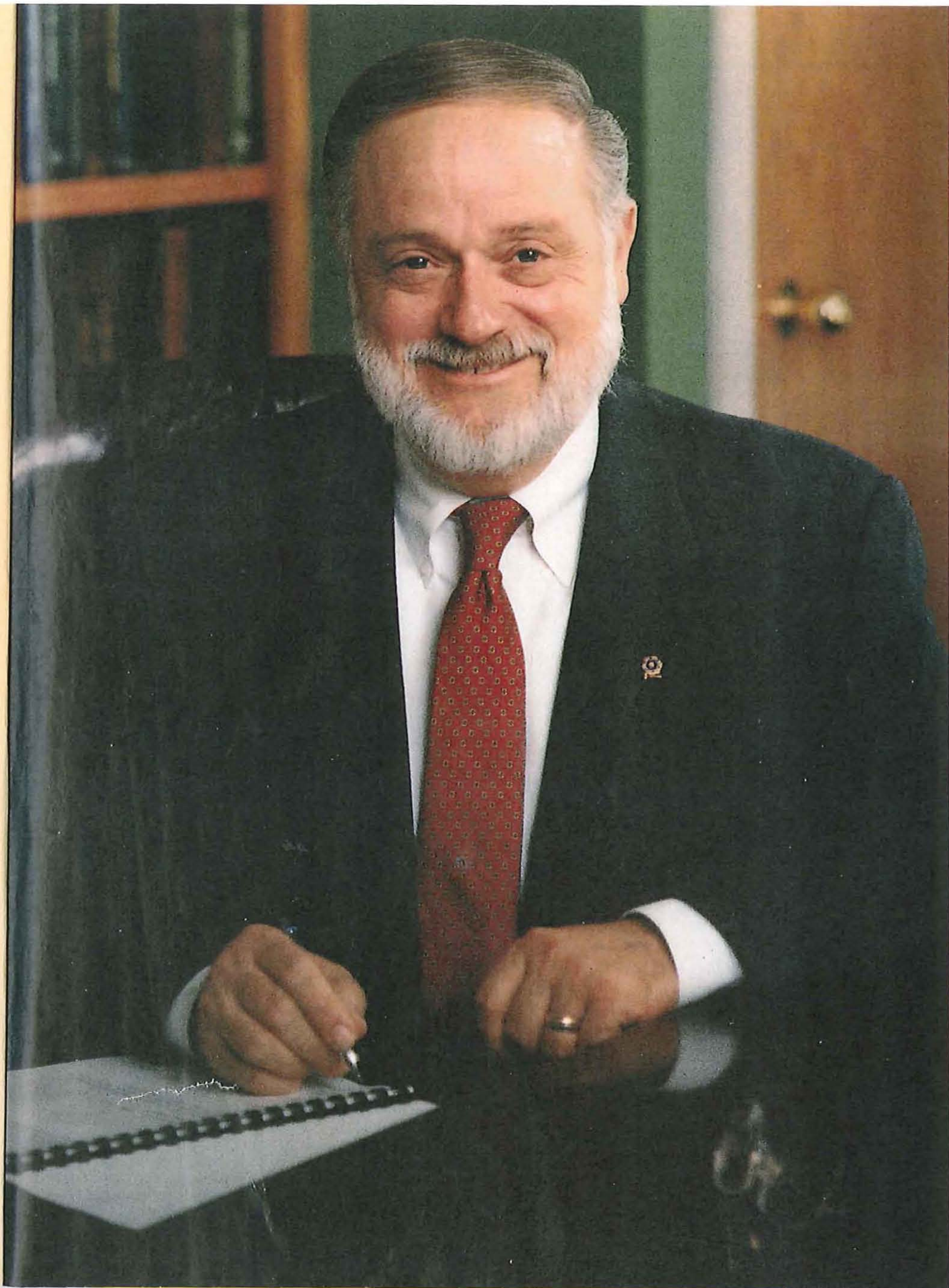
Combined, these issues—indoor air quality and the global economy—have created a strong need for a concentrated focus on increased productivity and building marketability for investors to remain competitive in the global marketplace.

What does the “productivity crunch” mean to building owners and developers? It means they must differentiate their buildings from competitors’ buildings by providing safer, healthier and more productive indoor environments—all of which are necessary in order to maintain acceptable occupancy rates and cash flow. Combined, these elements translate into a building’s marketability and resale value.

As we enter the '90s and approach the 21st century, we in ASHRAE must renew our efforts to continue to strive to bring forth new technological advancements; advancements that not only address national issues, but, equally important, global issues. Issues that not only impact our members’ abilities to live, work and play in a healthy environment, but also the general public. If we are not diligent in our efforts, our stewardship of both indoor and outdoor environmental quality will be seriously challenged.

A prime example is provided by the dichotomy that exists in our efforts to improve energy utilization and indoor air quality. To







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conserve energy, we now design and construct tighter, more energy-efficient buildings with lower heating, ventilating and air-conditioning loads through better envelopes, lower glass content, task lighting and reduced amounts of outside air—all of which have the potential to create indoor environmental quality problems.

Another example has resulted from the public's demand that power generating facilities not utilize nuclear energy to provide for the ever-increasing demand for electricity. As a result of this demand and the desire to develop and utilize our abundant supplies of fossil fuels, many power generating facilities have moved toward the use of coal as a primary fuel.

In turn, this has created problems with the discharge of the unaltered by-products of coal combustion into the atmosphere. A discharge that threatens to seriously damage the quality of our lakes and streams due to a phenomenon we call "acid rain."

### Chlorofluorocarbons

Beyond this, scientists have determined that our stratospheric ozone layer, which protects not only humans, but our very ecology, is being depleted by the excessive discharge of fully halogenated chlorofluorocarbons (CFCs) into the atmosphere.

Add to this the depletion of rain forests and other vegetation—plus the increased discharge of by-products of hydrocarbon combustion into the atmosphere—and we have an emerging and perhaps an even more serious issue, which we have labeled the "greenhouse effect." If, indeed, it is as serious as some believe, the resulting global warming effect could literally change the way we live and where we live.

Jessica Matthews, vice president of the World Resources Institute, warns, "Despite the power of modern technology, mankind depends on the normal functioning of the planet, especially the climate system. Greenhouse change will create human upheaval. We don't know where or when or exactly how, but we do know that there will be no winners."

I believe these issues—living and working in a global economy, energy conservation, indoor air quality and outdoor air quality—are the major issues that we must deal with during the '90s and perhaps on into the 21st century. They will present unprecedented challenges to our industry, ASHRAE and the world. These challenges are great opportunities for ASHRAE to advance environmental technology to better serve future generations.

What can we, as a Society, possibly do about problems of such magnitude and complexity? Very simply expressed, what we have been doing and what we are doing now! But, we must expand and intensify our efforts in the areas of research, standards, handbooks and continuing education for our members.

With the emphasis directed toward these issues, we must be innovative and we must reach out beyond our usual horizons. We must "stretch the envelope," for this is truly an age when the only way of really discovering the limits of the possible is to venture a little way past them into the impossible!

### Who will venture out?

We have covered the what and the how, and now the question is who. Who is going to venture past the possible into the impossible? This answer also is simple. The very same committed dedicated member volunteers and professional staff members of ASHRAE who have unselfishly and untiringly led the way in HVAC&R technology the past 95 years!

I dare say, there is not a technical Society on this earth that can look at the heritage of its predecessors with the sense of pride and accomplishment as can ASHRAE members. When the account is totaled, their contributions to the improvement of man's quality of life have been extraordinarily unselfish. HVAC&R science and technology have grown like a coral atoll, through the contributions of literally thousands of men and women—for the most part unknown and unsung—who have found a sense of fulfillment in the making of a better way of life for mankind.

Why do ASHRAE members volunteer? Why do they commit so much of their energy, knowledge, time and financial resources to the Society's effort to advance our industry's technology? That answer, I believe, lies not in engineering or technology in particular, but rather in a philosophy of life. William Wickenden, educator, engineer, philosopher and humanitarian in his publication *The Second Mile* quoted the following text from the sermon on the mount: "Whoever shall compel thee to go one mile—go with him twain."

He stated that his text "is a counsel of perfection—good advice in the form of a paradox, which emphasizes a profound truth by an apparent denial of common sense." He went on to say that "every calling has its mile of compulsion; its round of tasks and duties, its prescribed man-to-man relationships, which one must traverse daily if he is to survive."

Beyond that is the mile of voluntary effort where men strive for special excellence, seek self-expression more than material gain and give that unrequited margin of service to the common good, which invests work with a wide and enduring significance—"the ideal of a second mile" holds good in almost every area of life.

"In the first mile, men must work to live; in the second, they work to maintain their sense of worth and dignity. In the first mile, men seek subsistence and tangible rewards; in the second mile, they strive for the durable satisfactions of life. In the first mile, men seek pleasure; in the second, they find happiness —"

Pleasure is different from happiness. While pleasure is a mere diversion of the moment, happiness is experienced through more complete being and giving, rather than through winning and getting. This sense of fulfillment is the true goal for which athletes compete, artists strive, scientists search and men and women in all professions give their best effort.

The active ASHRAE volunteer is not content with the effort of the first mile toward the advancement and success of his career and employer. He, of course, wants to give an honest day's effort in his work, but recognizes that it only pays his debt to the present. His debt to the past, however, must be considered—this debt for the inheritance of knowledge generated over the ages for his use.

Our volunteers recognize the only way this debt can be repaid is by passing on similar benefits to future generations. They recognize that while they can expect benefits in terms of money or service for their skills, their knowledge should be regarded as a part of a common resource from which they are free to draw, but it is one that they are also obligated to "put something back" into.

Many of our members, lacking the ability to become personally involved in our efforts, nonetheless, have recognized this same obligation. They have discharged this debt by joining with us and supporting our efforts to conduct research, disseminate technology and preserve our heritage.

In closing, let me remind you that all of mankind is facing a future of uncertainty. The "ifs" of our lives begin within ourselves and extend to the furthestmost bounds of human destiny. Many of the "ifs" are in our hands.

If we are to be able to advance our industry—

If we and future generations are to have a healthy environment in which to live and work and play—

If we and future generations are to have the opportunity to have comfortable homes and workplaces and enjoy time-saving transportation—

If we are to help the world to defeat famine and disease—

If we are to help the world raise the standard of living and quality of life for all mankind—

If any of these feats are to be accomplished, we in ASHRAE have a vast and challenging job to do. While we cannot hope to do it alone, and must have the help of men of good will in every calling, without us it could never happen. The very foundation of HVAC&R technology would be lacking and the new world of men's dreams would be only words.