

A Tribute to Al Bartlett (1923-2013)

By FRED ELBEL

Al Bartlett found adventure as a young man in 1941 as a dishwasher on a Great Lakes iron ore freighter.

He became part of the Manhattan Project in 1944, knowing practically nothing about the project when he signed up. He worked for 25 months at Los Alamos, where he encountered well-known physicists of the Heroic Generation, including Neils Bohr, Fermi, and Richard Feynman. He then worked on high-speed photography of the atomic bomb test at Bikini Atoll.

Al found physics to be immensely interesting, and he subsequently obtained a B.A. degree from Colgate University and M.A. and Ph.D. degrees in Nuclear Physics from Harvard University in 1948 and 1951.

Dr. Albert A. Bartlett then joined the faculty of the University of Colorado in Boulder as a Professor of Physics in 1950. He became a Fellow of the American Physical Society and of the American Association for the Advancement of Science. In 1969 and 1970 he served two terms as the elected Chair of the Faculty Council of all four campuses of the University of Colorado.

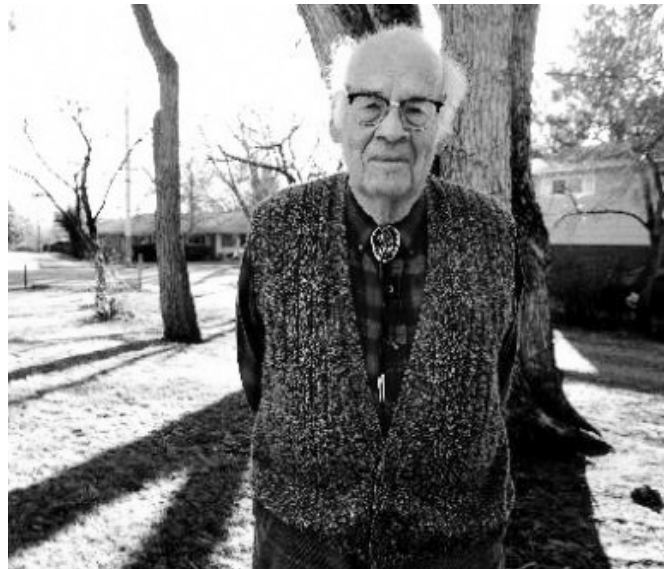
Prof. Bartlett was one of Colorado University's most revered and exceptional teachers. He introduced generations of young scientists and engineers to basic physics. He was President of the American Association of Physics Teachers in 1978 and in 1981 he received their Robert A. Millikan Award for his outstanding scholarly contributions to physics education.

Professor Bartlett was notably influential in his community of Boulder. He was a founding member of PLAN-Boulder County, a city and county environmental group. In the late 1950s, he was an organizer of a citizens' effort to preserve Boulder's open space. This led to the formation of the City of Boulder's Open Space Program, which by 1999 had purchased over 26,000 acres of land for open space preservation. He was an initiator of the "Blue Line" amendment, which kept housing from being built into Boulder's foothills — simply by restricting city water lines to a maximum elevation.

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Prof. Bartlett commented in a 2005 interview on the prevailing pro-growth political paradigm:

Many years ago I was discussing this with a Colorado State Senator. At one point he said, "Al, we couldn't stop Boulder's growth even if we wanted to." I agreed, but said, Therefore let's put a tax on growth so that it pays its way. He almost shouted, "*You can't do that, you'd slow down our growth!*"



Al Bartlett

He pointed out the consequences of unending growth, no matter how it is framed:

Remember that politicians will try to claim that there isn't a conflict between saving the environment and smart growth. Unfortunately, both smart growth and dumb growth destroy the environment. The only difference is that smart growth destroys the environment with good taste. It's like buying a ticket on the Titanic; if you're smart you go first class. But the outcome is the same... the boat still sinks.

Prof. Bartlett observed that:

Carrying capacity is a measure of how many people can be supported indefinitely. There-

fore if any fraction of global warming is due to the actions of humans, this alone proves that human populations are larger than the carrying capacity of the earth. Sustainability requires that the size of the population be less than or equal to the carrying capacity of the ecosystem for the desired standard of living.

Bartlett realized that most people do not understand the ramifications of compounded or exponential growth — as Garrett Hardin noted, many are innumerate. He therefore developed his celebrated lecture, “Arithmetic, Population, and Energy,” in 1969. He subsequently presented it 1,742 times to audiences ranging from junior high and college students to corporate executives, congressional staffs, and scientists. He began every lecture with the statement:

The greatest shortcoming of the human race is our inability to understand the exponential function.

Prof. Bartlett was awarded the Lifetime Achievement Award from the University of Colorado Environ-

mental Center, the Gilbert F. White Award of PLAN Boulder County, and the Pacesetter Award for Lifetime Achievement in the Boulder Community. He was awarded one of the first annual M. King Hubbert Awards for Excellence in Energy Education at the ASPO-USA Denver World Oil Conference in 2005. In 2008, he was awarded the Population Institute’s 2008 Global Media Award for Excellence in Population Reporting.

Al Bartlett was a personable and wise man. He concisely stated his “greatest challenge” as:

Can you think of any problem in any area of human endeavor on any scale, from microscopic to global, whose long-term solution is in any demonstrable way aided, assisted, or advanced by further increases in population, locally, nationally, or globally? ■

Prof. Bartlett’s articles are presented along with interviews and his famous lecture on his website www.AlBartlett.org, created by the author. View a 10-minute tribute video to Al Bartlett by the author: www.albartlett.org/about_al_bartlett/prof_al_bartlett_tribute.html

AL BARTLETT IN HIS OWN WORDS...

“We’re all interested in sustainability. And if you look at the arithmetic, you get enormous numbers if you have modest rates of growth for modest periods of time.... These astronomical numbers that you get can not be sustained. And sustainability has to mean for a period of time that is long compared to a human lifetime.”

—2009 ASPO-USA conference on peak oil, panel discussion

“[People are] complimentary about the talk [Arithmetic, Population, and Energy]. And they want to know ‘What’s the solution?’ My answer has been that there may be problems that don’t have solutions, especially if you mean some pleasant extension of our present lives.”

—Fall 2005 *Social Contract* interview with Paul Nachman

“The first law of sustainability is that you can not sustain population growth; you can not sustain growth in the rates of consumption of resources. That’s just arithmetic — it isn’t debatable. It doesn’t matter what the Congress says.”

—2009 ASPO-USA conference on peak oil, panel discussion

“Nobody mentions population growth.... Why don’t we speak out on it? The average person on the street...tabulating what they hear on the news, would never guess that overpopulation is a problem. Yet our leaders, by and large, are totally silent about it.”

—2009 ASPO-USA conference on peak oil, panel discussion