## Three remembrances of Harold Morowitz, by his friends and collaborators at the Institute of Ecotechnics

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FROM JOHN ALLEN, Inventor, Biosphere 2

Harold Morowitz was a marvelous scientist, friend, ally, and total systems thinker. Obviously Biosphere 2, of which Harold served as a Scientific Advisor, benefited greatly from his thought, right-on comments and suggestions, as did so many others working in cutting edge life sciences. Harold also mastered the art of intelligent conversation and brought a civilizing grace to the most ardent arguments on the fine points of complex life systems.

John Allen, FLS

FROM MARK NELSON, Chairman, Institute of Ecotechnics and Biospherian.

Harold was a key advisor to the Biosphere 2 project. He served on its Scientific Advisory Committee and continued as a consultant through the end of the first two-year closure experiment and a second closure experiment. He had an amazingly broad scope of scientific work – from the origins of life, energy flow in biology to Earth evolution and the expansion of life outside our planet. He became a dear friend to many of us at Biosphere 2 and in the Institute of Ecotechnics. Harold participated in the Third International Conference on Closed Ecological Systems and Bioregenerative Life Support in April 1992 at Biosphere 2 and inspired us by speaking about how this new type of facility could help ecology become an experimental science. He was also a real mensch and a one-of-a-kind human being.

Mark Nelson, Chairman, Institute of Ecotechnics

## FROM KATHELIN GRAY Co-founder, Institute of Ecotechnics

For 20 years, Harold was a friend and colleague of some of us in Institute of Ecotechnics. He was one of those special scientists who never lose track of their humanity- a great guy to have a pizza and beer with. His boundless enthusiasm and curiosity about the origins of life were happily infectious. When others became cynical about our efforts at Biosphere 2, he gave us cheer, rigorous feedback, creative suggestions, and courage.

He said: "Biosphere 2 provides, for the first time,

the possibility of conducting controlled, large-scale ecosystem ecology experiments. Modem Physics

emerged when Galileo conducted experiments that yielded numerical data. Biosphere 2 provides a setting for the same type of transformation in ecology as occurred in physics." (Morowitz, 1994)

What a guy, what a mensch.





