

DR. SETI'S STARSHIP

Searching For The Ultimate DX

Remembering Allen Tough

Regular readers of this column may recall that in last quarter's installment I promised to tell the tale of Kenny Schaffer, N2KS, and the fall of the Soviet Union. Unfortunately, I must now put that story on hold in order to pay tribute to a recently departed colleague.

One of the most creative voices in the SETI field has been silenced. Prof. Allen Tough died of pneumonia on 27 April 2012 at the age of 76. With his passing, not only has science lost a brilliant mind, I have lost a dear friend.

For more than four decades, Allen Tough, Ph.D., was globally recognized as a pioneering scholar in adult learning, self-directed growth, and personal change. His seminal contributions to the field date back to the 1960s, and his research illuminated adults' successful efforts to learn and change. More than 90 major studies in 11 countries were based on Tough's early work.

Tough's inquiry contributed to an expansion of the dialogue on adult learning to include self-directed learning. He was instrumental in catalyzing movement from research focused primarily on who participates in organized adult education, to one which embraces the entire range of intentional adult learning.

Allen wrote seven books and numerous articles and papers over the span of his career. His book *The Adult's Learning Projects* was chosen as one of the ten classical books in adult education. He was named "one of six most often used authors" in a survey of the Adult Education Association in 1978. Allen received The Malcolm Knowles Memorial Award for significant lifelong contribution to the field of self-directed learning in 2006. Later the same year, he was inducted into the International Adult and Continuing Education Hall of Fame.

In addition to his studies on the adult learner, Tough was an active researcher in the fields of futures studies and the scientific search for extraterrestrial intelligence (SETI). His book *Crucial*

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Longtime SETI League member and adult education innovator Prof. Allen Tough is seen in this May 2006 photo with his wife, Cathy Rand, during his induction into the International Adult and Continuing Education Hall of Fame in Dallas, Texas. (Ralph Brockett photo, used with permission)

Questions About the Future was translated into Spanish and Chinese. He coordinated the World Future Society's Web forum on future generations and was recognized as a Fellow of the World Futures Studies Federation, the International Academy of Astronautics, and the British Interplanetary Society.

Allen joined The SETI League as a Charter Member in 1995, but we didn't meet in person until a year later, when we both chanced to attend a bioastronomy conference in Capri, Italy. We became instant friends and spent much of that week in the company of SETI pioneer Prof. Philip Morrison, W8FIS, whom I memorialized in a previous column (*CQ VHF* 8(2):82, Summer 2005).

Almost everyone who thinks and writes about the search for extraterrestrial intelligence agrees that the technology of any civilization we detect will be thousands or even millions of years beyond ours. In SETI papers he published in 1986 and

1987, Tough discussed the likelihood that such a civilization can (one way or another) reach or study our solar system. In November 1994 he began to focus more intensively on such a possibility. One year later, at the Boston Museum of Science, he devoted his Wright Lecture on Cosmic Evolution to this topic, specifically to the feasibility of a small, smart interstellar probe reaching our planet. During 1996, at SETI and Contact conferences in California, Capri, and Beijing, he presented papers that furthered this topic. A year later he incorporated these papers into a foundation paper on small smart interstellar probes for the *Journal of the British Interplanetary Society*.

Throughout 1995 and early 1996, Allen pondered how to detect extraterrestrial intelligence if it had, in fact, reached Earth. Finally, in June 1996 he came up with a fresh and promising approach. He realized that the World Wide Web enabled a new search strategy. It was now possible to switch from detecting to inviting. Instead of figuring out how to detect extraterrestrial intelligence, humans could simply use the Web to invite contact.

In 1997, after 33 years as a faculty member at the University of Toronto, Allen Tough decided to retire early so that he might devote the balance of his time and energy to his research interests. Chief among these was the groundbreaking *Invitation to ETI*.

The logic of this idea is simple. As Tough read and thought about the long-term future of human civilization and technology, he realized that a highly advanced civilization or intelligence would likely be able to study our civilization in detail. Humans will likely achieve a similar capability within 200 years, and NASA is already trying to design an interstellar probe; such feats should be easy for an intelligence and technology thousands of years older than we are.

Tough realized that a highly advanced intelligence could learn our languages and learn about our civilization in great detail. In particular, it could monitor our

(Continued on page 82)

Dr. Seti (from page 84)

television broadcasts, our fax and e-mail communications (as some of our human security agencies do already), and of course our World Wide Web and its search engines and directories. As a result of this insight, Dr. Tough drafted an online message inviting contact with extraterrestrial emissaries, be they biological or technological.

In the early stages of this effort to contact extraterrestrial intelligence (in whatever form it has reached our solar system), about 20 individuals were listed as an informal advisory panel. On October 27, 1998, a much larger group issued the present Invitation to ETI (<http://iet1.org>), with Allen Tough serving as coordinator. This continuing group now includes 100 Signatories—primarily scientists, futurists, artists, and thinkers—who continue to contemplate interstellar contact.

Allen was a SETI League Charter Member, an active member of the SETI Permanent Study Group of the International Academy of Astronautics, established and underwrote the Bingham Cutting Edge Lectures presented at the annual International Astro-

nautical Congress, edited the online academic journal *Contact in Context*, initiated that journal's "Best Ideas Awards" (one of which I was honored to receive), was founding chair of the SETI League's Strategic Planning Committee, and served as a SETI League volunteer Regional Coordinator. The SETI League honored Allen Tough in 2003 with its Orville Greene Service Award.

In late September of 2001, Allen and I traveled together to Toulouse, France for the annual International Astronautical Congress. Since the total extent of my French fluency is a polite *bon jour* or *merci*, I was relieved to be accompanied by a Canadian colleague fluent in the French language. During our first meal together on French soil, Allen ordered for us in a small café. Much to our astonishment, the waiter understood not a word of his Canadian French. After retreating to English, Allen mused, "I don't see how we can possibly hope ever to communicate with extraterrestrials!"

Around that time, Allen began exhibiting symptoms of Multiple System Atrophy, a degenerative neurological disorder initially misdiagnosed as Parkinson's disease. For more than a decade,

as he struggled to manage his symptoms, Allen continued to make significant intellectual contributions to his three chosen fields of research: adult learning, futures studies, and the Search for Extra-Terrestrial Intelligence. Those contributions will be sorely missed by researchers in all three fields. During the last few days of his life, despite having lost the ability to communicate verbally, Allen was actively involved in the analysis of a still unverified SETI candidate detection. He continued to do so with warmth, humor, humility, and great dignity.

The SETI League extends its profound sympathies to Allen's wife, Cathy Rand, his daughter Susan, and his son Paul. In their capacities as its CEO and webmaster, respectively, Susan and Paul are keeping *Invitation to ETI* alive and active. It is a lasting legacy to Allen's work and vision, and I am honored to continue serving as the project's Chief Scientist.

Allen's sage advice and warm friendship have had a profound influence on my personal and professional lives. For the rest of my days, I shall continue to feel his hand on my shoulder, gently guiding me.

73, Paul, N6TX

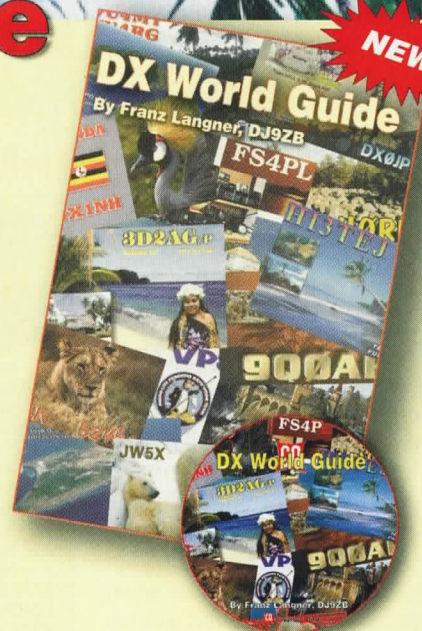
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