

Columns

Technically Speaking



Derek Schuurman

Ham Radio – from a hobby to a vocation



Derek in 2014 testing his updated ham radio equipment.

Although I now teach computer science, my first fascination with technology was not with personal computers, but radio. Radio is often viewed as an antiquated medium from a bygone era, but it captured my imagination as a young boy. I can still recall playing with my grandfather's old glowing vacuum-tube powered shortwave radio, spinning the tuning dial as the needle whizzed across the band searching for stations amongst various chirping and beeping sounds broadcast by mysterious beacons and satellites. I could hear broadcasts from distant places around the world, stations such as Radio Moscow, Radio Netherlands and the Voice of Free China (Taipei, Taiwan). I was fascinated by these exotic signals; how in the world did these radio

waves propagate around the globe?

It wasn't long before I was reading books from the library about how certain shortwave broadcasts could "bounce" around the earth, reflecting off a charged layer of the atmosphere called the "ionosphere." I also learned that I didn't just have to listen to these signals; if I become a "ham radio" operator I could also talk to distant stations. But becoming a ham (or "amateur" radio) operator requires a license, one that involves a series of examinations covering Morse code, rules and radio theory. After failing the Morse code exam a number of times, I was finally awarded my license at the age of 17. Unable to afford the purchase of a new ham radio station, I began to build my own "home-brew" radio station. With the help of other hams and technically-inclined friends (people referred to as an "Elmer" in ham circles), I cobbled various surplus parts into a simple transmitter built around a single vacuum tube. Although my very first contact was with a person in Stouffville, Ontario (a disappointing distance of only 30 km or so), I have since made many contacts all around the world. Some contacts are quick exchanges of names, location and signal reports, while others stretch into personal chats, referred to as "rag-chewing" by ham radio insiders.

Resilient communication

As a new ham, I also joined a local ham radio club in town. As a club we participated in an annual "field day" – camping out in a remote location and setting up various temporary antennas with radios powered by bus batteries and generators. We competed with other clubs to collect as many contacts as possible in a 24 hour period, an exercise that served as preparation for possible emergencies in which damage to infrastructure often leaves ham radio as one of the few means of communication.

At another club, I participated in a "fox hunt" – a contest in which someone hides at a remote location, making occasional radio broadcasts, while competing hams seek out the "fox" by driving around with radio direction-finding equipment. Activities such as these are fun, but they also spur further technical innovations. Some experiment with homebrew equipment, satellite links, digital communications or even "moonbounce" (using the moon to reflect radio waves).

It was ham radio that spurred my original interest in electronics, which later led me to study electrical engineering. I am grateful that I had a hobby that helped shape my vocation as an engineer, and now as a professor. As I continued my studies and began a career and a family, my hobby was set aside for a number of years. However, I recently updated some of my equipment and re-strung an antenna line in the backyard. The delight I now feel contacting a distant station is reminiscent of the delight I felt as a young boy hearing shortwave stations from exotic locales. There is something delightful in rediscovering a hobby you once enjoyed.

In a world where one can travel to distant websites in a click, and where one can tweet or post to a global audience, is ham radio still relevant? In her 1989 Massey Lectures on technology, Ursula Franklin suggests "there still exists a particular enclave of personal directedness and immediacy: the world of the ham radio operator. It is personal, reciprocal, direct, affordable. . . . It is a dependable and resilient source of genuine communication." I am thankful to God for the possibilities in creation that enable a string of wire in my backyard to beam a signal up to the ionosphere where it can bounce around the world connecting me to new people and places – and to my current vocation as well. ✂

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