Project Cyclops: The Greatest Radio Telescope Never Built

Robert Dixon,
Acting Director, Ohio State University Radio Observatory

3.1 Introduction to Project Cyclops

Each summer NASA sponsors a number of research and development projects at their various research centers across the country, often in cooperation with a nearby university. Selected groups of university faculty and professionals are brought together to study some research problem of interest to NASA, and to provide continuing education for the participants. The great advantage of these summer research programs is that NASA gains the experience of talented people who can look at problems with fresh eyes and no preconceived solutions. The participants are freed from their normal day-to-day responsibilities, and can let their imaginations run wild and be totally dedicated to the problem at hand. These programs are exhilarating, wonderful and can even be career-changing experiences.

In 1971 the NASA-Ames Research Center, Stanford University and the American Society for Engineering Education organized one of these studies, called Project Cyclops. Twenty Faculty Fellows from many universities across the country and fields of study worked together for 11 weeks on this specific objective:
“To assess what would be required in hardware, manpower, time and funding to mount a realistic effort, using present (or near-term future) state-of-the-art techniques, aimed at detecting the existence of extraterrestrial (extrasolar system) intelligent life.”

The Fellows were from electrical engineering, mathematics, management science, civil engineering, space science, astronomy, and mechanical engineering. But it was clear from the beginning that this was no ordinary summer study project. Two superstars co-directed the program: John Billingham, Chief of the Life Sciences Division at NASA-Ames Research Center (Figure 3.1), and Barney Oliver, Vice President of Research at Hewlett-Packard corporation (Figure 3.2). And many other famous people came to NASA-Ames to give presentations and advice to the study group, including Philip Morrison (MIT), Ronald Bracewell (Stanford), Sebastian von Hoerner (National Radio Astronomy Observatory), Richard Goldstein (Jet Propulsion Laboratory), Gordon Pettingill (MIT), Martin Rees (Cambridge University, UK), David Heeschen (Director of the National Radio Astronomy Observatory) and others. These people all realized that Project Cyclops was a very important milestone in the progress of SETI, and they wanted to be part of it.

All these summer projects produce a final report for internal NASA purposes. They are in the public domain, but usually little known afterwards.

Figure 3.1 John Billingham, Chief of the Life Sciences Division at NASA-Ames Research Center.