

Reflections on my years with Riccardo, 1983-1993

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I was hired at the Science Institute in early 1983 after a brief interview with Don Hall and after a phone call from Riccardo to Bob Novick at Columbia to check on my PhD work at Columbia. My eight years at Steward Observatory, twenty papers, and design of a half-dozen optical instruments meant little compared to working on X-ray payloads with Roger Angel, Paul VandenBout, and Marty Weisskopf -- -- all the graduate students avoided Novick whenever possible.

I loved working at the Institute and my training in “science management school” comprised of weekly senior management meetings, attending science working group meetings, often in lieu of Don or Riccardo, observing the Kabuki theatre of the NASA Monthly and Quarterly Reviews and AURA’s Reviews of the STScI led by Lyman Spitzer.

The other senior scientific management staff, which included Ethan, Rodger, Duccio, and Barry Lasker, had joined the Institute a year before me and had a head start. But I quickly got up to speed on the major mantras:

- A) Science System Engineering: designing sample science observations in great detail along with all the prerequisite spacecraft operations. Use the results of these thought experiments as technical truth.
- B) Rely on “technical truth” (hard data) before other assumptions in planning, or setting requirements for software or hardware.
- C) Never go to a meeting without knowing what you want to get out of it and prepare accordingly.
- D) Never present more information than is absolutely necessary. Each presentation should have a simple message and be perfectly smooth (offer no avenues of attack.) Prepare in advance for likely attacks/questions (go back to D).
- E) When in doubt or when enthusiasm is flagging (like after a launch delay), hold a major review and invite NASA (and/or AURA) to attend (but not lead!). Follow A—D
- F) Always prepare for the Future: Riccardo’s support for post Hubble missions, began well before the Hubble launch date and led ultimately to JWST and multiple roles for the Institute on mid-scale missions.

We had many occasions to exercise these steps both before and after launch in 1990. Also, our scientific and engineering staff were well regarded and often asked to participate in external teams and reviews. But we didn't catch the error leading to the Hubble primary having spherical aberration since it occurred so early in the program. But many of us, in particular Holland Ford, Jim Crocker, Bob Brown, Chris Burrows, and Pierre Bely helped fix it.

Training Films

Our training films were actually drawn from Riccardo's extensive VHS collection. We had seen most of them on our own or in one of the many retreats:

Lawrence of Arabia (1962): When he was in a good mood and challenged by someone at the STScI, Riccardo would sometimes exclaim "I am a river to my people!" This was a line spoken by Anthony Quinn to the thunderous response from his Arab tribe. Lawrence replied that Quinn was keeping most of the Turkish bribes for himself! Riccardo would just smile.

Pretty Woman (1990): During one of our infrequent periods of amity with NASA, Riccardo allowed as how he would do anything for NASA but "kiss them on the lips." (Julia Roberts) We all laughed but his point (like Julia's) was not to get so close to NASA that we lose our identity and independence.

Kagemusha (1980) an Akira Kurosawa movie (distributed by Lucas films!) about a petty thief who is kept as the body double of a powerful warlord. After the warlord's death, Kagemusha must lead his troops. Hundreds of faithful die protecting him, until he too must die in the final, hopeless, battle with only swords and arrows against hundreds of rifles. The message? Sometimes you will be outnumbered. Be prepared to be badly injured while protecting the Institute and the Director. We got it.

At Riccardo's party before he left for the ESO Directorship, Duccio Macchetto gave all the senior management red tee-shirts in the manner of the *Garibaldini*. The *garibaldini* protected Giuseppe Garibaldi, the great leader and hero of Italy, and wore red so that their blood would not show. We had graduated. We loved Riccardo.