



GUEST EDITORIAL

Dennis Liu

Hemophilia and Learning to Love Science

“Dennis Liu-kovitch, don’t tell stories,” my mother would admonish me, with that mystifying but charming slavification of our Chinese surname. She would say this when she detected that I was tempted to launch into a small fib, if not an outright lie. Never the less, I grew up loving stories and their many poses: a biased account, an amusing diversion, propaganda, a memorable way to make a point. I’ve ended up making a living telling stories, and who doesn’t like a good one? Mom, these days I’m mostly telling *science* stories!

Of the many influences—teachers, parents, museums, reading, family trips—on my path to becoming a professional peddler of science stories, it’s a film that burns bright in my mind. It features a very unlikely hero, a dodgy plot, incredible special effects, and an audacious ensemble cast. The film is *Hemo The Magnificent*, by the legendary director Frank Capra. It received high ratings for its television premier in 1957, beating out the non-science programs on the other two networks. I was not born in time to catch the premier, but I saw the film in 3rd grade, 4th grade, and again in 5th grade at Cleveland Elementary School, Illinois District 73½.

Gathering the entire 3rd, 4th, and 5th grades in the basement cafeteria was a big event, out of the ordinary, an exciting chance to fraternize. Seeing the mundane cafeteria serve as a theater was thrilling, as was watching our hawk-like Vice Principal, Mr. Van, oversee the AV kid mount the film reels and thread the projector. Would it even work? One year the projector bulb blew, another year the film melted halfway through. The projector’s ratchety hum threw light at the screen as sound danced around the room. Two hundred and forty kids viewed companionably—it beat being in class—and at least one of us was inspired.

Hemo, as we fanboys call both the film and lead character, is about blood, a bold topic given how squeamish people can be about it. I imagine Capra’s conversations as if they were taking place with my own educational media team: Will anybody really want to watch a film about blood? Maybe we could use a bunch of cute animated characters? Could we make blood itself a character? Capra’s team indeed made blood a character, a vain, toga-wearing athlete with a commanding baritone voice. They surrounded him with a chorus of admiring woodland creatures who revere *Hemo* and depend on him. But the setting for the film is actually a state-of-the-art lab-studio, where live characters interact with the animations via a projection system. The humans in the film are Dr. Research and The Writer. Dr. Research played by Dr. Frank Baxter, USC Professor of English, represents research and scientific knowledge, while The Writer, as played by Richard Carlson (the heroic ichthyologist of *Creature From the Black Lagoon!*) represents the curious but skeptical layman. Every once in awhile he lights up a cigarette while talking to Dr. Research. They don’t make educational films like that anymore; I doubt they could even show *Hemo* in school now.

Compare blood to seawater, what a notion! In fact, blood and seawater aren’t isotonic and have important compositional differences, but it spoke to me. Our ancestors came from the sea; we evolved! The film touches on how we know what we know by presenting evidence with a reverential tone toward science and scientists. Reflecting the era, there’s no diversity unless you count a squirrel, a turtle, and some animated characters with Italian accents. The big strength of the film is the elaborate animations of the circulatory system. The illustrations of how the nervous system modulates heartrate, and how the heart functions as a dual pump to power two main circuits in the body, has stuck with me all these years. The animations, led by Bill Hurtz, break apart a complex system and put it back together to show how the various components contribute. It’s highly effective conceptual dissection. In my work today as a producer of educational films for both the classroom and the general public, I have occasion to think back to *Hemo* for inspiration. For me, *Hemo* stands the tests of time, and although I would feel compelled to edit the film first, I would show it to a 4th grade class. Makes me wonder what the fate of films I’ve worked on will be in 60 years.

Frank Capra understood that film is an emotional medium, and he insisted on putting science in a spiritual context. In the course of the four science films he made with Bell Labs sponsorship, he was sometimes at loggerheads with his scientific advisors. Toward the end of *Hemo*, there are religious references that are jarring today, but I don’t remember having that reaction as a kid. I remember the film giving me a sense of wonder at science, of being stunned at how interesting something as mundane as the blood in your veins and your beating heart could be. By circumstances and proclivity, I was likely geared for science, but *Hemo* fueled that interest and made me see that science didn’t have to be dry, or completely serious, that it could be entertaining, that it had the power to make the pedestrian fascinating. In the end it didn’t matter that *Hemo* fueled some misconceptions. Whatever Capra’s goals and motivations were, he managed to create something that made me feel good about science and helped shape me as someone who finds in science a deep sea of pleasure.

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