

Lecture # 19 Tues April 13, 2010 *Ringworld*

Larry Niven: <http://www.larryniven.org/>

Many or most of his stories fall into consistent future history. Major future history: The Known Universe, which includes *World of Ptaavs* (1966), *A Gift from Earth* (1968), and *Ringworld* (1970) and its sequels, and numerous short stories.

Wrote several novels in collaboration with Jerry Pournelle: *The Mote in God's Eye* (1974) *Inferno* (1976) *Lucifer's Hammer* (1977) + other books + other collaborators.

Noted "Hard" SF writer; inventive and clever with vivid characters and situations.

Example: Detective Gil Hamiltonian with psi "imaginary arm" who battles "organleggers" and "corpsicles."

Niven's "hard" SF is not deeply researched. Many of his stories are "puzzle" stories—usually the story of *unintended consequences* and / or *limitations*.

Examples: "Neutron Star" (1967) (Hugo award for best short story) An astronaut takes a "General Products hull", impervious to radiation, to explore a neutron star; he realizes just in time it is *not* impervious to gravitational tidal forces from the dead star.

"Wait It Out" (1968). An astronaut trapped on Pluto decides to freeze himself on the surface to await rescue. Unexpected consequence: His brain, just a few degrees above absolute zero, become superconducting, so he remains conscious during the long wait.

Example: Detective Gil Hamilton, who has a psi "imaginary arm." It is as sensitive as a real, but is not strong—can at most lift a cigarette. (Example of limitation to aid suspension of disbelief.)

(See also: "Man of Steel, Woman of Kleenex", <http://www.rawbw.com/~svw/superman.html>)

Ringworld (1970). Won Hugo, Nebula awards best novel. 3 sequels.

Background: the Known Space series. Events cover from 1.5 billion years ago to year 3100 AD. Most occur from late 20th century onward. Begins in our solar system and expands outward. Most events in a bubble a hundred or so light years around Earth.

Early colonization via "ramscoop" begins in AD 2060.

Humans encounter Kzin around AD 2300.

AD 2400 boosterspace (longevity drug) developed. Humans acquire hyperdrive through trade (in Procyon system) from Outsiders.

AD 2500 Puppeteers encountered.

AD 2645—Puppeteers invent quantum II hyperdrive. Beowulf Shaeffer discovers exploding galactic core. Puppeteers flee Known Space.

Bussard ramjet/ramscoop: It is difficult to bring enough fuel and propellant for interstellar travel, so Robert Bussard suggested (1960) huge electromagnetic scoops to gather together interstellar hydrogen that could be "burned" in a fusion engine.

<http://www.itsf.org/brochure/ramscoop.html>

Some aliens in Known Space: *Kzin/kzinti*. 8-foot-tall bipedal cats. Aggressive warriors. Fought multiple wars with Humans.

Pierson's Puppeteers. 3-legs and two "heads". Cowardly but cunning.

Outsiders. Strange, multi-legged creatures that live at liquid helium temperatures.

Traders, especially for information.

(*Thrint/thrintun*, or *Slavers*. Ruled the galaxy through telepathic control 2 billion years ago; they eventually evolve into the sessile *Grogs*)

(*Bandersnatch*. Huge, slug like creatures, engineered as food for the Slavers, with an enormous chromosome so they have no mutations and have not evolved in 2 billion years.)

Synopsis. Approximate 2850 AD. On his 200th birthday, human Louis Wu is bored and restless. He is approached by a puppeteer, Nessus who recruits Louis, a kzin, and a 20-year-old human female, Teela Brown, who is a sixth generation "lucky" person. Their mission is to investigate a strange phenomenon: the Ringworld.

The Ringworld is a huge artificial ring, where a planet's orbit would be, spinning around a G-class star at 770 miles/second, enough to give it artificial gravity.

Their ship crashes on the Ringworld and the four set out to find a way off, aiming for the rim of the Ringworld. Along the way they learn Puppeteers have manipulated kzin and humans for their own purposes.

After a series of adventures, Louis figures a way off: up the slopes of the mountain Fist-of-God; Fist-of-God had been created when an asteroid slammed into the Ringworld from "underneath."

Analysis: What does the novel mean and, more importantly, *how* does it mean?

Central question: Niven is classified as "hard SF" and Robinson is generally not. Why?

Technology: Set in the 29th century, *Ringworld* assumes continued advance of science and technology. Full of "gadgets:" transfer booths (teleportation), boosterspice (age extension), slidewalks, sleep sets, General Products hull (impervious to nearly everything), hyperdrive, spy beams, sleeping plates and artificial gravity/anti-gravity, Slaver stasis field, tarp, autodocs, flycycles...

Aliens: Similarly a large array of intelligent alien species: kzin, puppeteers, trinocs, kdatlynos, Grogs, Outsiders...

Standard definitions of hard SF frequently use three characteristic traits:

1. *scientifically accurate* according to knowledge of its day
2. a focus on *explanations and presentations* of its scientific facts
3. based on *careful extrapolation*, from known facts to speculations.

By these criteria, *Red Mars* is hard SF while *Ringworld* is not! Hyperdrive, transfer booths, General Products hulls, artificial gravity, and stasis fields *violate* known science. Niven deliberately (as a good craftsman) obscures the faulty science by referencing actual science fact: conservation of energy and momentum in transfer booths; tidal forces around neutron stars, spinning a Ringworld to get gravity, etc.. While getting small details right he ignores what is known. Niven implicitly assumes that our current ideas will be overturned.

In SF, science functions *as if it were* mythology. Purposes of mythology include:

- * metaphors to talk about other issues
- * explanations for things we do not understand
- * provide a sense of purpose and our place

Timescape, *The Dispossessed*, and *Red Mars* generally use science as metaphor (but also: search for a sense of purpose)

Ringworld and other hard SF/space operas fall more generally into latter two categories.

Classical hard SF – especially that of Larry Niven – tends to fall into 3 broad categories:

- * “puzzle” stories (e.g., “Neutron Star”)
- * “unintended consequences”
- * sense of wonder/awe – e.g. *Ringworld*

Ringworld and similar space operas provide a sense of awe and wonder about the universe. Niven’s Known Space is a rich, fascinating universe, with many curious alien species and near-magical technology. The vast scale of the Ringworld mirrors the overwhelming vastness of our actual universe.

Characterized by an *infatuation* with technology and science. Revels in the strangeness of science and the universe.

This differs from *Timescape*, hard SF but not space opera, and has a distinctly different feel from classical hard SF. One might characterize *Timescape* as “modernist” hard SF (and *Red Mars* as “postmodern” hard SF).

Classicism: external conflict with outside forces. Clearly defined success or failure.

Modernism: internal conflict of values, self vs society

Postmodernism: internal views themselves are fragmented and tribalized.

Ringworld: classical mode. Louis Wu & friends try to escape the Ringworld, and succeed. Although they learn things about themselves, no real change in personalities. Heroes and villains clear.

Timescape: modernist mode. Although the characters have external challenges, main conflict is Gordon’s self determination. Success in one universe superimposed over failure in other. No real villains, only flawed humans. (Similar for *The Dispossessed*)

Red Mars: postmodernist mode. Society—and the individuals who compose society—are fragmented, divided against themselves.

The theme of *Ringworld*?

Louis Wu suggests all their travails have been for Teela’s benefit—that Teela’s luck cares only about *her*, not them. Nonetheless they survive and escape the Ringworld.

Message: the Universe is seldom run for *your* benefit...but it still is an exciting and awesome place!

In summary: hard SF is generally SF in which technology, science, or knowledge about science *functions as a central character*.