

Urth's Power Grids

The Urth list — 1 messages, 1 voices, 15 May 1998

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m.driussi — 15 May 1998, 20:20

In developing my theories of Urth power grid monopolies, I also tied-in that odd detail of Urth's utter lack of vulcanism (yet another one of those flags suggesting deep futurity, and potentially as misleading as "(naturally) dying sun") as a suggestion that the geothermal grid was as tightly tapped as the improved tidal power generation grid was (i.e., this is why Lune is closer to Urth--precisely to generate enough tide to make tidal power competitive).

All highly speculative.

Impulse derived from the mechanics, economy, and ecology of Severian's powers. Abaia has big powers, where does he get the energy?

KARDASHEV LEVELS

(seen in THE SCIENCE OF SCIENCE FICTION and ON CIVILIZED STARS, which gave the energy outputs I'm listing)

The Soviet physicist Nikolai Kardashev came up with a theory of three levels of interstellar civilization.

Type I civilizations (sometimes called "world level") are like us on Earth now or slightly better. They produce a total average power output of 4×10^{12} watts (4 TW [terrawatts]).

Type II civilizations (aka "star level") harness the power of a star, around 4×10^{26} watts.

Type III civilizations utilize energies of the entire galaxy, 4×10^{37} watts.

TERRESTRIAL ENERGY FLOWS

(p. 67 of TERRAFORMING by Martyn Fogg)

Natural

Total Insolation

(top of atmosphere) ~175,000 TW

Absorbed by atmosphere

and Converted into Heat ~82,000 TW

Stored in Hydrological

Cycle, Oceans and Ice ~40,000 TW

Driving Circulation of

Winds, Waves, etc. ~370 TW

Net Primary Productivity
(NPP) [plants as food] ~90 TW

Geothermal Heat Flow ~40 TW

Tidal Power from
Moon's Gravity ~3 TW

_Anthropogenic-

Human control of NPP ~20 TW

Primary Energy
Production ~10 TW

Food Consumption ~0.5 TW

Hypothetical
Twelve Hour
Nuclear War ~1000 TW
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So then, using these two models (Kardashev and Terrestrial Energy Flows), I'm saying that Abaia and Erebus are using the 40,000 TW "Stored in Hydrological Cycle, Oceans and Ice"; that someone further down the foodchain is using the 40 TW "Geothermal Heat Flow" to the point that vulcanism is "dead"; Tidal Power has been boosted and utilized; etc.

So Urth is held below levels of Type I; the Other Lords (Abaia, Erebus, and the rest) embody Type I; the inhabitants of Yesod are at Type III and have put a probationary tire-lock ("the boot") on old Sol to keep Urth from getting up to Type II; Severian gradually comes to use star power, Type II, himself.

Xury,

Now then, having writ all that, I answer your question: I don't know if the Urth and Sol banks are giving Severian loans based upon great expectations of a white hole. It seems clear that Severian's healing comes at great cost to himself; he cured Miles's fatal disease by catching it and conquering it, for example, and the other healings leave him cold and drained. The more sinister dealings, like swearing to the sun, are more murky--well, in that case he promptly resurrected the uhlan, whereas possible energy flow at the executions is disturbingly like that scene in the Soldier book where the old Earth Mother Goddess becomes visible while licking up the human blood on the altar.

These speculations move us beyond "Claw as dumb object"--the Claw would appear to be a yes/no switch or a loan broker. Then there are the "banks" themselves, with loans approved by, I guess, angelic/demonic spirits (further down the chain-of-command from the hypothetical Yesodic governors of the solar system--Och, Phaleg, etc.).

=mantis=