

Voyage of the Whorl: Assumptions

The Whorl list — 3 messages, 3 voices, 03 Sep 2001

<https://urth.darkrealm.vip/thread/whorl/1470>

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Talarican — 03 Sep 2001, 11:45

We now know that roughly a thousand years has passed on "the red sun whorl" since the `_Whorl_` was launched (`_Green's_`, ch 22), although only about 332 years had passed subjectively on the `_Whorl_` (`_Calde_`, ch 5).

This is a strong indication that the `_Whorl_` attained relativistic velocity during its voyage, producing a significant relativistic time dilation. It is possible, given this information and a few reasonable assumptions about the flight profile which are consistent with the text, to estimate Blue and Green's (HRTA "B&G") distance from Urth, and perhaps even guess at the identity of their sun, as well as elucidate the flight characteristics of the Whorl and its voyage.

Some observations from the text are used to formulate basic assumptions:

1. The actual trip time experienced by the Cargo seems to have been about 300 years, assuming it arrived in orbit in B&G's system about thirty years prior to the time in which BLS is set, which event apparently set off this "war of the gods" as Echidna sought to prevent the Cargo from disembarking the `_Whorl_` (`_Lake_`, ch. 11, `_Return_`, ch. 17). Interestingly enough, the Prolocutor's encyclical in `_Calde_` ch. 5 is dated the year 332! What could be referenced other than the subjective elapsed time since the voyage commenced? This fits almost too neatly.
2. The best estimate of the elapsed time back on Urth appears to be 1100 years. This is based mainly on the accepted figure for the period between the zenith of Typhon's reign to Severian's time (*1), reinforced somewhat by Horn's guesses.

Use of the data in `_Green's_` ch. 22 does indeed lead to longer elapsed Urth times, but it increases the required peak velocity even more unrealistically. Horn discounted this figure once it was arrived at, saying the rate of abandonment must have been higher at one time. The explanation is probably very simple: Typhon's "press gangs" must have depopulated entire quarters of Nessus in a relatively short period for his colonization programme.

3. `_Whorl_` is simply honkin' HUGE, having been formed of the mass of an entire sizeable asteroid (`_Green's_` ch. 25; a Neighbor stated it explicitly) hollowed by melting and centrifugal force. "Gravity" for the interior is supplied by centrifugal force. The Cargo do not seem to have noticed any significant changes in the magnitude or direction of their "gravity" throughout their remembered history, therefore all accelerations acting upon the Whorl during its voyage, for thrust, changes of direction, and the like, must be very slight by comparison with the centrifugal "gravity".

4. As a corollary to the foregoing, the Cargo do not seem to have been at all aware of when the Whorl arrived in the B&G system thirty years before the time of BLS; i.e., no inexplicable motions seem to have occurred, nor were Cargo ordered to strap themselves into crash couches or any such thing. Therefore accelerations acting on the `_Whorl_`, from the earliest

memories of the original Cargo to the time of BLS, were so mild they apparently went unnoticed.

The nature of the _Whorl_'s power plant was never explicitly divulged, but it must be tremendously powerful and provided with an astronomically vast fuel supply, even if it were antimatter. That fuel must be stored somewhere, but we're never shown precisely where. We could explore the possibility that the _Whorl_ is a sort of low-acceleration Bussard Ramjet design, which would obviate the fuel supply problem nicely. Presumably, enough surplus fuel could be gathered by a B-R to power that fluorescent-tube-on-steroids and the other support systems on the _Whorl_. However, as we will see, a Bussard drive is problematical.

Larry Niven wrote extensively about B-R craft that fly between stars at a steady one gee acceleration, racking up considerable time dilation. Halfway to the destination, the craft must "turn over" and decelerate the rest of the way in order to be at approximate rest with respect to the destination. Niven's ramships' 1 gee acceleration creates gravity for the passengers (for whom "down" is toward the stern of the craft).

The _Whorl_ cannot be accelerating at one gee for most of the trip; its "gravity" is supplied by centrifugal force, therefore it does not generate enough acceleration to be noticed by the Cargo. Doubtless it is so massive (the mass of an asteroid) that even inconceivably powerful thrusters can only nudge it along, like the engines of an oil supertanker. Furthermore, an object formed of presumably an asteroid softened and hollowed by "glass blowing" with centrifugal force, might not withstand the stress of high acceleration.

(*1) The death of Ymar, a contemporary of the end of Typhon's reign, is supposed to have been about a chiliad prior to Severian's time, per Mantis, in LU A&E #2, based on a remark made in an article in _Thrust_, regarding the assassin Sev found in the Second House. It follows that Typhon probably launched the _Whorl_ roughly a century or so earlier, before the Old Sun dimmed and the Conciliator appeared. (and when did Horn ever see ruins one chiliad old before visiting Nessus? He 's seen buildings up to 300 years old, not counting the Neighbors' far older ruins that are probably more durable than those of humans).

Talarican

*This is WHORL, for discussion of Gene Wolfe's Book of the Long Sun.

Jerry Friedman — 05 Sep 2001, 14:23 · follows Talarican

--- Talarican <exultnttalarican at mindspring.com> wrote: ...

(*1) The death of Ymar, a contemporary of the end of Typhon's reign, is supposed to have been about a chiliad prior to Severian's time, per Mantis, in LU A&E #2, based on a remark made in an article in _Thrust_, regarding the assassin Sev found in the Second House. It follows that Typhon probably launched the _Whorl_ roughly a century or so earlier, before the Old Sun dimmed and the Conciliator appeared.

This stuff is all very interesting!

I suppose I'm unlikely to look up the references, but what's _Thrust_ and who made the remark?

As for the century earlier, I don't follow that. Typhon had two heads when the _Whorl_ was

launched, and he still did when he "retired to his blameless couch". Could he have been in that unpleasant state for a century? Or are you suggesting that Typhon has performed the same maneuver more than once? ...

Jerry Friedman

Dan'l Danehy-Oakes — 05 Sep 2001, 14:41 · follows Jerry Friedman

Jerry Friedman wrote:

As for the century earlier, I don't follow that. Typhon had two heads when the _Whorl_ was launched, and he still did when he "retired to his blameless couch". Could he have been in that unpleasant state for a century?

Indeed, no -- it's clear from his remarks to Severian (in SotL) that he expected this to be a very temporary state -- long enough for his involuntary nervous system to learn its way around Piaton's body, no more, and then he'd have Piaton removed. Nothing he says implies that this expectation was mistaken (other than the delay enforced by his (or their) having been freeze-dried for a chiliad or so, so it seems we should conclude that his dessication and Ozymandification came not too long after his operation.

--Dan'l

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