

Operation Schwarzschild

Today (or possibly tomorrow for 'Muricans) is the day when the Large Hadron Collider will be turned on and destroy the Universe. Or not.

In honour of the occasion, here's a DG scenario involving the LHC, the Cult of Transcendence, and a bottled God, entitled "Operation Schwarzschild". It's probably still a bit rough round the edges, but this act of magnificent hubris (the LHC, not this scenario) deserves to be commemorated right now. Besides, you might not be here to read it tomorrow :)

Schwarzschild: 1) (German) A black sign, seal or shield; 2) (capitalised) German family name, esp. a prominent family of scientists (see Schwarzschild Radius); 3) (obscure) partial translation/transcription of Schwarzkind or Dark/Black Child/Young, an Anglo-German occultist term for a pagan deity, provenance unclear.

Schwarzschild Radius: The space within which a given mass will be so dense that no known force can prevent the formation of a gravitational singularity; that distance from a gravitational singularity ("Black Hole") at which the event horizon is found.

Event Horizon: The distance from a gravitational singularity ("Black Hole") at which light (and hence, all things moving slower than light) cannot escape. The Event Horizon thus prohibits all perception of the singularity itself. Hence the saying "God abhors a naked singularity".

Background:

This scenario's key event takes place at the CERN Large Hadron Collider (LHC) on the Franco-Swiss border (currently expected to go on line May 2008). This particle accelerator will be by far the largest ever built, and the scale of the energies to be unleashed within have caused several scientists to suggest that a remote but not non-existent possibility exists of an existential catastrophe: a false vacuum collapse, for example, or the formation of a stable black hole or strangelet. See the Lifeboat Foundation's Particle Accelerator Shield page: <http://lifeboat.com/ex/particle.accelerator.shield>

This possibility is taken extremely seriously by the Cult of Transcendence of Sweden, who see such an event as a potential way to summon Azathoth into our universe under controlled conditions. In particular, the Cult of Transcendence have invested heavily in the LHC through a front organisation, the Nordic Institute for Theoretical Physics (NORDITA), (If you want to know why I think they are a CoT front, take a look at their logo: <http://www.nordita.org/institute/logotype/index.php>).

Investigation:

Delta Green has become involved after the brutal murder of an American university exchange student who had been studying at NORDITA. The murder took place in a park near the student's residence which is known to be the haunt of drug dealers. No weapon has been found, but forensic analysis indicates that the student was struck several times in the head with a rounded, blunt object made of a soft or light metal, e.g. a baseball bat or a piece of plumbing pipe. The student's blog showed recent signs of mental illness, rambling about "strangelet hyperdimensional entities", "the truth beyond the void", "the mindless demiurge" and such, and suggestions that he believed his supervisor was the "priest" of the "demiurge". The local police's hypothesis is that the student's mental illness led him to experiment with drugs and he was killed either as part of a drug deal gone sour or by another user suffering from amphetamine psychosis.

Delta Green were alerted to the case by an automated search. Several terms in the student's blog fit what DG analysts have collated as a "cultist" profile. The murder indicated that the situation was potentially serious, and so it was flagged for investigation. DG naturally disagrees with the local police's assumption that blog entries indicating that the student's supervisor was the priest of an extradimensional entity are simply signs of incipient schizophrenia.

Investigators will if possible be FBI or other agencies with a valid reason for investigating such crimes, and will receive Interpol accreditation to assist the Swedish police with their inquiries. If they are not from a crime investigation agency, they will still get FBI/Interpol cover, but be warned to keep a low profile as fiddling Interpol's systems as well as FBI ones raises DG's risk of exposure considerably.

Local police will expect the team to work closely with them and be supervised by them, though they are not averse to the team conducting unsupervised low-risk research, e.g. conducting their own interviews, provided that recordings or transcripts are provided and the team does not claim (to the interviewee) to possess policing powers. They have already conducted a (perfunctory) interview with the supervisor, who indicated his concern for the student's wellbeing and recommendation that the student seek counseling (this is borne out by his diary notes). They will not be willing to issue a search warrant for the supervisor's apartment, office, etc, without more evidence. In any case they would first want to interview the supervisor about such evidence, and he is currently out of the country, attending the long-planned launch of the Large Hadron Collider in Lausanne.

The supervisor's interview indicates that at the time the presumed murder took place, he was out socialising with colleagues at a popular Stockholm bar, and the colleagues will confirm this if asked. Careful questioning of the colleagues will reveal that the supervisor spent "a while" in the toilet, which he blamed on some bad herring. If asked if it was long enough for the supervisor to have gone elsewhere and returned, they will reply in the negative. In fact, he was gone for over an hour, but use of the Cloud Memory spell and liberal quantities of alcohol have removed this fact from his colleagues' minds. If the investigators can somehow track down someone else who was in the bar and who has a good memory, they may discover this fact, but given the general state of inebriation, noise, etc, this is a poor lead to follow.

Burgling the supervisor's house (which has a standard back-to-base alarm, appropriate rolls to bypass) may produce some interesting clues. The supervisor evidently practises metalwork as a hobby, and possesses his own home welding kit and small forge, which has apparently been used recently and shows markings of intense heat (Careful chemical analysis shows that a homemade thermite reaction recently took place. This was used by the supervisor to burn the gloves and clothing he wore during the murder). An assortment of pipes of various metals is present. None show any obvious signs of having been used as a weapon, but one lead pipe has recently had a section trimmed from the end and has slightly sagged in shape, suggesting it was heated to a high temperature.

The supervisor possesses a home safe, set in a wall and concealed behind a bookshelf (easy Spot Hidden for trained investigators). The supervisor has not written the combination anywhere. If one of the investigators is trained in lockpicking, they may be able to open the safe undetectably. Otherwise, the safe could be burned through with the welding equipment, but this will create significant smoke and burning smells (Did they remember to turn off the smoke alarms? Luck rolls to avoid the neighbours phoning the fire brigade in any case - although they are used to his metalworking, they know the supervisor is overseas). As well as some heirloom jewelry and a large amount of cash, the safe contains three rare seventeenth-century books:

- 1) A 1636 copy of Olaus Wormius' *Runic seu Danica literatura antiquissima*, "Runes: the oldest Danish literature," a compilation of transcribed runic texts. Latin and Runic, grants a skill check

in Occult. No Cthulhu Mythos relevant material, but the author's name should worry any investigators who make a CM roll.

2) A 1624 copy of Johannes Bureus' *Monumenta Sveogothica Hactentus Exculpta*, (Latin and Runic) containing his account of the rune-stones of Sweden. Building upon the work of Johannes Magnus, he argues that Sweden is Hyperborea/Thule, settled by a group who left the rest of humanity before the fall of the tower of Babel in Babylon, and as a result the Runic Language, from which the Gothic language is descended, is the original language of mankind. Based on his interpretation of the runes, he also argues for identities between gods of the Norse pantheon, the Christian trinity, and the "ancient demon-gods of Thule". Skill check in Occult, +1% Cthulhu Mythos, 0/1d3 SAN. Spell: Elder Sign ("a protective rune against the ancient demon-gods of Thule, inscribed in combination with the following chant" which is in Gothic, phonetically transcribed into Latin)

3) A 1641 copy of a leather-bound book written in English, 'My Understanding of the Great Booke', by Joachim Kindler, 1641, city of Buda. It gives +5% Cthulhu Mythos, -1d6+1 SAN. Spells (in Gothic, phonetically transcribed into English): Dread Curse of Azathoth; Summon/Dismiss Azathoth.

This volume contains Kindler's rambling and insane speculations on life, death, apparitions, transcendental phenomena, black & white magic, the achievement of objectivity through blood sacrifices, the tasks and purposes of the "mightie devils" (by which he means Great Old Ones), and much more. The section on "blood sacrifices" contains some marginal annotations in Swedish, in the supervisors' handwriting (this is a personal shorthand which investigators are unlikely to decipher in the time available).

The text correlates with a Gothic translation of the 'Necronomicon', which he calls the "Codex Nigrae" (Latin: Black Book). This edition of the horrible book apparently differs substantially from other known versions since Kindler claims that it "offers proofs logical and glorious" of the "stellar numbers, potentiated objects, signs and passes, probatories, phylacteries, and craftsmanly arts" required for a succession of Mythos spells. As Kindler would have it, the Gothic version is nothing less than an analytical edition of the 'Necronomicon' which makes plain that book's bafflements and obscurities. Should Kindler's insane prose be accepted as evidence, presumably the Gothic version would cost even more sanity to read and comprehend than the Arabic original.

The supervisor did in fact commit the murder in order, to sanctify a sample of lead with a blood sacrifice to Azathoth. The sample will be used in the upcoming experiments at the LHC. Examining the sample will not find any traces of blood etc, which have been thoroughly cleaned from it - the psychic resonance of the sacrifice is the important thing.

At the collider, a series of experiments are due to take place, which collide heavy ions of lead in an effort to produce the Higgs boson (the so-called "God particle"; do use this term, and watch your players twitch). The supervisor is playing a large role in the experiments. When the investigators arrive, he will be in the main control room.

The main control room is 100 metres underground, accessed by elevator (there is an emergency stair). It is a huge, warehouse-like chamber, but the parts of the space is divided up into rooms using cubicle walls, portable huts, and suchlike. There are some areas rigged as temporary accommodation (camp beds) for long experiments, and a cafeteria area.

Through one wall protrudes a section of the 25 meter (in diameter) particle accelerator, hooked up to numerous sensors and a bank of controls. As the PCs arrive, the NPCs (principally scientists and journalists) are gathered in the main control area, and the collisions are about to commence. This is a long-planned, multi-million dollar experiment, and nothing short of pulling guns on all the scientists

present will prevent it from going ahead. Make careful note of the in-game time. This can be done unobtrusively, for example having an NPC scientist making a voice record of events: eg "10:14, linear accelerator activated. 10:23, LHC activated. 10:25, first collision. What the fuck?!"

The experiment produces a string of nano-black holes, which (contra to theoretical predictions) have not dissipated through Hawking radiation. Instead, they join together to form a torus-shaped black hole, spinning within the larger torus of the collider. This torus shape is a constrained manifestation of Azathoth.

Furthermore, due to the union with Yog-Sothoth created by the local collapse of space-time into matter, it is a sentient manifestation, although as the scenario commences its awareness is limited to itself (For an example of the kind of egocentricity this produces, see the monad in Flatland:

http://en.wikisource.org/wiki/Flatland/Section_20). Azathothel (as it will be referred to) begins to chant a hymn of praise to itself. This is heard initially as meaningless piping and static noises over the intercom. It will become more comprehensible later...

*Out in the mindless void the daemon bore me,
Past the bright clusters of dimensioned space,
Till neither time nor matter stretched before me,
But only Chaos, without form or place.
Here the vast Lord of All in darkness muttered
Things he had dreamed but could not understand,
While near him shapeless bat-things flopped and fluttered
In idiot vortices that ray-streams fanned.
They danced insanely to the high, thin whining
Of a cracked flute clutched in a monstrous paw,
Whence flow the aimless waves whose chance combining
Gives each frail cosmos its eternal law.
"I am His Messenger," the daemon said,
As in contempt he struck his Master's head.
No more, no more.
[hideous laughter]*

The toroidal black hole/Azathothel manifestation forms a Schwarzschild radius around itself at a distance of ~ 80 metres, such that the underground control room (where the investigators are helplessly watching) is within, but escape to the surface is impossible. All communication with the outside world is cut (with one exception: see "phone Steven Alzis"). Attempting to ascend the stairs/lift becomes slower and slower as the event horizon approaches, until the investigator finds that s/he is in fact descending again, without being conscious of the transition.

Realisation of being trapped is worth 0/1d3 SAN. If the singularity is observed (over camera, initially) costs 1/1d10 SAN as (if one is unlucky) it seems to expand in one's view, encompassing all things one sees with the screaming maw of what one knows, without a shadow of a doubt, is the true God of all things...

To avoid looking at the singularity in its presence (eg if one enters the accelerator tunnel and opens the pipe) requires a Luck roll every minute.

The time loop:

The space within the Schwarzschild Radius is effectively at right angles to the rest of reality, in a pocket hyper-dimension of N-space. In addition, the rotating toroidal black hole causes a Godelian time/space warp such that time within the torus becomes circular. Time seems to proceed normally, and as

entities possessing free will (or rather, POW), the investigators (and NPCs) can act freely: but every time they return to approximately their starting position (i.e. around the controls), the loop repeats. All clocks return to the origin time and any object not within the bioelectric field of a human (ie about 1~2 cm from the skin – anything not held or within a pocket) resets to its original position – vanishing if left on a table, for example. If a person is dead, their corpse appears at the position they originally occupied when the loop was entered. If the person enters the space to which an object would reset and the object is their mass or smaller, it is displaced to one side. If it is significantly greater than their mass, have them make a POW*1 roll. If successful, they displace it anyway. If they fail, they interpenetrate and are instantly killed as they merge with it (lose 1d3/1d10 SAN to perceive the horrible mess made by interpenetrating). If they critically failed, the interpenetration causes a nuclear fusion reaction and explosion, and everybody dies. Watch where you stand.

Each time the loop repeats, the pocket dimension moves further and further out of sync with the rest of reality, accumulating a form of transdimensional potential energy. The humans within the loop are exposed to this building energy, which has much the same effect as being exposed to a Tillinghast resonator.

Every loop, each person has a chance of POW*N, where N is the number of loops since the first or since the most recent discharge of energy (see below), of having their dormant hyperdimensional sense organs activated. When activated, the person acquires a Spot Hidden skill equal to their POW to see hyperdimensional entities. Each loop, the afflicted perceiver may make another roll of POW*N to increase their hyperdimensional Spot Hidden to that figure.

As with a Tillinghast resonator, a roll of 01 or 00 results in the dormant sense organs becoming active transmitters, not passive receptors, to the point where the investigator can project their own Tillinghast resonant field (note that any object acquiring a TPOW charge is considered an enchanted weapon).

In addition, an impale on a POW*1 roll (01, 02, or sometimes 03 for most investigators) grants a Luck roll to acquire a psychic power at a skill equal to one's POW. Clairvoyance, Second Sight, or other perceptual powers are the most appropriate.

Once the hyperdimensional senses are acquired, a successful roll enables the perceptor to understand the Hymn to Azathothel (costing 1/1d3 SAN).

The accumulated potential energy can be discharged by momentarily bridging the gap between the pocket dimension and other transdimensional spaces. Unfortunately, this allows hypergeometrical creatures to manifest in the toroidal space.

Each time the loop repeats, roll 1d6. If this is the first loop since the beginning or most recent discharge/manifestation, a manifestation occurs on a 6. The second, it occurs on a 5 or 6. The third, it occurs on a 4, 5, or 6, and so on, until a manifestation is guaranteed after 6 loops without one. The system is then "grounded" until the next loop.

Each manifestation is of 1dN creatures, where N is the number of loops since the last manifestation, as above. The first, second and third sets of creatures will be Parasites from Beyond. The fourth will be Dimensional Shamblers.

If the investigators have triggered more than 4 manifestations, they clearly have no clue and it's time to put them out of your misery. Therefore, the 5th manifestation is of Hounds of Tindalos, unless you are feeling merciful, in which case the loop snares a passing Yithian mentality, in which case, see below.

In addition, the first time there is a manifestation, a Servitor of the Outer Gods will also manifest. The Servitor is only concerned with piping for the pleasure of its lord Azathothel. It will not attack

investigators unless they attack it and disrupt its playing, and will seek to drive them away so it can resume piping rather than killing them per se.

How to get out:

Though the situation is dire, there are several methods which can be used by the cunning, desperate or insane.

1) The spell Dismiss Azathoth, if you should happen to know it, will work fine. However, the greater the potential energy gap between the loop's pocket dimension (close to Azathothel) and the earth, the more difficult it is to dispel Azathothel. Multiply the cost in MPs by N (for a definition of N, see above).

2) Phone Steven Alzis. Alzis would never let a little thing like a sentient Black Hole stop him from getting mobile reception. Alzis is happy to teach the investigator, over the phone, how to Dismiss Azathoth (see above), and asks a very modest price: the deaths of two people in New York. One is a congressman, the other a University administrator. If the investigators dig, they discover that the only obvious link between them is that they have collaborated to block the construction of a large particle accelerator in New York by a consortium of universities, on budgetary grounds. Reneging on a deal with Alzis meets a suitably horrible and undoubtedly lethal fate.

3) Music can soothe the savage God. A successful Art (Music) roll or halved Know roll will note that the tune played by the Servitor on its Pan Pipes is not random. It is a repetition of 208 notes, of which the first 82 appear to be in a different key to the next 126. A Physics, Chemistry or Mathematics roll will recall that the lead isotopes which were collided have 208 nuclei, 82 protons and 126 neutrons. If the pipes can be seized from the servitor, a roll which succeeds at both Music and Physics, Chemistry or Mathematics succeeds in playing a tune which changes the lead at the core of Azathothel's manifestation to an unstable atomic configuration (obviously, the players should think of this themselves). The god vanishes in a blast of gamma ray Hawking radiation and the LHC returns to reality.

4) An Elder Sign will do the trick. The supervisor knows how to make one (and while he may worship Azathoth in the abstract, he's not that keen about being trapped with It for eternity). However, dispelling an 8.25 mile radius God requires more than scratching a little sign on a door. The Elder Sign must be applied to the entire manifestation, simultaneously and the COT rep has no idea how to do this. It can in fact be done by rigging lasers or particle projectors such that their reflected beams around the insides of the pipe form a pentagram in cross-section. Many physics and mechanical engineering rolls should be required to set this up – it also requires opening the pipe, which means working a couple of metres from the face of Azathothel (See above for SAN loss). The POW cost is $4*N$, which can be split among all present.

5) The Supervisor also knows that Azathoth can be placated into returning to its "throne" at the centre of the universes by a suitable sacrifice. The sacrifice must be one or more humans (or other sentient being of at least human intelligence). To find the chance of the ritual sacrifice's success, use the following formula: $\% \text{ success} = \text{summed POW} * 5 \text{ of Sacrifices} / (N + \text{number of manifestations already} - \text{number of previous sacrifices})$. If the sacrificial victim is psychic, double their effective POW. If they are a Tillinghast resonant, it automatically succeeds.

6) A Tillinghast Resonator (or someone who can naturally project one) can be used to "push" the torus out of the subset of N-space it occupies. Usual risks of additional Things From Beyond manifesting, T-radiation addiction, etc apply. Make a resistance roll as if one had cast Dismiss Azathoth, with the active characteristic being $\text{TPOW} + \text{no of MPs expended by the resonator (if human)} + \text{number of MPs}$

expended by anyone holding hands with them (awww) and getting infected with their T-radiation (eek). If the roll is an impaled success, the resonances precisely cancel, Azathothel is dispelled, and the LHC re-manifests in reality. If the roll is a plain success, you all manifest on the USS Eldridge. The resonating person makes a Luck roll: if success, you manifest in the present in MJ-12's Project Tell facility. If a failure, you manifest in 1943. If you rolled a critical failure, you manifest at Castle Naudabaum in 1944, just after the Karotechia have summoned and then dispelled Azathoth. They will have many questions for you.

7) Contact Azathothel (either cast a summon spell, or open the tube and stick your hand in) and wholeheartedly pledge yourself to its worship. Lose lots of SAN. It releases its hold on this dimension on the condition that you work to enable it to manifest more permanently. Go join the Fate or the CoT.

8) Force a paradox. If the investigators can figure out a way to create a true paradox in the circumstances described here, the pocket dimension collapses and they return to reality.

9) (For kind GMs only) a Yithian gets caught by the loop, and possesses someone (it can be perceived by anyone making a hyperdimensional Spot Hidden). It directs everyone in how to cast a 16.5 mile wide Pnakotic Pentagram, using 7 ultracomplex devices made of cannibalised equipment from the facility and chocolate biscuits. If there are no biscuits left, the Pentagram won't work (cutting open the offending glutton's stomach would probably salvage enough biscuit crumbs). Investigators will have to travel to seven precisely determined points on the tube, open the tube (trying to avoid looking at Azathothel each time) and place the devices. The person who places the device expends 2 POW each time. The manifestation is dispelled and the torus returns to reality, but seemingly rotated 180 degrees. Every person who was in the torus is reflected through 180 degrees: if they were right handed, they are now left handed and vice versa. They look odd to themselves in mirrors and everyone suspects them of being imposters of themselves, since they don't look quite right.