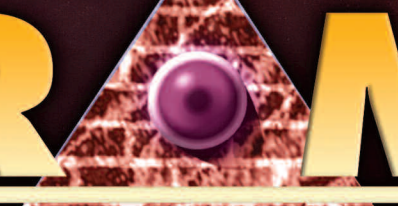


# PYRAMID<sup>®</sup>



Issue 3/46 August '12

## WEIRD SCIENCE



### THE POWER OF WEIRD SCIENCE

by Sean Punch

**RED SCIENCE**  
by David L. Pulver

**DANGEROUS CONCOCTIONS**  
by Rev. Jason "PK" Levine

**FANTASY-TECH 2000**  
by Matt Riggsby

**METATRONIC GENERATORS**  
by Christopher R. Rice

**WHAT IS WEIRD SCIENCE?**  
by Cal Godot

**THE DAUGHTER OF NECESSITY**  
by Roger Burton West

**SUPER COSTUMES**  
by Christopher R. Rice

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## Article Colors

Each article is color-coded to help you find your favorite sections.

- Pale Blue*: In This Issue
- Brown*: In Every Issue (letters, humor, editorial, etc.)
- Dark Blue*: *GURPS* Features
- Purple*: Systemless Features

### COVER ART

John Zeleznik

### INTERIOR ART

Greg Hyland

Embrace your weirdness – unless that weirdness takes the form of a backpack particle accelerator. Then you might just want to shake hands. This month's *Pyramid* is devoted to weird science!

Our symposium begins with *GURPS* Line Editor Sean Punch as he unleashes *The Power of Weird Science*. Discover how the ideas of *GURPS Powers* can drive your devices. It includes a power modifier, talent, and skill-discussion of interest to inventors of the impossible.

Thirsting for more? Then drink deeply of knowledge with Assistant Line Editor Jason "PK" Levine's *Dangerous Concoctions*. These pharmaceutical phenomena are good for any *GURPS* game that could benefit from some mad medicine.

David L. Pulver – author of *GURPS Psi-Tech* – brings to light some real-world weirdness with this month's *Eidetic Memory*. Discover the *Red Science* behind "red mercury" and associated oddness. It includes a number of weird *GURPS* items that use this amazing material, including an assortment of explosives and the Mashina PBM-90 Russian bipedal combat robot.

For those looking to make their own oddness, it's time to retire to the lab and create *Metatronic Generators*. Inspired by *GURPS Psi-Tech*, this optional *GURPS* design system will let you create all manner of odd items perfect for the weird scientist in your life. It also describes eight sample items, including the repelling revolver and the ricocheting discus.

Oddball theories have been with us as long as there have been oddball thinkers. Noted *GURPS* author Matt Riggsby looks at many innovations he wrote about in *GURPS Fantasy-Tech 1: The Edge of Reality* and updates them for more modern eras, with *Fantasy-Tech 2000*. Discover the *impossible* power of the centripetal steam gun, the dieselpunk steam cannon, the space-age reflective heat ray, and much more.

For those looking for an alternate weirdness-design system, *GURPS Reign of Steel: Will to Live* author Roger Burton West introduces you to *The Daughter of Necessity*. Unleash the power of the core *GURPS* character creation system in new and strange ways! It includes eight super-science samples to get you started.

As we near the end of our issue, we get around to asking, *What Is Weird Science?* We look at some history, insight, implications, and more. And to make sure you're dressed for scientific success, our last page features an *Appendix Z* on *Super Costumes*.

No crazed conference at *Pyramid* would be complete without our usual *Odds and Ends*, a *Murphy's Rules* that looks at lionhearted librarians, and *Random Thought Table*.

With science, the possibilities are endless. With *weird science* – and this month's *Pyramid* – the *impossibilities* are endless!

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# FROM THE EDITOR

## WEIRD MATTERS

Like obscenity, weird science has a certain quality of “I know it when I see it.” Even in other eras, that which is weird tends to have a certain feel. Despite being insanely advanced, an iPad probably wouldn’t register as particularly weird to folks 70 years ago; many authors from the Golden Age of science fiction a few years later were able to envision such devices. However, something like an MRI machine – with its loud noises, odd human-encasing enclosure, and plethora of lights and readouts – might well be viewed as “weird science” when viewed objectively with pre-modern eyes.

This issue of *Pyramid* assumes that you’ll be able to define weird science in your campaign (although we offer some insight into that on pp. 33-35). To that end, it contains a number of ideas to get you pointed in the right direction, plus some systems to help you create your own unusual devices.

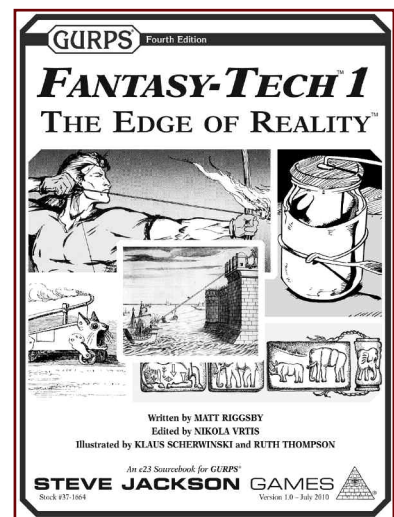
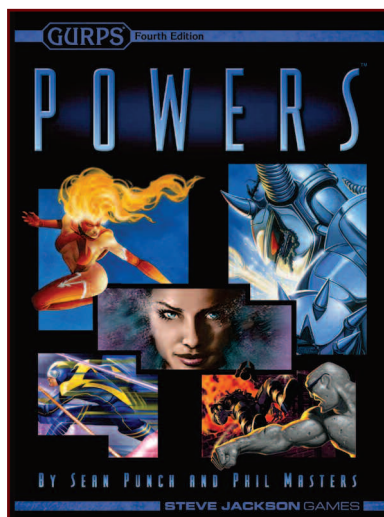
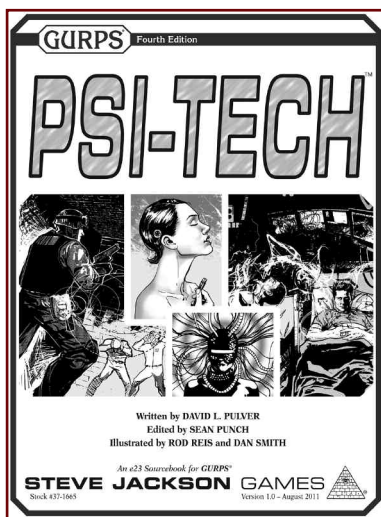
Although similar to past tech-related issues of *Pyramid*, this installment is somewhat unique in being devoted much

more than usual to optional new goodie-creation systems. This is largely because weird science often creates unique gizmos. Hopefully, you can find one (or more!) options that will give all the cackling scientists of your setting something interesting and new to do.

## WRITE HERE, WRITE NOW

Was our science sufficiently weird this month? Or was there something in here no sane madman would be caught dead with? Let us know privately how we’re doing at showing those fools that *they’ll be the ones who will be sorry*, at [pyramid@sjgames.com](mailto:pyramid@sjgames.com). Alternatively, deliver your public ideas about *Pyramid* that the scientific community dared to reject at [forums.sjgames.com](http://forums.sjgames.com).

Finally, don’t forget that we always encourage would-be word-smiths to try their hand at writing for us. Information about contributing is online at [sjgames.com/pyramid/writing.html](http://sjgames.com/pyramid/writing.html).



*Additional Material:* Jason “PK” Levine and William H. Stoddard

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The Zveroboy is operated by a single pilot, but a passenger could squeeze in behind him (mostly because some intended defensive systems have not been added). Its key feature was the use of superconducting materials made from red mercury embedded into the very armor structure itself. This allows its own armor to serve as an ultra-high-density superconductor-loop energy bank with three orders of magnitude more energy than the best TL8 advanced batteries (approximately equivalent to an array of TL9 “F” cells). They are kept charged by an experimental MHD-gas turbine generator. Stabilization is provided by a computerized “walk by wire” system linked to a virtual-reality helmet, which is also used for weapons targeting.

Due to limitations in the supply of the core red mercury substance after the Kola borehole was exhausted, only six prototypes have been built. They are operated by a Spetsnaz GRU unit code-named “Red Bogatyr.” Other special equipment includes a Keldysh-Koroteyev plasma generator that creates a plasma-stealth field that renders it invisible to radar. Unfortunately this causes the mecha to glow in the dark when it is in use, but it is effective in daylight operations, or in bad weather, smoke, etc. and against beyond-visual-range radar detection.

The giant robot has two aircraft-style pylons that retract out of its torso. They contain hardpoints with space for up to 200 lbs. of weapons each (typically missiles). A pair of 7.62mm machine guns are mounted in the turret (with 4,000 rounds). The main armament is a hand-held “mecha rifle” that it carries

as a shoulder arm: the D-98TMP. This is an advanced alloy short-barreled reduced-recoil magazine-fed semi-automatic rifle version of the DT-81 125mm tank gun: Damage 6d×7(10) cr ex with linked 6d×4 cr ex, Acc 5+3, Range 3,000/9,000, Wt. 3,000/440, RoF 1, Shots 5(3), ST 100, Bulk -10, Rcl 10, \$200,000. Usually two red-mercury HEAT projectiles are issued with 10× damage. Plans exist to replace this with a particle beam weapon still under development.

Aside from the plasma-stealth system, it was designed to be fitted with a variety of special defensive systems, including next-generation Relikt explosive-reactive armor, the Shtora infrared guided missile jamming system, and an EMT-7 electromagnetic pulse anti-mine jamming system. However, systems-integration problems and cutbacks have meant that none of that gear has yet been installed. It does have thermal imaging and sighting (+3 Acc, 16× magnification), radio (250-mile range), fire-suppression system, white light/infrared searchlight, a laser- and radar-warning system, and four-shot smoke discharger (*GURPS High-Tech*, p. 229). Driving/TL8 (Mecha) is used to operate it.

Despite these glitches, the mecha stand ready to defend the Russian Federation from all manner of threats (if no one steals them and sells them to the highest bidder first). In the mean time, they are mostly being used, quietly, in various internal and counter-terrorist operations.

## Vehicle Table

TL	Vehicle	ST/HP	Hnd/SR	HT	Move	LWt.	Load	SM	Occ.	DR	Range	Cost	Locations
8 <sup>^</sup>	PBM-90	166	+2/2	11	10/15*	36	0.3	+4	1+1	200†	200	\$124M	2A2Lt2Xr

\* It can fly for up to 30 minutes using Piloting (Vertol)/TL8 at Move 10/120 with stall 0.

† DR 600 in frontal arc over the body and head, but only DR 200 elsewhere. Thanks to exotic superconducting armor, DR is tripled against shaped charge warheads such as HEAT, particle beam weapons and plasma weapons for as long as the power is operating (it is doubled vs. shaped charge warheads under normal conditions).

*Because of its adopted role as an impromptu heavy tank destroyer, capable of knocking out the heaviest German armoured vehicles – Tiger and Panther tanks, and Elefant tank destroyers – it was nicknamed Zveroboy, “beast killer.”*

– “SU-152,” *Wikipedia*

## ABOUT THE COLUMNIST

David L. Pulver is a Canadian freelance author. An avid SF fan, he began roleplaying in junior high with the newly released *Basic Dungeons & Dragons*. Upon graduating from university, he decided to become a game designer. Since then, David has written over 70 roleplaying game

books, and he has worked as a staff writer, editor, and line developer for Steve Jackson Games and Guardians of Order. He is best known for creating *Transhuman Space*, co-authoring the *Big Eyes, Small Mouth* anime RPG, and writing countless *GURPS* books, including the *GURPS Basic Set, Fourth Edition*, *GURPS Ultra-Tech*, and the *GURPS Spaceships* series.

## METATRONIC GENERATOR EXAMPLES

The following are examples of metatronic generators using these rules.

### *Anti-Mutant-Detection Device*

A tiny device the size of a ring, usually built into another item, it completely masks the fact that the user is a mutant or psi. It's self-powered and runs off of piezoelectricity produced by the wearer. Tiny, \$294,000, 0.03 lbs. Self-Powered. LC2.

*Statistics:* Obscure 10 (Detect (Superhumans); Apparatus, +0%; Defensive, +50%; Extended Sense, Detect (Psi), +20%; No Area Effect, -50%; Stealthy, +100%; Superscience, -10%) [42].

### *Cloud Seeder*

Large enough to fill the back of a semi-truck and looking like a cross between a satellite dish and the guts of a microwave, this metatronic generator allows the user to control the weather within a three-mile radius. It can produce effects that give  $\pm 10$  to rolls that would be helped or hindered by the weather. You decide from what type of weather the penalty or bonus is coming, such as snow, a lightning storm, wind, hail, fog, and so on.

*Example:* Dr. Khaotic is using his cloud seeder to threaten the city of New York unless his demands are met. Not wanting to unleash the full power of his device right away, he decides

to create a torrential downpour, flooding streets and making it difficult for people to navigate. This gives a -5 to all Vision and Driving rolls, but could also give a +5 bonus on all rolls relating to fighting a fire. Alternatively, he could produce hail that did  $1d+4(0.2)$  cr damage to everything in the area.

Due to the complexities of this particular metatronic generator, all Electronics Operation (Metatronic) skill rolls are at -3, and any roll of 16 or higher is considered a failure. It requires at least one hour to initiate; all effects last 50 minutes after the cloud seeder is used. However, if it remains in constant use, the effects continue until it's turned off! Optionally, you may use this metatronic generator at range; when determining range penalties, consult the *Long-Distance Modifiers* box on p. B241. Large, \$2,010,000, 3,000 lbs. External Power. LC2.

*Statistics:* Control Weather 30 (Apparatus, +0%; Extended Duration,  $\times 300$ , +100%; Hard to Use 1, -5%; Immediate Preparation Required, 1 hour, -75%; Long-Range 1, +50%; Natural Phenomena, +100%; Persistent, +40%; Ranged, +40%; Unreliable, Malf. 16, -5%; Superscience, -10%) [2,010].

### *Dumb-Dumb Grenade*

A small spherical device that activates when turned counter clockwise. After two seconds, everything within a four-yard radius of the grenade must make a Will-2 roll. Failure results in all targets becoming drooling idiots who can neither speak nor focus on any particular task for a number of minutes equal to their margin of failure (minimum of one minute). This is a one-use device. Mini, \$88,200, 0.3 lbs. T or 2xA. LC2.

## When Standing Waist Deep in Gasoline, Avoid Matches

These rules assume that the GM allows anyone with money to purchase a metatronic generator; for some campaigns, this will simply not work. The GM should *rigorously* enforce the *Gadgets for Non-Gadgeteers* rules on p. B477. The GM should also review *Unusual Background and Equipment in Supers* (p. 75). Finally, things might get out of hand if Gadgeteer adventurers emulate powers and abilities that other characters paid points for by buying them as equipment. The GM could charge inventors a one-time character point cost equal to the  $1/5$  the cost of starting with the invention: 1 point if the gadget is Simple, 3 points if Average, 6 points if Complex, or 10 points if Amazing. If the metatronic generator uses *really* alien principles or superscience unknown in the setting, the GM may charge an additional 5 points on top of the above. The trade-off is that, while the inventor does acquire new "powers" with each invention, he has less to spend on his own personal traits, and his "powers" are still as breakable and subject to malfunction as normal equipment!

The GM could forbid the Quick Gadgeteer advantage, allowing only the regular Gadgeteer advantage. Optionally, he could permit a special, 30-point version of Gadgeteer

that acts as standard Gadgeteer *unless* the inventor spends a single character point, in which case it's upgraded to Quick Gadgeteer for the purpose of *one* invention.

Alternatively, the campaign may have a "hard limit" on the number of metatronic generators someone has. For such settings, an inventor may have a number of metatronic generators equal to  $3 + \text{half}$  his Engineer (Metatronics) skill (round down). Add 5 for having the standard Gadgeteer advantage, or 10 with the Quick Gadgeteer advantage. Simple gadgets count as one, Average as three, Complex as six, and Amazing as 10. If the number of generators exceeds this limit, the oldest one acquires Unreliable, 5 or less, on its abilities due to reduced maintenance or usage. Those with the Inventor! wildcard skill (*Supers*, p. 37) may substitute that skill instead of Engineer (Metatronics) to determine their cap. If using the rules for *Hyper-Competency (GURPS Monster Hunters 1: Champions*, pp. 28-29) or *Wildcard Points (Paying Fate's Price, GURPS Power-Ups 5: Impulse Buys*, p. 5), one wildcard point allows the inventor to ignore the Unreliable limitation on a given device for *one* use only.

# FANTASY-TECH 2000

BY MATT RIGGSBY

*GURPS Fantasy-Tech 1: The Edge of Reality* dealt with a wide range of bad science and failed technology from the pre-industrial age. But what happens if those technologies make it into the modern era? What effect does better astronomy have on your horoscope? What would Daedalus's wings have looked like during the Second World War? This article answers questions you probably haven't asked about what happens when the edge of reality gets a little closer to the present day.

*The reasonable man  
adapts himself to the world;  
the unreasonable one persists  
in trying to adapt the world  
to himself. Therefore all  
progress depends on the  
unreasonable man.*

– George Bernard Shaw

## WEAPONS

There's no need to leave implausible weapons in the past; this updated armament combines ancient approaches with modern improvements. Most of them rely on something other than gunpowder and similar chemical explosives to do damage. Their performance is typically poorer than conventional weapons, but they may be used in worlds that never invented chemical explosives, or assembled by gadgeteers with access to lots of parts but few chemicals. The combination weapons have their own drawbacks relative to pure melee and missile weapons, but they're not bad for situations where close-in combat with tough opponents is a possibility (if, say, their users are *Monster Hunters*), or where the user wants to look as metal as possible.

### *Reflective Heat Rays*

Archimedes' reflective heat ray was a nasty surprise for unprepared Roman ships, but suffered from limitations imposed on it by material science and a lack of automation. Later (mad) scientists can improve on the design in a number of ways.

At TL5, mass-produced mirrors and superior optics significantly improve power and accuracy while dropping the price. Developments in variable-geometry mirror arrays and even better optical systems improve performance incrementally at TL6 and TL7, though for an increased price.

At TL8, performance is the same as at TL7, but targeting computers allow batteries of mirrors to be linked together and fire in unison at the same targets. A linked array can be aimed and fired as a single unit, with one roll to-hit and one damage roll, equal to the combined damage done by each unit. For example, an array of five reflective heat rays would do 10d+10. Effective range is the *average* range of units to the target.

Like ancient improved reflective heat rays, higher-tech reflective heat rays use a complex series of reflectors that allow them to attack targets at any angle so long as the sun is out. However, they are heavily affected by lighting conditions. Subtract 1 point of damage *per die* for *each* of light fog and cloud cover, 2 points for each of moderate clouds and heavy fog, and 3 points for completely overcast skies.

### *Dieselpunk Steam Cannon*

The dieselpunk steam cannon are better versions of the wood- and charcoal-fired steam guns of Archimedes and Leonardo da Vinci, using gasoline, kerosene, or some other liquid fuel to heat the vaporization chamber. In addition to relying on pressurized jets of burning fuel, they incorporate superior principles of gunnery (the dieselpunk cannon are rifled rather than Renaissance-era smoothbores). They use optimized alloys and more efficient insulation for faster heating (the weapons only need to heat for five minutes before firing), better internal water distribution, and other tricks to improve the weapon's performance and reduce its size.

In addition to ammunition, the dieselpunk steam guns require fuel to keep them at firing temperature. The 1 lb. gun runs through 12 lbs. of liquid fuel (about two gallons) per hour. The 10 lb. gun uses 48 lbs. (eight gallons) per hour.

If using multi-shot and other ammunition options from *GURPS High-Tech*, the 1 lb. steam gun is about 12.5mm, while the 10 lb. gun is about 25mm.

## ABOUT *GURPS*

Steve Jackson Games is committed to full support of *GURPS* players. Our address is SJ Games, P.O. Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! We can also be reached by email: [info@sjgames.com](mailto:info@sjgames.com). Resources include:

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*Errata.* Everyone makes mistakes, including us – but we do our best to fix our errors. Up-to-date errata pages for all *GURPS* releases are available on our website – see above.

*GURPS* rules and statistics in this magazine are specifically for the *GURPS Basic Set, Fourth Edition*. Page references that begin with B refer to that book.

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