
PYRAMID
Issue 3/40 February '12
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*Getting there is half the fun!*

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PYRAMID®

# In This Issue

It's almost impossible to determine what drives a person to action; it's much easier to determine what someone drives *into action!* This issue of *Pyramid* is devoted to vehicles – realistic and fantastic – from past, present, and future.

Our journey begins with a look at everyone's favorite impossible automatons, in *Mecha Operations*. Written by ***GURPS Ultra-Tech*** co-author Kenneth Peters, these options push the ***GURPS Spaceships*** design system into new robotic realms. It includes stats for three models that will bring out the speed lines in you.

Fantasy realms love their fantastic vehicles . . . but who makes them? One answer is revealed in *The Arsenal of Mageocracy* by Matt Riggsby (author of ***GURPS Fantasy-Tech 1: The Edge of Reality***). It includes a map of the productive port, plus ***GURPS*** info on 10 of its creations. Behold the impossible swan boat and the iron-shod land dreadnought!

In the modern world, what's better than getting there fast? Getting there fast *in style.* With *Hot Rides!* – this month's *Eidetic Memory* entry from ***GURPS Basic Set*** co-author David L. Pulver – you'll get ***GURPS*** vehicle stats for eight of the most amazing real-world sports cars around. Discover what a million-dollar ride can do!

For as long as roads have existed, so have broken vehicles at the side of the road. *Things Fall Apart* looks at how to bring vehicular problems into a campaign, with three outlooks to suit different gaming styles. Whether dealing with an inefficient sailing ship, an out-of-control bus, or an immobile spaceship, you'll introduce the fun of cruising conundrums to your campaign.

Vehicles needn't just deliver you from place to place; they can be the adventure! With *Spirited Rides,* you'll discover three transports (with ***GURPS*** stats) that can take you to trouble – or deliver it personally! Discover the secret of the ghost ship's bargain, or travel from town to town in a trouble-solving truck.

If you've ever gone someplace and don't quite remember how you got there, you're halfway to *The Between-Space.* This massive impossible "vehicle" for any era will take the heroes where they want to go; it might even let them go home.

This issue also contains a *Random Thought Table* inspired by Steven Marsh's vehicular trivia, plus *Odds and Ends* we didn't have room for elsewhere (including a *Murphy's Rules* we could've sworn would fit in the trunk).

Hop aboard; this issue's sure to be a wild ride!


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# From the Editor

## Mobile Mayhem

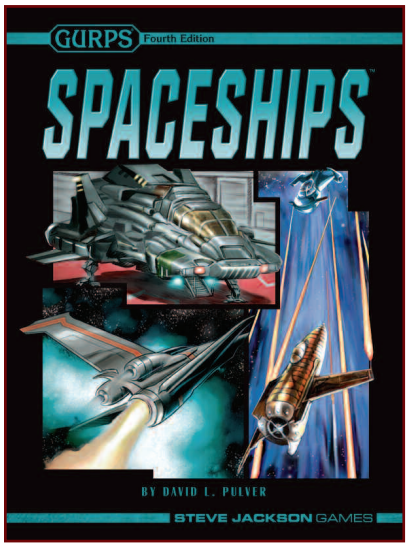
When I first picked up the ***GURPS Basic Set*** at the local Waldenbooks (back in 1989, I'm guessing), one element that struck me was just how *insane* the whole package felt, compared to other roleplaying games I'd been exposed to before then. I'd come from ***Dungeons & Dragons, Star Wars, Marvel Super-Heroes,*** and other specific-purpose games. However, here in this one book were rules for firearms, magic, psionics, vehicular combat, laser rifles . . . it had an "anything is possible" flavor that set it apart from any game I'd picked up before. This attitude extended to the rest of the ***GURPS*** shelf. Seeing all those supplements sitting next to each other on the shelf, my mind couldn't help but combine various possibilities: When you put ***GURPS Fantasy*** next to ***GURPS The Prisoner*** and ***GURPS Ice Age,*** strange and wonderful ideas formed in my 15-year-old brain.

While this issue is still devoted to a theme – vehicles, of course – I also realized this issue recaptured some of the "anything goes" attitude that I found so eye-opening in my first encounter with ***GURPS.*** There are transforming robots next to magical armorers, and modern-day sports cars parked alongside interdimensional portals.

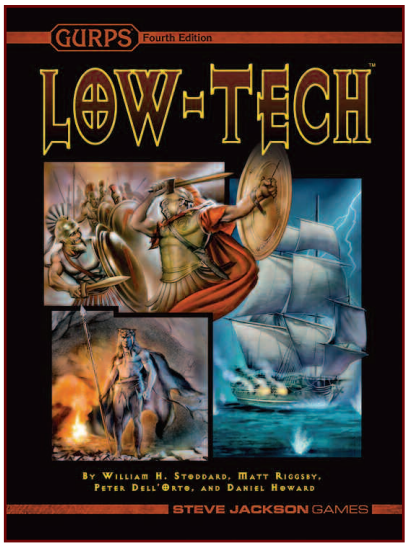
I'm hoping there's something here for everyone, and that this issue captures the infinite possibilities that drew us all to roleplaying games in the first place.

## Write Here, Write Now

Did our look at all things vehicular *drive* the point home for you? Or were we just spinning our wheels? Let us know what you thought about this month's installment, by sending a private note to **pyramid@sjgames.com,** or a public posting of your vehicular views at **forums.sjgames.com.**







# Mecha Operations

by Kenneth Peters

Although it began as a design system for constructing spacecraft, the ***GURPS Spaceships*** system has unofficially evolved and expanded to handle submarines and tanks (using *Alternate Spaceships* from *Pyramid #3/34: Alternate* ***GURPS***), and all manner of strange and unusual craft that fly on aetheric winds or burn the souls of innocents to ply the stars (***GURPS Spaceships 7: Divergent and Paranormal Tech***). The following "tricks" aim to expand the options for humanoid robot spacecraft ("mecha"), which were introduced in ***GURPS Spaceships 4: Fighters, Carriers, and Mecha.***

## Design Notes

***GURPS*** requires few special exemptions to handle mecha; in almost all cases simply use the normal rules for vehicles (p. B462).

### Size and Shape

By default, ***Spaceships*** mecha designs have three broad hit locations. By convention, the Front hull of a humanoid mecha represents the front torso and head; the Central hull is the torso interior, shoulders, and back; and the Rear hull are the legs and "pelvis." This is simply a set of guidelines, but will help you stay consistent with the published examples.

If you desire additional detail, assign vehicle hit locations (p. B463). A typical mecha with two robot arms and two legs has the locations 2A2L; it may have an independent turret (t) to represent the head and one or more small superstructures (s) if using handheld weapon batteries (***GURPS Spaceships 4,*** p. 38) or equipment packs (pp. 6-7). Streamlined vehicles with wings add wings (Wi).

*Smaller Arms:* Mecha with robot arms smaller than normal for their SM cannot carry full-size handheld weapons except when using both arms (and they do not get the bracing bonus for doing so), and may not climb (p. B349) with their weedy limbs. Telescoping robot arms (***GURPS Spaceships 8: Transhuman Spacecraft,*** p. 9) cannot climb or use *any* weapons!

### Movement

Mecha are operated like any other vehicle . . . though one that tends to have arms and legs, and look like a giant mechanical human! Those with legs can maneuver well in almost any environment, and do not suffer any speed reduction for moving off-road. Their size means that they can stride over most low obstacles (three SMs smaller). Their mass lets them crash through flimsy obstacles (small trees, suburban houses) at normal Move.

*Thrust Vectoring Owns the Sky:* Transformable mecha have even more options for movement. One common maneuver they use is to transform in midflight and swing their thrusters forward, allowing them to quickly decelerate and boost *backward* – evading enemy attacks and getting into a better firing position. This tactic is shown in the source material to almost guarantee combat advantage against conventional aircraft and space fighters in a dogfight (this may justify at least a +1 Piloting bonus on Closing Maneuvers versus nontransformable vehicles). To be true to the genre, you should also use *Airplane-Style Dogfights* (***GURPS Spaceships 4,*** p. 33) in every environment, even underwater.

> *A mecha is maneuvered very simply: the pilot chooses any normal basic or advance combat maneuver and the mecha follows that maneuver, just as if it were a person.*
>
> **– *GURPS Mecha***

#### *Encumbrance*

In addition to cargo transported in internal cargo bays, mecha can carry additional cargo strapped to their body or carried in their arms. High encumbrance reduces their ground Move just as it does for a character (p. B17) and will lower acceleration (and thus, air speed) like items attached to an external clamp (***GURPS Spaceships,*** p. 15).

### *Jumping*

Mecha are not terribly good leapers in ***GURPS***, with a standard two-legged mecha being able to high jump a little over 4' (see *Jumping Distance,* p. B352). Most mecha have booster rockets or limited flight capabilities that make this rather meaningless, but it does make more sense to use the optional *ST and Jumping* rule for ***Spaceships*** designs (an exemption to the normal requirement that Basic Lift exceed weight). This allows a SM +4 mecha to make a standing jump of almost 18', and scales for larger designs.

*Jump Jets:* Mecha can use their thrusters in brief spurts to clear obstacles. Instead of tracking delta-V and the number of G-seconds of thrust available, each mecha is given a number of *Jump Points* equal to their delta-V reserves × 360 in Earth-normal gravity. By spending one jump point, the mecha gains Super Jump 1 for the turn, two points gives Super Jump 2, four points gives Super Jump 3, and so on. Super Jump is capped to the G-acceleration of the engines being used. For reference, a smaller system composed of a chemical rocket and two fuel tanks provides 1G of acceleration and 0.1 mps of delta-V, or up to 36 uses of Super Jump 1. Under other gravity conditions, multiply the jump point cost by (1/local gravity).

## Dealing Damage

Combat mecha are almost always heavily armed, with an array of missiles, beam rifles, and other assorted death-dealing gadgets. But even a civilian work mecha can put an unprepared opponent in the hurt locker using the inherently high ST of their frames.

### *Mecha Martial Arts*

Mecha punch using metal-shod fists – they do thr cr damage based on their dST, much like a human wielding brass knuckles. Mecha with smaller arms use the dST from a hull one SM less. Telescoping robot arms use their listed ST. Unless they have the grabber feature, mecha robot arms can manipulate objects with the same dexterity as a human could at that SM. The operator can also use his close-combat skills to grapple or throw enemy mecha and other vehicles. Kicks from a mecha do thr+1 cr.

*Claws:* Sharp claws or rippers on the arms or legs convert damage from crushing to cutting. There is no extra cost.

*Jaws:* Biting teeth and rending chainsaw mouths can be purchased as maws (***GURPS Spaceship 7***, p. 12).

*Talons:* These scything blades can do *either* thr imp or sw cut damage. Add 10% to the cost of the arm or leg.

### *Massive Weapons*

Combat mecha often carry scaled-up daggers and swords for last-ditch close-combat engagements and bypassing some types of force fields. These giant weapons can be combined with special features such as superfine blades or monomolecular edges (see ***GURPS Ultra-Tech,*** pp. 162-164).

***GURPS Low-Tech Companion 2: Weapons and Warriors*** includes a set of rules that can be used to create any number of giant-sized swords and katanas. When scaling melee weapons from ***Ultra-Tech***, which often have fixed damage values, multiply damage by the value listed in the "Damage (+1 or more)" column on the *Weapon and Armor Scaling Table* (***Low-Tech Companion 2,*** p. 21).

*Example:* A large SM +5 force sword (***Ultra-Tech***, p. 166), suitable as the backup weapon of an advanced mecha suit, has 6d×10(5) burn; Reach 4, 8; $562,500; 112.5 lbs.; and ST 23.

## Extreme Damage

More than most vehicles, mecha can benefit from the *Extreme Damage* optional rules written by David Pulver (*Pyramid #3/34: Alternate* ***GURPS***).

The *Increased Damage With Superhuman Strength* option makes robot arms far more dangerous to buildings and other mecha they can get a grip on. *Keeping Large Vehicles Alive* is practically a necessity for mecha facing off against ultra-tech heavy weapons. Settings that have uncannily robust mecha compared to tanks and other armored vehicles can replicate this by applying the *HP and Weight: An Alternate Approach* option exclusively to humanoid robots. Of course, using the *Taming Explosions* rule will significantly increase the life expectancy of your mecha if they encounter large improvised explosive devices or micronukes!

## Survivability

***GURPS Spaceships*** treats mecha like any other collection of engines, sensors, and weapons that can operate in air or space – which is thematically appropriate, as the line can be blurred between humanoid robots and spacecraft in the source material. Compared to other ***Spaceships*** designs, they are balanced, but throwing them against battlesuits and weapons from ***GURPS Ultra-Tech*** or ***GURPS High-Tech*** can be a bit problematic if players expect them to be walking tanks. For example, the TL12^ *Galaxy Striker* super mecha (***GURPS Spaceships 4***, p. 29) has a mere DR 900 on its front, compared to DR 1,155 for the glacis plate on an antiquated TL7 T-72A (***High-Tech***, p. 244). The seeming fragility of ***Spaceships*** designs against anti-tank missiles and heavy cannons can give pause: A simple RPG-7 with a modern HEAT round (***GURPS High-Tech***, p. 148) routinely penetrates dDR 28!

However, things are not *quite* as dire as they appear to be. For example, keep in mind the following.

### *Armor*

It is a common trope that only mecha are judged worthy of being fitted with advanced or rare armor materials. This can qualify them for hardened armor, sometimes combined with exclusive access to ultra-tech armor technologies (such as exotic laminate or diamondoid). In addition, remember that most vehicles can benefit from the optional *Armor and Volume* rules from *Alternate Spaceships* (*Pyramid #3/34: Alternate* ***GURPS,*** p. 4).

*Laminate Armor:* As an *optional* (but realistic) rule, the GM may declare that metallic laminate, advanced metallic laminate, nanocomposite, and exotic laminate armor use multi-layered composites that *double* DR vs. damage of shaped-charge explosive warheads or plasma gun bolts before applying the armor divisor. Diamondoid armor and force fields may qualify as well.

*Top-Attack Missiles:* Mecha rarely have any particular vulnerability to weapons that strike at more vulnerable armor facings, due to their peculiar shape. Use the Central hull dDR against such attacks unless the *Armor by Facing* design feature is used (*Pyramid #3/34,* p. 8); even then, the GM may wish to assign a penalty to hit due to the small top profile of most horizontal mecha.

## *Mobility*

Attackers have a difficult time detecting and hitting a moving target, much less one that is ducking and dodging around a cluttered battlefield. Even without giving humanoid robots a genre bonus to their defenses, all but the clumsiest mecha can Dodge (see *Defense,* p. B470) attacks with an expectation of success (Hnd +1 for the *Galaxy Striker* vs. -3 for the T-72); mecha are far more maneuverable than a vehicle that large has any right to be! Many mecha also have high-acceleration thrusters, allowing them to simply outrun many missile attacks – or at last keep ahead of them long enough to either shoot them down or duck behind cover.

*Find Cover!* Small hulls, buildings, and even other vehicles can provide cover and concealment to mecha. You can use the cover penalties on p. B408. The *Using Cover* rules from ***GURPS Tactical Shooting*** (p. 28-30) are also appropriate (the guidelines apply to 40' robots as much as 6' humans). There are many examples of the Barricade Tactics perk (***Tactical Shooting***, p. 37) being used by mecha pilots, with their robots sniping around skyscrapers, going "hull down" in drainage culverts, or using trees to block enemy fire.

*Get Down!* Mecha with legs can use the same posture modifiers as humans while on the ground (such as kneeling and going prone), and can make use of the same combat maneuvers, notably *Dodge and Drop* (p. B377).

# Design Features

These design features can be added to any vessel, but often only appear on mecha.

## *Advanced Interface*

The control room incorporates a neural interface, a "reflex control rig," or simply has an intuitive layout. The pilot has a +1 to all Piloting Tasks (***GURPS Spaceships,*** p. 53). Add $50K to the cost of the control room.

> *Orders for the Landstrider Dragoon have been slow due to the high price and specialized application of the vehicle . . .*
>
> **– *GURPS Transhuman Space: Deep Beyond***

## *Command Armor*

Also known as core/shell mecha (see ***GURPS Mecha***), in ***Spaceships*** this is a variation of the upper stage and small upper stage systems. With this feature, the mecha is surrounded by an outer shell that mounts supplementary systems. While the core mecha can be ejected easily, putting the command armor *back on* can be a time-consuming task!

Design the outer shell like any other spacecraft or mecha, but omit a control room, as it will be slaved to the core vehicle. If the outer shell is one SM larger than the core mecha, the core mecha takes up six systems (either two in each of the three hulls, or three systems in each of two adjacent hulls), including *both* [core] systems. If the outer shell is two SMs larger, the core mecha takes up both [core] systems (in either the Front and Central hulls *or* the Central and Rear hulls). If the core mecha is the one providing the Power Points or thrust, keep in mind the rules for smaller systems! (See ***GURPS Spaceships 7,*** pp. 4-5, and ***GURPS Spaceships 8: Transhuman Spacecraft,*** p. 5.)

## *Efficient Design*

The vehicle incorporates novel construction techniques and advanced technologies to reduce its size. Mass is unaffected, but the vessel is treated as one SM less when rolling to detect or attack it. This is cumulative with the armor volume rule. *Double* the final cost of the vehicle.

## *Equipment Packs*

Mecha can attach extra armor, booster rockets, and weapons for special missions. One of the most prominent examples is the FAST packs from *Macross.* Design these as smaller systems and decide which non-core hull system they are attached to. Two or three smaller systems can be combined into a larger pack, if desired.

Packs are *not* protected by the vessel's armor but have the same dDR as one system of upper stage metallic laminate armor, much like handheld weapons (***GURPS Spaceships 4,*** p. 38). They can be targeted with precision attacks (***GURPS Spaceships,*** p. 66); any damage that penetrates the pack's integral dDR destroys it and will strike the hull armor in that section. Each pack masses 1/60 the loaded mass of the mecha that uses it – doubled or tripled for larger packs – which may affect acceleration and counts towards encumbrance. They can be ejected in one second.

*Handheld Weapons:* Handheld weapons normally cannot be fired without a free robot arm (***GURPS Spaceships 4***, p. 38), but the GM may allow it to be used as a normal fixed mount weapon while stowed (such as the Valkyrie gunpods in *Macross*).

Weapons that are carried in the robot arms but not purchased as one of the 20 vehicle systems count toward encumbrance; otherwise use the rules as presented in ***GURPS Spaceships 4***.

## *Compact Power Plant*

Humanoid shapes are not the most efficient use of a given volume, so every cubic foot and pound of mass counts. By using expensive components and eliminating some safety features, the vehicle can fit an overcharged reactor that provides *double* the number of Power Points. The power plant becomes *volatile* (***GURPS Spaceships,*** p. 62); power plants that are already volatile are -2 on the HT roll to check to see if the spacecraft explodes when it's disabled! Multiply the cost of the power plant by ×1.5.

## *Enhanced Ground Move*

***Spaceships*** mecha normally have rather limited ground speeds (20 mph for two legs), with top speeds set by the maximum practical rate at which you can cycle the limbs. Mecha can move faster on the ground, but do not run as such. Instead, they bound in a series of running leaps. With this feature, the mecha has one or more levels of Enhanced Move (Ground) as described on p. B52. Double the cost of the mecha's robot legs for each level. A single level – which *doubles* ground Move – is realistic for running; beyond that, the mecha is assumed to be using Flight (Low Ceiling).

## *Impressive Looks*

The vehicle design pays as much attention to aesthetics as it does to practicality. This grants a +2 bonus to reaction rolls from collectors and potential buyers (including procurement officers), and to Merchant skill rolls made as Influence rolls (p. B359) on such people. At the GM's discretion, it can be *intimidating* instead of impressive. Multiply final vehicle cost by five.

## *Psychoframe*

The structure of the vehicle incorporates psionically resonant materials. For range purposes, the entire vehicle counts as an extension of the user's body, meaning that powers with Contact Agent or Melee Attack can affect anything the vehicle is touching, and all attacks measure range from the vehicle hull. Unfortunately, enemy psionic abilities that target the vehicle will directly affect the operator if they are resisted by IQ or Will. At the GM's discretion, psychoframes may require a psi-interface to function (***GURPS Psi-Tech***, p. 11). This option costs $0.1M per ton of vehicle mass; thus, for a SM +6 (100 ton) craft it costs $10M.

## *Tiny Systems*

Vessels that are SM +4 cannot take advantage of smaller systems in most cases. This option allows for a few systems to be installed at SM +3. Each SM +3 system is about 300 lbs. and can consist of items from ***GURPS High-Tech, GURPS Ultra-Tech***, or other sources. For tiny ***Spaceships*** systems, the following are available.

### *System Statistics at SM +3*

| ***System*** | ***Statistics*** |
|---|---|
| Cargo Hold | 0.015 tons capacity |
| Control Room | C5 computer, comm/sensor TL-8, and one control station* |
| Enhanced Comm/Sensor Array | Array level TL-6 |
| Passenger Seat | One seat with no life support |
| Robot Arms | dST 10 |

* The discount for removing the control station is only $10K. Ejection systems are not available for SM +3 Control Rooms.

SM +3 systems are 10% of the cost of a SM +5 system.

## Mook Mecha

Mecha suits piloted by the nameless hordes of low-ranking soldiers have a distressing tendency to use nitroglycerine as a coolant and reaction mass. To properly simulate the disposable nature of unnamed characters in anime and manga, *all* systems on mook mecha are treated as *Volatile Systems* (***GURPS Spaceships,*** p. 62) and a failed HT roll means that it will *immediately* explode in an appropriately dramatic manner. The resulting fireball does not cause any area damage, even if the mecha exploded as a result of a well-placed punch by the hero. The *Exploding Spacecraft and Fireballs* rule from ***GURPS Spaceships 4*** (p. 33) is more appropriate for anyone that at least rates a name.

# Design Switches

Most settings that feature humanoid war machines have some form of explanation as to why they dominate the battlefield. The following are additional design switches that are particularly appropriate for campaigns where mecha are valid alternatives to more conventional vehicles.

## *Combiners*

This allows a group of smaller mecha ("sub-mecha" or "detachments") to combine into a single, larger mecha. As combining robots rarely make much sense in terms of how the components are supposedly integrated, and few people want to roleplay as the foot of a giant robot, simply design the final combined robot as a normal vehicle, with a number of separate sub-mecha that roughly total to its loaded mass. If additional detail is desired, each component vehicle should have an external clamp that can only be used for transformation purposes.

*Combiner Expansion Pack:* This is (usually) a mecha two SMs smaller than the parent that radically transforms itself into a *single* system (usually a control room, major battery, or power plant) when "plugged in." This is a variation of reconfigurable system, with one of the "systems" that it can transform into being an independent vehicle! For even wilder examples, the combiner can be *any size,* even larger than the parent, and simply shrink or expand during the transformation process.

## Super Robots

*This Zaku is three times faster than the normal Zaku!*
*– Char, in* ***Mobile Suit Gundam***

Mecha designed using ***GURPS Spaceships*** can be quite deadly, but even with superscience components they are still no more powerful than a spaceship or tank with the same technologies. For mecha that are outright *amazing*, create a base design, then tweak it using the same guidelines as for superhero vehicles (***GURPS Supers,*** p. 84). These types of alterations can also reflect the unique adjustments that ace pilots and other named folks make to otherwise stock designs.

### *Fast Transformation*

The base time for a reconfigurable system (***GURPS Spaceships***, p. 24) to change function is 20 seconds. Transformable mecha can often alter forms *much* faster! To represent this, the GM may rule that the transformation process takes only a single second. In many settings, fast transformation is limited to smaller craft (SM +6 or less), while larger ones have much *slower* reconfigurations!

### *Overdrive!*

Mecha often have special capacitors and energy reserves that they can use in case of emergencies. This gives the robot a pool of Fatigue Points equal to the number of Power Points it produce that can be used for sprinting (p. B354) and other forms of Extra Effort (p. B356). Substitute HT for any attribute rolls.

### *Rain of Pain*

Mecha in anime and video games may appear to have limitless missile and cannon ammo, in blatant contradiction to the amount of ammo listed in their source material or on the model box! With this switch, the mecha has an infinite store of ammo, with only a token reloading time between salvoes. Alternate names for this switch are *Missile Massacre* if it only applies to firing massive volleys of mini-missiles, and *Bullet Hell* if it only applies to cannon spam. The GM sets the time required to reload, but a good rule of thumb is at least two turns (either in the ***GURPS*** scale or ***Spaceships*** combat turns) so that the players have to sweat a little after unleashing their fury. As an option, this switch only applies to attacks made against hordes of mook mecha – you can actually run out of ammo against named characters and other important foes!

### *Pilot Synchronization*

With this switch, a vehicle can be controlled like an extension of the operators body, through a mysterious "interface effect" or controls similar to that used for battlesuits. For humans, this may require that the design have at least a pair of robot arms, and often two robot legs. This is a limited form of a total interface as described in *One With the Ship* (from *Pyramid #3/30: Spaceships,* pp. 11-17). With this switch active, the mecha pilot gets the following benefits.

- Enhanced Dodge, Extra Attacks, Gunslinger, and other *pilot* advantages that deal with improved coordination or extra actions can be used while operating the vehicle.
- The pilot may make Per-based Electronics Operation (Sensors) rolls when using the vehicle sensors (***GURPS Spaceships,*** p. 44).
- The pilot can benefit from *Cockpit Multitasking* (***GURPS Spaceships 4,*** p. 33) even if operating vehicles larger than SM +6.
- The vehicle does *not* suffer the usual -1 penalty to Handling and Stability Rating for using a smaller control room.
- The pilot can perform Acrobatic Dodges (p. B375).

### *Super ECM*

Some form of sensor-jamming particles is a common cliché to explain why mecha combat is up-close and personal. In the case of *Mobile Suit Gundam,* the jamming effect ("Minovsky Particles") is a byproduct of fusion reactors! This can be replicated by doubling, or even tripling, the ranged attack penalty for Defensive ECM systems . . . or simply ruling that the jamming fields are so ubiquitous that most sensor tasks (***GURPS Spaceships***, p. 52-53) are impossible outside of visual range.

### *Unobtanium Armor*

If this switch is used, the vehicle can purchase *multiple* levels of Hardened Armor, doubling cost each additional level; four levels (×16 armor cost) completely negates the armor divisor of most anti-tank warheads.

*Even the bullets shoot bullets.*
*– Zeon_1992, commenting on* ***Bullet Heaven***

# Robot Roll-Call

To see what's possible on the fringes of the ***Spaceships*** system, here are a few designs.

## Lockheed-Sukhoi *YF/SU-122 Stormhawk* (TL9^)

**See *GURPS Mecha,* p. 73**

The *Stormhawk* can transform from a humanoid battle mecha to a hybrid "raptor" form (with the arms available) or a sleek aerospace fighter. In the *Cybermech Damocles* campaign setting (see ***GURPS Mecha***), it is used by the secret agency UNISTAR to intercept alien mindslavers. It has a 30-ton (SM +5) streamlined hull. Built primarily at TL9^, it has reverse-engineered fusion-torch rockets.

| *Front Hull* | *System* |
|---|---|
| [1-3] | Advanced Metallic Laminate Armor (Hardened; total dDR 9). |
| [4] | Tactical Array (comm/sensor 5). |
| [5!] | Major Battery (turret with 10 MJ laser). |
| [6] | Control Room (C4 computers, comm/sensor 3, one control station). |
| ***Central Hull*** | ***System*** |
| [1-3] | Advanced Metallic Laminate Armor (Hardened; total dDR 9). |
| [4] | Major Battery (handheld 5cm rapid fire conventional gun). |
| [5-6] | Reconfigurable Systems (Robot Arm to Medium Battery with three fixed mount 16cm missile launchers, each). |
| [core] | Fission Reactor (one Power Point). |
| ***Rear Hull*** | ***System*** |
| [1-3] | Advanced Metallic Laminate Armor (total dDR 9). |
| [3] | Defensive ECM. |
| [4-5!] | Reconfigurable Systems (Robot Leg to Fusion Torch Rocket (1.5G acceleration with water reaction mass), each).* |
| [core] | Fuel Tank (1.5 tons water providing 5 mps delta-V each). |

* One Power Point powers both legs.

The *Stormhawk* has a stealth hull and wings. It is operated by a single pilot. The *Cybermech Damocles* setting uses the fast transformation design switch (p. 8).

### *Variants*

Stormhawks are usually launched with a smaller system equipment pack attached to rear [3], with two major batteries (16cm missile launcher each) and a fuel tank (+1.6 mps delta-V). This weighs 1.5 tons, but has only a small impact on performance (2.85G acceleration, no encumbrance). Heavier equipment packs are on the drawing boards but are difficult to conceal, and impede transformation.

Rick "James" Grayson, ace pilot with UNISTAR's Cosmos Squadron, has customized his *Stormhawk* with what he refers to as a "special blend" of flight computer upgrades and airframe adjustments (his flight crew helps keep these unauthorized modifications secret). It is unusually rugged, with HT 14 [20]. Scavenged TL10^ myomers make it faster on the ground – Move 15 [25]. These modifications total 45 points; Grayson is a 200-point character. Using the ***GURPS Supers*** rules for super-vehicles, he purchases his *Stormhawk* as Ally (Built on 25%; 15 or less; Minion, +50%) [5].

| *TL* | *Spacecraft* | *dST/HP* | *Hnd/SR* | *HT* | *Move* | *LWt.* | *Load* | *SM* | *Occ.* | *dDR* | *Range* | *Cost* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PILOTING/TL9 (HIGH-PERFORMANCE SPACECRAFT)** | | | | | | | | | | | | |
| 9^ | *Stormhawk* | 20 | 0/4 | 12 | 3G/5 mps | 30 | 0.1 | +5 | 1SV | 9 | – | $7.9M |

Top air speed is 4,300 mph and Hnd/SR +4/5. On the ground, it has Move 10 and Hnd/SR +2/2.
If using the armor volume rule, dDR is 12 all around.

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## *Landstrider* Walker (TL10)

**See *GURPS Transhuman Space: Deep Beyond,* p. 146**

The McKinsey Industrial Design's *Landstrider* is a walker intended to navigate the harshest environments in the solar system. It is built on a 30-ton (SM +5) hull, 45' long. It is created using the setting-specific design notes from ***GURPS Spaceships 8*** (notably, TL+1 computers). It is a good example of a mecha design that is plausible even in an otherwise hard-science campaign setting.

| *Front Hull* | *System* |
|---|---|
| [1-3] | Light Alloy Armor (total dDR 6). |
| [4] | Passenger Seating (Modular; two seats). |
| [5-6!] | Robot Legs (requires only one Power Point for all legs). |
| [core] | Control Room (C7 computer, comm/sensor 4, and one control station). |
| ***Central Hull*** | ***System*** |
| [1-3] | Light Alloy Armor (total dDR 6). |
| [4-6] | Passenger Seating (Modular; two seats each). |
| [core] | Fuel Cell (one Power Point while active). |

| Rear Hull | System |
|---|---|
| [1-3] | Light Alloy Armor (total dDR 6). |
| [4] | Cargo Hold (1.5 tons capacity). |

| Rear Hull | System |
|---|---|
| [5-6!] | Robot Legs (requires only one Power Point for all legs). |

A single operator pilots the *Landstrider*.

| TL | Name | dST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | dDR | Range | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOTING/TL10 (MECHA) | | | | | | | | | | | | |
| 10 | *Landstrider* | 20 | +2/5 | 12 | 10/20 | 30 | 2.4 | +5 | 1+8SV | 6 | 960 | $1.49M |

Ground performance only.
If using the armor volume rule, dDR is 8 all around.

# Mauser Rex (TL11^)

Mauser Rex is a *mechatronian*, one of a race of intelligent transformable robots who are certainly more than meets the passive-optical sensor! Escaping the iron-fisted benevolence of his home planet's rulers, Mauser Rex has hidden himself on Earth disguised as an extremely fancy – and inordinately destructive – Mauser C96 pistol (***GURPS High-Tech***, p. 97). When he transforms and unfolds his bulk from subspace pockets, he is a 100-ton (SM +6) giant robot! This is a somewhat less restrictive variant of extradimensional interface (***GURPS Spaceships 7***, p. 8) that is [Any!!] and with weapons limited to beams, but don't require a energy-phasing surface (***Spaceships 7***, p. 20). Mauser is IQ 12 and DX 12, with a predator's cunning – he's managed to evade the ruthless Mechatronian Peacekeepers for *centuries*, and isn't about to be caught now.

| Front Hull | System |
|---|---|
| [1-3] | Exotic Laminate Armor (Hardened; total dDR 60). |
| [4] | Multipurpose Array (comm/sensor 8).* |
| [5] | Maw.* |
| [6] | Holoprojector.* |
| [core] | Sapient Brain (comm/sensor 3). |
| **Central Hull** | **System** |
| [1-3] | Exotic Laminate Armor (Hardened; total dDR 60). |
| [4-5] | Robot Arms (claws).† |
| [6!] | Major Battery (handheld 30 MJ antiparticle beam).† |
| [core] | Super Fusion Reactor (compact; eight Power Points). |
| **Rear Hull** | **System** |
| [1-3] | Exotic Laminate Armor (Hardened; total dDR 60). |
| [4-5!] | Robot Legs (requires only one Power Point for both legs).‡ |
| [6] | Weapon Tail (10 MJ improved plasma beam).‡ |

* Is a reconfigurable system with alternate form larger system (Tactical Array, comm/sensor 9).

† Is a reconfigurable system with alternate form larger system (major battery, fixed 100 MJ antiparticle beam) *or* larger system (major battery, fixed 1 MJ very rapid fire improved particle beam).

‡ All three are reconfigurable systems. The legs transform into two extradimensional interfaces (can shrink to SM -4, but Rex can resize to match his wielder), and the tail transforms into defensive ECM.

Mauser Rex has psi shielding, realistic biomorphics (or "mechamorphics" – he's a robot in disguise), regeneration, and stealth. He has no method of moving or aiming when fully transformed, so requires someone to hold him. The operator can use his sensors to aim, but Rex can choose to ignore the user pulling his trigger to fire. In an emergency, he can transform into a full-size form with just his legs unfolded to he can still use his more powerful beam weapons.

Rex uses the fast transformation (p. 8) design switch, taking about three seconds to alter forms, accompanied by a distinctive sound effect.

## *Variants*

Instead of altering the extradimensional interface rules, an option is to have his rear systems turn into something else and purchase him as an Ally with Shrinking (Full Damage, +100%; Full DR, +30%; Full HP, +30%).

| TL | Spacecraft | dST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | dDR | Range | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOTING/TL11 (MECHA) | | | | | | | | | | | | |
| 11^ | *Mauser Rex* | 30 | – | 12 | – | 100 | 0 | +6 | 0 | 60 | – | $496.95M |

On the ground, Mauser has Move 10 and Hnd/SR +2/3.
If using the armor volume rule, dDR is 84 all around.

# About the Author

Kenneth Peters is the co-author (with ***GURPS Spaceships*** author David Pulver) of ***GURPS Ultra-Tech*** and the author of ***GURPS Transhuman Space: Spacecraft of the Solar System***. He greatly enjoys tinkering with the ***GURPS*** rules and perusing anime art books.

# The Arsenal of Mageocracy

by Matt Riggsby

Flying carpets. Vimanas. Aerial chariots pulled by swans. They all have to come from somewhere. One of those places is the Arsenal at Aquaclaro. The Arsenal is a combined shipyard and armory that can produce everything from swords and armor to massive warships. Herein are details of the structure, organization, and products of the facility, a location suitable for use in a wide range of traditional fantasy campaigns.

## The Arsenal and Its Purpose

The city of Aquaclaro styles itself just one free city among many, but in truth, it is an imperial power in its region, ruling the seas and huge swaths of coastline. That power is supported by a number of pillars. High among them is the Arsenal, an industrialized shipyard and arms production facility that equips Aquaclaro's vast navy and provides its armies with superior weapons and alchemical and enchanted gear.

Aquaclaro is a large city for its day, with a population of over 300,000. Even so, the Arsenal is an unprecedentedly large employer of workers and consumer of material. In addition to being part of the backbone of the city's defenses, it is also an occasional revenue stream. Though Aquaclaro doesn't routinely offer larger warships for sale on the open market in order to protect its naval superiority, it does sometimes sell them to close allies, and accepts commissions for less formidable items.

## Structure and Layout

The site of the Arsenal is partly natural, partly artificial. The shore of Aquaclaro at the mouth of the river Gavassi was a marshy delta (and still is to the north of the river), with a few stony outcrops providing permanent landmarks in an otherwise shifting batch of small silt islands. The original shipyard was constructed in the sheltered harbor provided by a relatively stable curving ridge that protected a small dredged area. More dredging and the construction of permanent areas of land opened a wide, safe passage through the delta protected by piles and other underwater construction. The Arsenal's first assembly line was thus created.

The Arsenal is a fortress in its own right. The stone walls are 25' high and 8' thick. There is only one land entrance and three water entrances (or, more formally, one water entrance and two water exits). The land gate is kept open during daylight hours, though visiting people and carts receive at least a cursory inspection to ensure no infiltration or smuggling is going on. The water gates are typically closed, with heavy wooden gates above the waterline and water-resistant metal grills below. Shipments coming in are inspected before the gates are opened.

The buildings are made mostly of brick and stone, and roofs are tiled, to reduce the risk of fire (which is considerable, considering the large supplies of wood, fibers, and pitch on one hand, and the presence of smiths and alchemists on the other). Since it is built on what is essentially reclaimed marshland, the Arsenal is constructed just on top of the water table, so there are no cellars.

The Arsenal is divided into a variety of different functional areas (numbers are keyed to the map, p. 16).

### *1. Alchemical Palace*

The four-story "palace" is mostly a series of alchemical laboratories, built well off to the edge of the Arsenal and near the water to help with fire-fighting. It's one of the more strongly constructed buildings in the facility, both to protect its valuable contents and to resist accidental explosions. It also houses dormitories for the alchemists who frequently stay at the Arsenal for weeks at a time.

### *2. Rope Yard*

Though it isn't quite a yard, this isn't quite a building, either. It's a long, narrow-roofed structure without walls. Ropes are twisted here before being moved off to a textile warehouse.

### *3. River Gate*

This fortified gate controls entrance to the Arsenal by water. This is typically where bulk shipments are received.

### *4. Old Canal*

The northerly canal branch is the Arsenal's original "assembly line." It is divided into sections in which different stages of construction are completed. Construction starts with the laying of the keel and building of a basic skeleton. The first section of the line can be blocked off and drained so that a floatable structure can be put together, then refilled so that in-progress ships can be easily pulled on to the next area. Ships go on to have the hull built up, then on to finishing and rigging before they are rowed out into the Round Harbor (p. 12) beyond. There is also a side-pool so that finished ships can be pulled off the line for special outfitting or enchantment that are not part of the usual construction process.

The canal is flanked by series of warehouses and workshops that contain parts and supplies in various stages of completion, as well as space to work on them.

### *5. Kestrel Palace*

This heavily fortified building is the sole land entrance to the facility. It has barracks for many of the Arsenal's garrison, and is the headquarters of the Arsenal's administration.

## Adventures

The Arsenal can sit quietly in the background of its setting, producing all manner of exotic gear either for sale on the open market or as specialized equipment custom-made for elite agents (it could, for example, provide gear for a covert agency like the *amici degli amici* in *On de Medici's Secret Service* from *Pyramid #3/10: Crime and Grime*). It might even serve as an employer for craft-skilled folks between adventures. However, it's also where heroes could go specifically for adventures. Since it houses all manner of valuable items – ranging from just-finished enchanted gadgets to full-rigged warships – it's a natural but difficult target for thieves. For longer-term and more social adventures, it's also a natural target for spies; any competing power would love to learn more about the Arsenal's assembly-line process and its craftsmen's individual craft secrets.

### *6. Lesser Green*

The Arsenal contains a "kitchen garden" of relatively modest size. It is surrounded by dormitories for workmen, who typically spend a week at a time at the installation rather than going in and out on a daily basis.

### *7. Temple*

The Arsenal has a modest but elegant temple used for religious observances and craftwork related to sacred objects and blessing equipment. It also has the biggest readily usable public space at the facility (it is built around a paved courtyard), so it is also used for large events, such as dispatching sizable bodies of craftsmen to new tasks.

### *8. Greater Green*

This resembles the Lesser Green (above), in that it's a garden surrounded by dormitories. However, this garden is used primarily to grow plants beneficial for alchemical and magical work rather than edible plants.

### *9. Raw Workshops*

These buildings contain raw materials such as unfinished timbers, fibers suitable for cloth and rope, metal ingots, fuel for furnaces, and some workshops to convert them into a semi-finished state, after which they are moved on to warehouses and workshops elsewhere in the facility.

### *10. Round Harbor*

Once vessels are completed, they go through the gates and into the Round Harbor, which allows them further access to the sea. For most vessels, it's a temporary stop while the ship undergoes final tests in open water, but some more valuable vessels have more or less permanent berths in the protected harbor.

The center of the circle is decorated by an enchanted statue of a previous sorcerer-duke (Petruccio II, famous for expanding the city's trade and making many foreign journeys) on a tall stone pillar. The statue turns clockwise through the day to always face the sun, even when it is hidden behind clouds. After sunset, the statue continues turning so that it faces the sun again at dawn.

### *11. New Canal*

The New Canal was constructed as part of a program of enlarging the Arsenal a century ago, when Aquaclaro required greater naval power. The line operates identically to the Old Canal, complete with accompanying warehouses and a side-pool for special fitting.

### *12. Smithies*

Like alchemy, metalwork is segregated to the edges of the facility in particularly fire-resistant buildings. The four smithies are devoted to, from west to east, bronze and copper work, iron ship fittings, arms and armor, and other ironmongery. The last building also contains workshops for glassblowers.

### *13. Wizards' Palace*

The most palatial of the Arsenal's three palaces, this building is similar to the alchemical palace in that it provides both laboratories and housing for the mystic professionals who work there. However, it's even more of a long-term residence than the alchemy palace, so it's particularly well-appointed, and the food served to the highly-paid enchanters is acknowledged to be the best available in the Arsenal.

## Personnel and Organization

The Arsenal is the largest single enterprise in the city . . . or, indeed, anywhere in the region. It employs 21,000 artisans and other workmen, including 1,800 carpenters, 800 armorers and blacksmiths, 400 rope makers and sailcloth weavers, 100 alchemists, and scores of master shipwrights, glassblowers, and other specialized artificers, as well as around 17,500 porters, apprentices, and other unskilled or semi-skilled laborers. It also employs around 800 troops who serve as guards, nearly 1,000 clerks and administrators to handle the considerable task of organizing production, and about 250 professional magicians, along with apprentices and other assistants engaged in full-time enchantment. At full production, typically in the run up to and during wartime, and with a sufficient stock of materials ready to use, the Arsenal workforce is big enough to produce three small galleys a day (see the *Arsenal Watercraft Table,* p. 15, for stats), or almost enough to make one flagship galley a day.

However, those periods of extreme production are an anomaly. Many of the craft employees are part-time, and normally the Arsenal operates at about half capacity. Labor is also distributed over more projects than just building galleys, so more projects are completed at a slower pace.

Finally, the Arsenal concentrates on high-quality work, taking as much time and care as necessary to do so. Consequently, much of the Arsenal's peacetime output is *good* rather than *basic* quality (or *fine* rather than *good* for weapons and armor), but the capacity still exists to crank out a small galley every four days or a flagship galley in about a week and a half.

Most enterprises at this TL are quite small, with a few craftsmen and their assistants moving from one task to another though the course of a project. Larger projects may involve subcontracting to other craftsmen, hiring them to perform other one-off tasks. With its permanence and great size, however, the Arsenal has been able to establish an assembly-line process. Carpenters, smiths, and other craftsmen are typically assigned focused tasks, many of which are related to pre-shaping standardized parts (for example, making nails of a particular size, shaping timbers for specific parts of a vessel). This allows standard vehicles to be produced much more quickly than with less organized practices. Workers performing a given standardized task are often divided into competing teams, with bonuses given to those with the highest production.

Though craftsmen act as foremen and mid-level managers overseeing the production of individual vehicles and other items, the Arsenal is ultimately an arm of the state. Craftsmen are subject to military discipline, and they may be pressed into service in wartime (and many are veteran anyway). The Arsenal itself is administered by an admiral appointed by the duke. The admiral doesn't actually command any ships, but he directs the guards, sets targets for production, and is otherwise responsible for overseeing purchasing and the rest of the staff.

## Products of the Arsenal

Though primarily a naval yard, the Arsenal produces a wide range of vehicles and related accessories.

### *Galleys*

Not surprisingly, the primary product of this shipyard is ships. In particular, the Arsenal specializes in galleys, which have a shallow draft, are fast and maneuverable relative to other vessels of comparable size, aren't subject to the whims of the wind, and carry very large crews, which is useful in an age when the primary tactic in naval warfare is to board enemy vessels.

The vast majority of the crew are rowers (over 90%), with a few steersmen, officers, and sailors to handle the sails. In peacetime, the passengers are usually merchants, and the remaining capacity is given over to merchandise. In wartime, the passengers are soldiers, and a variety of small siege engines are mounted.

One of the most notable facts about the Arsenal is that, while its workers can build a broad range of things, it is essentially an optimized galley-making machine. This has a significant impact on the labor necessary to construct galleys there, and therefore their cost. Arsenal-produced galleys cost *half* as much as indicated on the *Arsenal Watercraft Table* (p. 15). The assembly-line process of the installation could theoretically be reproduced elsewhere with similar results, but this would require a large up-front investment to construct a similar facility and employ thousands of craftsmen and laborers. Other vehicles, for which the Arsenal doesn't have optimized processes, cost their listed price.

From time to time, the Arsenal produces galleys enchanted with Dancing Object. This allows the ship to sail at full speed without rowers. The high ST provided by the spell makes the ship marginally faster than a vessel with a typical crew, though rarely enough to make a significant difference in tactical maneuvering. The main benefits are in endurance and useful capacity (the ship can carry either a large body of troops or a huge quantity of cargo). Without a need to rest the rowers, a galley can roughly triple its speed over long distances.

## Under the Hood

For those with ***GURPS Low-Tech Companion 3: Daily Life and Economics,*** here's how the numbers work out: The Arsenal employs 3,500 skilled artisans of various types. They provide $3.138M worth of labor per month. They can take advantage of 17,500 apprentices, porters, and other general laborers providing between $375 and $400 worth of labor per month each, or all together about $6.78M in support of the lead craftsmen. This is a grand total of $9.92M worth of labor per month. This assumes that the entire staff of artisans produces labor relevant to constructing vehicles. Excluding alchemists, glassblowers, and similar craftsmen reduces the total number of skilled artisans to 2,500, effective laborers to 12,500, and the value of labor available to about $6.85M per month or $274K per day.

If the galleys use timbers averaging 4"-8" thick, which is consistent with their DR, along with small quantities of cloth and rope (for sails and rigging), iron (as nails and strategic reinforcement), and pitch (for caulking), materials average $1.05/lb. With the labor savings from the efficient assembly-line process, materials are about one-third of the galleys' cost (see the section on *Galleys,* above, for details). For example, a small galley takes a little over $67K in materials and $134K in labor.

Construction crews typically take four times as many man-hours as necessary to produce an item (that is, four times the necessary hours based on the Arsenal's reduced time requirements), giving +2 to success rolls; see *Time Spent*, p. B346. The facility itself qualifies as fine-quality equipment for the shipwrights who supervise construction, giving another +2. Under those conditions, a shipwright with Engineer (Ships)-18, which the arsenal can afford to find or train, produces a good-quality ship about half the time.

Magicians and alchemists are paid at levels consistent with the estimate in ***GURPS Magic*** of $33 per day of labor/point of energy in enchantment. Magicians at the Arsenal tend to work in groups of six, with one master and five skilled assistants, so the time to enchant an item is the energy cost divided by six; unlike mundane craftsmen, who can work 25 days per month, enchanters can take no time off. Alchemists have sufficient access to Distill and Mature spells or enchanted equipment that provides the same benefit as to cut the time to make potions by 25%.

Casting Dancing Object on a galley requires 3,600 energy and $4,500 in materials (a total of $123,300, taking about a year and a half), or 4,000 energy and $5,000 for a flagship galley (total $137,000).

## No, Seriously

It may seem implausible that a facility at a Renaissance level of technology can turn out massive warships on a daily basis. However, it's neither unrealistic nor, indeed, historically inaccurate. From the late Middle Ages, the city of Venice maintained a similar facility to build and maintain its all-important fleet, using efficient assembly-line techniques on a scale that would not be seen again until the 20th century. With a peak workforce of around 15,000 people, it could produce a galley about the size of the standard galley listed here in a day. It's even recorded that, as a stunt, they once assembled a galley in an *hour.*

## *Gnomish Land Dreadnought*

This fearsome vehicle, the size of a modest two-story house, has been described as a self-propelled siege engine or an attempt to replace elephants with a mechanical equivalent. (In fact, it is internally divided into two levels.) However it's characterized, the land dreadnought is built to get its crew and occupants safely across the battlefield without exposing anyone to its dangers. It contains a set of capstans, turned by the dreadnought crew, which drive the vehicle's wheels (six pairs of wheels, each driven by a separate capstan pushed by a pair of crewmen). Passengers can fire on those outside the dreadnought with hand weapons through loopholes. The "basic" model is made from thick wood, while a slower but better protected version is armored with iron plates.

For most races the drawback is the size. It's scaled for SM -1 races. Gnomes, halflings, particularly short dwarves (and the like) can operate it without difficulty, but members of larger races are at -(1+SM) to drive or fire weapons from it.

## *Scythed Battlewagon*

The scythed battlewagon is a prime example of the kind of work the Arsenal builds for outside customers. Though it's a fanciful weapon and of questionable value away from plains and other very level ground, it's terrifying where it does work. The axles of this vehicle are attached by a complex arrangement of gears to a set of scythe blades; these blades protrude horizontally from beneath the center of the cart about 1' above the ground. When the wagon is pulled forward, the scythe blades spin, cutting down anyone and anything immediately adjacent to the cart. When moving, roll against the driver's Teamster skill to hit anything in the yard adjacent to the cart's path on either side. Against humans (and similar beings), this automatically targets the legs. The scythes do sw+2 cut damage for ST equal to (12 + yards moved that second).

The scythed wagon has sufficient capacity to carry a small ballista in the back, or a few archers to hold off attackers who avoid the scythes. Though the Arsenal usually supplies just a wagon with a complex drive mechanism, owners frequently decorate it with skulls, scalps, and flaming torches. It's also frequently pulled by dire wolves or other domesticated carnivores.

## *Strolling Hut*

A strolling hut is just that: an enchanted hut that walks around. A typical strolling hut is a small thatched structure, a round building 10' across with a low conical or slightly domed roof. It has a pair of thick wooden legs, themselves about 12' tall and 16" thick, on which it can tirelessly stroll about.

The hut is not driven like a vehicle. Rather, it is simply operated by whoever issues commands to it from inside, with more recent commands overriding any and all previous ones. It's no smarter than a fairly dim domestic animal. A strolling hut will follow simple, immediate instructions ("follow the yellow brick road" or "step over that wall there") and is smart enough to avoid obvious hazards like pits and bonfires, but cannot work through conditional commands ("stop if the ground feels muddy"). It is also largely incapable of combat. It can collide with other objects and step on things (where necessary, treat as though it had a DX of 9), but it cannot kick. It can also dodge *only* when ordered to avoid specific individual attacks; treat as a Dodge of 6.

The hut assembly costs $500. The enchantment is a variant of Golem that costs 1,800 energy, taking about a year.

## *Swan Boat*

Strictly speaking, the swan boat isn't a boat, though it has a boat-like shape. Rather, it's a magical aircraft, drawn by a team of trained swans. The key to the swan boat is a variant of the Lighten spell. At a base cost of 1,500 energy (or 3,000 for the SM +1 swan boat), it reduces the weight of a container and its contents by 99%. In the case of the swan boat, this reduces the loaded weight to under 6 lbs., light enough for even a moderately powerful team of birds to lift.

The other important item is birds to pull to boat. Even a single bird is strong enough to get the boat off the ground, but for reasons of endurance and redundancy in case any are injured, the swan boat is usually pulled by teams of between four and eight; the harness is light enough that the cost and weight difference is trivial. What distinguishes draft swans from ordinary birds is exceptional intelligence, which renders them amenable to training. The following stats are typical.

### Draft Swan

**ST** 4; **DX** 10; **IQ** 4; **HT** 10.
**Will** 10; **Per** 10; **Speed** 5; **Dodge** 8; **Move** 4.
SM -2; 30 lbs.

***Traits:*** Domestic Animal; Flight (Winged; Air Speed 10) No Fine Manipulators; Peripheral Vision.
***Cost:*** $250.

*We can do without butter,*
*but, despite all our love of peace,*
*not without arms.*

*– Winston Churchill*

## *Arsenal Ground Vehicles Table*

| TL | Vehicle | ST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | DR | Range | Cost | Loc. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3^ | Strolling Hut | 56 | -1/1 | 10c | 8 | 5.8 | 4.5 | 3 | 1+8 | 1 | – | $59.9K | 2L |
| **DRIVER (LAND DREADNOUGHT)** | | | | | | | | | | | | | |
| 4^ | Land Dreadnought | 131 | -2/4 | 12c | 1/3 | 35.2 | 18 | +5 | 28+20 | 8F | F | $72K | 12W |
| 4^ | Land Dreadnought, Iron-Shod | 131 | -2/4 | 12c | 0.5/2 | 43.2 | 18 | +5 | 28+20 | 11 | F | $190K | 12W |
| **TEAMSTER** | | | | | | | | | | | | | |
| 4^ | Scythed Battlewagon | 39† | -3/4 | 11c | 2/8* | 0.94 | 0.5 | +1 | 1+3 | 2 | F | $1,680 | 2DE4W |

## *Arsenal Watercraft Table*

| TL | Vehicle | ST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | DR | Range | Cost | Loc. | Draft | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHIPHANDLING/TL (SHIP)** | | | | | | | | | | | | | | | |
| 3 | Small Galley (130') | 160 | -3/3 | 11c | 1/4 | 80 | 48 | +8 | 144+52 | 4 | F | $403K | MO | 5 | [1] |
| 4 | Standard Galley (140') | 193 | -3/3 | 11c | 1/3 | 140 | 84 | +8 | 145+65 | 4 | F | $706K | MO | 6 | [1] |
| 4 | Large Galley (150') | 210 | -3/3 | 11c | 1/3 | 180 | 108 | +8 | 189+86 | 4 | F | $907K | 2MO | 7 | [1] |
| 4 | Flagship Galley (200') | 231 | -4/3 | 11c | 1/3 | 239 | 143.4 | +9 | 277+123 | 5 | F | $1.2M | 2MO | 8 | [1] |

**Notes**

[1] Under sail, Range is "–", Acceleration falls to 0.25, and Top Speed drops by 1.

## *Arsenal Aircraft Table*

| TL | Vehicle | ST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | DR | Range | Cost | Loc. | Stall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TEAMSTER** | | | | | | | | | | | | | | |
| 1^ | Swan Boat | 22† | +1/0 | 11c | 3/9 | 5.8 lbs. | 0.2 | +1 | 1+1 | 1 | F | $99.3K | 6DE | 1 |

### *Tunnel-Barrow*

The tunnel-barrow is something between a rolling platform and a very small vehicle. The basic form is an Asian-style wheelbarrow, with a single large (3' across) wheel at the center and compartments on either side. Divide the weight of the barrow's load by 5 (but see p. 39 of ***GURPS Low-Tech Companion 3: Daily Life and Economics*** for the effects of slopes).

A number of standard accessories make it more suitable for use in difficult circumstances. The compartments are half-round shaped, and the poles used to push the barrow are detachable. Thus, the barrow can be turned completely around in any space wide enough for it to fit. The barrow is equipped with a set of versatile kickstands that prevent it from tipping over to either side. The stands also have small rollers on them, allowing the user to tip the barrow back a bit and carefully roll it down staircases, going one step per second. Sturdy attachment points make it easy to secure the barrow with ropes if it must be hauled up or down vertical drops.

Naturally, the tunnel-barrow has combat applications. Someone with a tunnel-barrow may use it as part of a slam attack, running over his target. The attacker must roll at DX-2 and not against a vehicle or combat skill, although the GM may allow a Driver (Wheelbarrow) skill. For the purposes of the slam, the attacker adds the barrow's HP 11 to his own HP. Spears or other polearms with reach 2 or greater may be substituted for the barrow's regular poles for the cost of the weapons; in that case, the slam does *impaling* damage.

A tunnel-barrow is $180, 20 lbs.

## More Stuff!

The vehicles presented here are just a sample of what the Arsenal can produce. However, it should be able to produce just about any kind of low-tech vehicle or – indeed – any other piece of equipment with a more-or-less warlike purpose. This includes all the arms, armor, and vehicles from the ***GURPS Basic Set*** from TL4 or less, everything from ***GURPS Low-Tech*** and the ***GURPS Low-Tech Companions,*** and just about every vehicle and portable manufactured item from ***GURPS Fantasy-Tech 1*** that the GM allows in the campaign.

## About the Author

Matt Riggsby is trained in anthropology and archaeology and, like the rest of his generation, has a job in computers. He works for an international medical technology company and lives with his lovely and talented wife, above-average child, and a pack of dogs.

# Map of the Arsenal


*Key*

1. Alchemical Palace
2. Rope Yard
3. River Gate
4. Old Canal
5. Kestrel Palace
6. Lesser Green
7. Temple
8. Greater Green
9. Raw Workshops
10. Round Harbor
11. New Canal
12. Smithies
13. Wizards' Palace

# Eidetic Memory

## Hot Rides!

### by David L. Pulver

Fine sports cars are like fine wines, and connoisseurs tend to collect them. In my short-lived horror campaign, one such aficionado of mechanical excellence was Dr. Mkalbuti, an Egyptian multimillionaire whose love of fast cars was a façade for his true nature as the undead mummy of an ancient Egyptian warlord. After his schemes were thwarted, the adventurers confiscated his well-stocked garage of sports cars to replenish their police department's motor pool, acquiring a Lancer Evolution, Porsche 911, Tesla Roadster Sport, McLaren F1, and a Lamborghini Murciélago. The last car – a Bugatti Veyron – was sadly trashed during Mkalbuti's failed getaway when one of the party's mages, losing ground in her own Dodge Viper, threw a fireball that ignited its gas tank (as well as the mummy's flesh). It was close. Had the 250-mph Bugatti made it out of the estate and onto the highway, Mkalbuti could have been impossible to catch!

## Sports Cars

Sports cars come in three common styles: coupes have two doors and a solid fixed roof, roadsters or convertibles are two-door designs with have a soft or removable top, and sports sedans are four-door models.

Except where noted, all the sports cars detailed are 2009-2012 models that come with fog lights, climate control, driver and passenger air bags, antilock brakes, cruise control, powered windows, alarm systems, and stylish interior features.

## Dodge Viper SRT 10 Convertible (TL8)

This is the definitive modern American sports car, the earliest models of which appeared in 1992. The Viper is noted for its sleek front-end design and the very high power-to-weight ratio provided (in the latest variant) by a 600-horsepower V10 engine. A rear-wheel-drive vehicle with six-speed manual transmission, the Dodge Viper is a gas guzzler that isn't really optimized for poor roads but is fantastic on an open highway.

It is available in two-door coupe and convertible versions. Standard equipment is typical of high-end sports cars: suede and leather bucket seats, a remote keyless entry device, anti-lock brakes, and a security alarm. It has a somewhat tight-fitting interior, although cargo capacity is decent for a high-end sports car (at 14.7 cubic feet on the coupe or 8.4 cubic feet in the convertible). Curb weight is 3,441 lbs. (convertible) or 3,454 lbs. (coupe), which includes the fuel in its 16-gallon fuel tank.

The Viper has been around for quite some time and so has gone through numerous models. Statistics are given for the SRT 10 from 2010, the last year of continuous production. Numerous options can increase the price. An electronics package ($1,800) has an AM/FM stereo with CD/MP3 player, satellite radio, and GPS navigation. An aerodynamics package adds extra spoilers and air splitters (+1 SR at 100 mph, $6,500).

> *Handsome Rob. Premier wheel man. Once drove all the way from Los Angeles just so he could set the record for longest freeway chase.*
>
> *– Charlie Croker, in* ***The Italian Job***

## Tesla Roadster Sport (TL8)

For ecologically conscious drivers, those who want to save money on gas, or adventurers or villains who like a silent running machine, America's Tesla Motors manufactures this all-electric sports car. One of the first modern high-performance all-electric (as opposed to hybrid) production road cars, the Tesla was introduced in 2008. It is a two-door roadster with a rear engine and rear-wheel drive powered by an 288-horsepower electric motor that draws on a 53-kilowatt-hour lithium-ion battery pack.

## Vehicle Statistics

*ST/HP* was calculated from loaded weight minus payload using the usual formula for unliving objects.

*Handling/SR* was estimated in comparison to the sports car and sedan in the ***GURPS Basic Set.***

*HT* was a base 10f (fuel tank, except for the electric vehicle) and increased for vehicles reported to be fine or very fine quality or highly rugged.

*Move* acceleration was based on quoted 0-60 mph time in seconds, while top speed used the top speed in mph, both converted to yards per second.

*Loaded Weight* was estimated from curb weight plus the vehicle's load. (Curb weight is the actual weight of the car without any occupants or cargo in it.)

*Load* was estimated at 0.1 ton per occupant and 0.01 ton per cubic foot of cargo.

*SM* was easy as all these cars were boxes about 5-6 yards long and thus SM +3.

*Occ.* was based on the number of driver + passenger seats.

*DR* was an estimate.

*Range* was figured by multiplying highway miles per gallon by fuel capacity in gallons.

*Cost* was based on dealer price with a typical suite of options, rounded to two significant digits. In practice, this is a very fluid attribute as the price varies widely.

*Locations* were 4W (four wheels) in all cases. Roadsters and convertibles were given the O (open cabin) location, while coupes and sports sedans received the G (large glass windows) location.

These statistics are of the Sport 2.5, a recent (2010) version of the basic Tesla Roadster with an upgraded power train and wheels. It holds several performance records for electric vehicles. While speed is not impressive by sports car standards, its acceleration is decent, and it is very quiet, the motor only producing a soft whine rather than the usual roar. With appropriate connectors ($3,000), the Tesla can recharge from home current. A full recharge of the battery-pack energy-storage system requires 3.5 hours. The battery pack weighs 992 lbs. and costs $36,000.

It comes standard with an infotainment package with a large touch-screen, GPS navigation, back-up camera, satellite radio, sound system, wireless internet, and remote garage-door opener. Cargo capacity is six cubic feet. Typical options include executive leather ($6,000) and a custom tuned suspension ($4,000, +1 SR)

# Mitsubishi Lancer Evolution X (TL8)

The Lancer Evolution ("Lancer Evo"), manufactured by Mitsubishi Motors of Japan, is a high-performance four-wheel-drive sports sedan with a rally-car lineage. There are 10 successive production models (designated by Roman numerals I to X). First sold only in Japan, it became popular among United Kingdom aficionados and gained attention in Europe and the United States; more recent models have been marketed globally.

Current model Evos have one of the most sophisticated four-wheel-drive systems of any road-going car, with a computerized active control system with settings for tarmac, gravel road, or snow surfaces to allow the driver to program prevailing road conditions for maximum benefit (+1 Handling if correctly set). In bad driving conditions, a Lancer Evo can often outperform many faster sports cars. It is one of the favorites of the Japanese street racing set, especially useful on winding country roads.

Statistics are given for the performance-optimized 2010 MR model with aluminum roof and enhanced suspension. It features a 291-horsepower turbocharged engine with electronic fuel injection, a six-speed dual-clutch transmission, high-end tires, and one of the best all-wheel-drive systems for its price range. The fuel tank holds 14.5 gallons of gasoline. The trunk is decent for a sports car but small for a sedan, with 6.9 cubic feet of cargo room.

The Lancer has a fairly utilitarian interior compared to super cars, but it can be upgraded with various options. A typical accessory package ($2,800) adds several features, including AM/FM stereo, computerized touch-screen navigation display with real-time traffic reporting, leather-covered heated front bucket seats, powered glass sunroof, heated side mirrors, and rain-sensing windshield wipers.

A souped-up FQ series model is sold in the United Kingdom market: The FQ 400 has a 405-horsepower engine (Move becomes 10/85) and costs $80,000.

# Porsche 911 Carrera GTS (TL7-8)

Perhaps the most famous contemporary German sports car, scores of variations of the venerable Porsche 911 were created. The line has been in continuous production since 1963 through seven (coming up on eight) distinct generations each with dozens of models. However, all variations of the Porsche 911 share certain characteristics: excellent production quality, distinct rounded aerodynamic silhouette, rear-engine layout that gives improve traction (at some loss to stability), and independent rear suspension.

The 911 Carrera GTS is an example of the middle range of the seventh-generation of these machines. It's optimized for street driving, with more raw power and bigger wheels than some baseline Carrera S models but without the costly turbocharger and all-wheel drive of the highest-end Porsche super cars. Power is a very respectable 408 horsepower, and it can easily out-accelerate most things you're likely to run into on the road. The body is made of high-strength steel, aluminum alloy, and some composites that helps keep the curb weight low. Seating has two in front plus two small seats in back, but cargo capacity is a meager 3.7 cubic feet. The fuel tank holds 16.9 gallons of gasoline.

A ridiculous number of options for accessories and trim are available; the cost quoted assumes a standard suite of features with leather seats, extensive airbags, automatic touch-screen controls, AM/FM stereo with CD/DVD/MP3 player, sound system, remote ignition control, and sophisticated alarm and anti-theft systems. A full electronic navigation suite with GPS and voice control adds $2,700; a fire extinguisher is $140.

## Lamborghini Murciélago (TL8)

The Murciélago is an ultra-high performance two-door, two-seat Italian super car whose design screams speed. The first flagship design from Lamborghini after the brand was purchased by Volkswagen, it was introduced in 2001 as a successor to the famous Diablo. It has proven to be just as successful. It exists in several models produced between 2001 and 2012 in both coupe and roadster body styles. Like other Lamborghini vehicles, its namesake is a famous Spanish fighting bull.

The Murciélago is an all-wheel drive, mid-engine car driven by a powerful V12 engine. Its sleek, low-slung body is also noted for its distinctive "scissoring" doors. The bodywork is a blend of carbon fiber, steel, and aluminum, and its style. Statistics are based on the ultimate production version of the line, the performance-oriented LP 670-4 SuperVeloce (2009) which features more expensive components to reduce weight and boasts an impressive 661 horsepower, giving formidable acceleration and top speed.

The Murciélago's fuel tank holds 26.4 gallons of gasoline but cargo volume is a tiny 4.3 cubic feet. The interior design is average for a high-end sports car, with sleek functionality triumphing over overstated elegance. The roadster version has a removable hard top; when up, the manufacturer recommends speed should not exceed 100 mph (Move 48) to avoid losing it to wind. Some options include multimedia system with GPS navigation, iPod, and wireless internet ($4,900), rear-view camera ($4,350), and fire extinguisher ($780). A large rear "aeropack wing" ($7,000) can be purchased to improve high-speed stability (+1 SR at Move 50+), though top speed drops to 102.

The Lamborghini Reventon (2009) is a limited ultra-luxury edition (only 20 were made) with a highly styled shiny gray carbon-fiber exterior, LED running lights, and an instrument panel with liquid-crystal displays. It is Move 9/108 and costs $1.5 million.

## McLaren F1 (TL8)

The McLaren F1 is a British super car built by McLaren Automotive. It was a groundbreaking design in production between 1992-1998. Despite being the only model from the 1990s listed here, it held the title of fastest commercially produced road car in the world until 2005. Part of this performance comes from its combination of excellent aerodynamics, powerful 627-horsepower, alloy-block, V12 engine (using six-speed manual transmission) and light-but-sturdy chassis. The McLaren was the first production car to use a weight-saving carbon-fiber-composite monocoque chassis. Its design also made extensive use of other advanced materials like titanium and Kevlar. To help keep the car on the road at high speed, it employed carefully designed electric, fan-assisted, ground-force-effect aerodynamics.

In order to fit in a third passenger and provide superior driving visibility, the McLaren uses a unique seating arrangement: The driver is placed in the center and slightly ahead, flanked by one passenger on either side. This arrangement means it takes another two seconds for the driver to enter or exit out the vehicle's gull-wing doors.

The car interior is luxurious, including carbon-fiber leather-covered seats tailored to fit the owner's specifications, but somewhat loud due to the large engine, as sufficient sound-deadening material to fully quiet it would have added weight that compromised its impressive performance. The cabin is fully air conditioned – rare on sports cars prior to the McLaren though common now. Other features include a heated anti-mist windshield, a special lightweight owner-customized audio system, 10-disc CD stereo, built in modem, gold-plated titanium tool kit and first aid kit, and custom luggage for twin 2.6 cubic foot compartments. Airbags are not fitted as standard. The gas tank holds 23.7 gallons.

Like most high-end super cars, this is a limited production design! McLaren Automotive built 106 cars (64 to the production F1 road version; the rest being specialized racing models or prototype designs). The cars sell for $2-4 million today depending on condition. While out of production, service and support are still available.

*Dom: You never had me – you never had your car . . . Granny shiftin', not double clutchin' like you should. You're lucky that hundred shot of NOS didn't blow the welds on the intake! You almost had me?*

*Extra: You tell him, Dominic. Get out of here.*

*Dom: Now, me and the mad scientist got to rip apart the block . . . and replace the piston rings you fried. Ask any racer. Any real racer. It don't matter if you win by an inch or a mile. Winning's winning.*

***– The Fast and the Furious***

*Ground Vehicle Statistics*

| TL | Vehicle | ST/HP | Hnd/SR | HT | Move | LWt. | Load | SM | Occ. | dDR | Range | Cost | Loc. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DRIVING/TL8 (AUTOMOBILE)** | | | | | | | | | | | | | |
| 8 | Bugatti Veyron | 66 | +2/5 | 12f | 10/124* | 2.38 | 0.23 | +3 | 1+1 | 4 | 325 | $1.1M | G4W |
| 8 | Dodge Viper SRT 10 Convertible | 61 | +2/4 | 11f | 9/99* | 2.04 | 0.284 | +3 | 1+1 | 4 | 352 | $92,885 | O4W |
| 8 | Dodge Viper SRT 10 Coupe | 61 | +2/4 | 11f | 9/101* | 2.07 | 0.347 | +3 | 1+1 | 4 | 352 | $93,635 | G4W |
| 8 | Lancer Evolution MR | 57 | +2/5 | 12f | 6/75* | 1.8 | 0.4 | +3 | 1+4 | 4 | 319 | $35,000 | G4W |
| 8 | Murciélago LP 670-4 SuperVeloce | 62 | +3/3 | 12f | 9/104* | 2.1 | 0.243 | +3 | 1+1 | 4 | 343 | $450,000 | G4W |
| 8 | McLaren F1 | 55 | +3/4 | 12f | 10/117* | 1.61 | 0.352 | +3 | 1+2 | 4 | 285 | $890,000 | G4W |
| 8 | Porsche 911 Carrera GTS | 59 | +2/4 | 11f | 8/92* | 2 | 0.437 | +3 | 1+3 | 4 | 439 | $120,000 | G4W |
| 8 | Tesla Roadster Sport | 56 | +1/4 | 11 | 8/62* | 1.62 | 0.26 | +3 | 1+1 | 4 | 245 | $110,000 | O4W |

# Bugatti Veyron EB 16.4 (TL8)

First introduced in 2005 and hand-produced in Molsheim, France, this car is named after Pierre Veyron, a Grand Prix motor racing driver famous for his 1939 Le Mans race victory (driving a Bugatti 37). The fastest and most expensive production car to dominate the road, the Bugatti Veyron dethroned the McLaren F1 with the raw power of its twin coupled quad supercharged V8 engines, which deliver a staggering 1,001 horsepower. It has a carbon-fiber-composite body with a clean aerodynamic design, four-wheel drive, and computerized seven-speed automated transmission. Once the car goes past 137 mph, the suspension automatically lowers, the rear spoiler rises, and the wing extends nearly a foot. Past 230 mph, the driver must turn a key in a lock located near the driver's seat, lowering the car suspension even more and retracting spoiler and wings so the car can safely reach its top speed of just over 250 mph!

The design was intended for elegance as much as a power, a car equally at home on the track or at the opera. The interior features hand-quilted leather seats and carbon-fiber paneling, hands-free mobile phone operation, integrated wireless internet, a sophisticated sound system, and electronic displays. A backward-facing camera augments the traditional rear-view mirror. Production is limited to no more than 50 cars per year.

The standard model is a two-passenger two-door coupe, though a limited-run convertible version (the Grand Sport; O4W instead of G4W) was built. Cargo space is stingy (about three cubic feet). The fuel tank holds 25 gallons of gasoline.

A very limited production enhanced model is available: the Super Sport (2011) with power boosted to 1,200 horsepower and various aerodynamic refinements that increase speed to 267 mph (Move 10/130). This model costs a staggering $2.7 million new.

*Lisa Belgetti: But what is so important about driving faster than anyone else?*

*Michael Delaney: Lotta people go through life doing things badly. Racing's important to men who do it well. When you're racing, it's life. Anything that happens before or after is just waiting.*

***– Le Mans***

## 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.

# Things Fall Apart

## by Jason Brick

*The instant **INS Doubtless** reappeared in normal space, warning claxons blared. Captain Bernard Tennan exhaled once to quiet his stomach. He called for the damage report.*

*"Main power's blown, sir," said Engineering Commander Krager. His voice crackled faintly through the ship's intercom.*

*"How bad?"*

*"Completely dark, sir. The jump fried our annie plant."*

*A lesser man would have sworn. Tennen had anticipated some damage from the hurried jump, but this was worse than he'd feared.*

*"Sir!" Ensign Mazano called from his position at the sensor board. "Contacts! Six – no – seven contacts dropping into normal space. Size characteristics in the five to six range. All armed."*

*"Krager!" Tennen barked, "Auxiliary power?"*

*"On line, sir. Capacitors at 65%."*

*"Power for engines. Power for shields. Power for weapons," the Captain muttered, "Pick any two."*

*"Sir?"*

*"How long to restore the annie enough to jump out of here?"*

*"I can't say, sir. Damage control has only started to identify . . ."*

*"Krager, we are officers of the Imperial Navy. We die in battle for the glory of the Titanium Throne. We do not die because our wretched vehicle needs a wretched jump start. Now sign off and fix . . . my . . . **ship!**"*

> *Mal: Look, we finally got ourselves a genius mechanic. It's about time we hired someone to fly this damn thing!*
>
> *Bester: Genius! No one's ever called me that before. Shiny!*
>
> *– **Firefly** #1.5*

From stagecoaches to steamboats to spaceships, vehicles are an integral part of many adventures. They take adventurers from point A to point B. They deliver allies, adversaries, and equipment. They facilitate commerce, open previously unexplored territories, and expand the horizons of the people they serve. In some games, vehicles can form a compelling location or even a beloved ally. In short, they're good to have around.

When they're working.

Mechanical trouble is a popular trope in fiction, from the flat tire that causes a chance meeting to a weapons malfunction endangering a star cruiser's crew. Breakdowns add danger, urgency, and even mystery to an adventure or ongoing plotline. The search for a solution gives spotlight time to a team's mechanic, or unveils a hidden talent in some other member of the cast. In science fiction and alternative history, it can shed light on the physics of a fictional universe to add color and verisimilitude.

For the same reasons, a breakdown can enrich and enliven any ***GURPS*** game. An untimely breakdown might add the risk of extra financial or temporal costs to a mission. Routine quirks can establish the tone for a location, vehicle, or entire campaign. A major breakdown can serve as the centerpiece of an entire adventure.

## Breaking Stories

Before inserting engine trouble into the campaign, a GM should consider the players in his game. Some are naturally interested in real and fictional technologies. Others see vehicles as tools to facilitate roleplaying. Still others think of everything in the game as stuff to bounce off their character sheets. None of these outlooks is right or wrong, but understanding player preferences will affect how a GM structures breakdowns in play.

A second question to consider is why to insert trouble at all. At this stage, this doesn't mean asking why a car, plane, or ship's system fail (although this may become important later in the process). Instead, the GM should think about why he's putting the situation in front of the participants at all. The purpose of a breakdown scenario will help determine the elements of its design. For example, engine failure intended to handicap the party in a race will work differently from a glitch designed as an immediate, life-threatening hazard.

Different purposes and play groups demand different approaches to a vehicle breakdown. A ruptured fuel line could mean a simple cost overrun, or it could require an entire play session of skill checks and improvised repairs. It could create a dramatic action sequence where the PCs fight to seal the rupture as their starship burns around them. Or it could create the slow, creepy tension of a failing jeep in the middle of a trip across the Sahara. It all depends on how the GM casts the breakdown.

Three methods for resolving a breakdown can help the GM find the approach that best suits the people they play with and the results they want.

# Abstract Resolution

This is the simplest and least time-consuming method for resolving a breakdown. It can represent a quick fix such as changing a tire, long-term maintenance on older equipment, or nursing a sick engine to the nearest repair facilities. It's best used when the GM wants to focus on the consequences of a breakdown, rather than on the breakdown itself.

Abstract resolution flows through three steps: naming the problem, identifying the solution, and describing the consequences. The players are passive for most of these steps. The GM describes what happens and chooses what skills work for making repairs. The players roll the dice, and then they deal with the results.

## Naming the Problem

This style of resolution doesn't require a detailed description of what went wrong with the adventurers' vehicle. The GM chooses a system to fail based on what threats or problems he wants to introduce during play. For complex vehicles, he can select from systems described in resources like ***GURPS Ultra-Tech*** and ***GURPS Spaceships*** – or use the vehicle's stat block for inspiration. It's rarely necessary to describe exactly what's wrong with a vehicle. It's enough to know that something's broken, and the heroes need to fix it.

## Identifying Solutions

This step consists of naming the skills that can repair or mitigate the problem. ***GURPS Spaceships***, ***GURPS High-Tech***, ***GURPS Ultra-Tech***, and the *Technology and Artifacts* chapter of the ***GURPS Basic Set*** all provide appropriate repair skills for the vehicles and systems at different tech levels. The GM can also choose skills based on those the PCs have improved.

The nature of the repair skill roll is the most important game mechanics decision in abstract resolution. A single roll might be all that's needed to swap out a broken part. At the opposite extreme, the entire party might need to make various skill rolls to implement a complex repair. Another option is to require regular rolls over time, representing the tasks needed to keep a compromised vehicle going until there's time, money, or opportunity to make proper repairs.

## Describing Consequences

Satisfying abstract resolution focuses on the results of success and failure. Since it lacks technical details, there's little point to staging the breakdown if it's also short on meaningful consequences. Some appropriate consequences for failure include expensive repairs, missed opportunities, lost time, reduced vehicle statistics, or cargo spoiled from leakage. The GM can consider typical delays from car trouble or flight delays, then extrapolate those problems into the game. Successful repairs might shave hours off a journey or reduce maintenance costs for the next month.

Whatever consequences the GM decides on, they should impact the current adventure and possibly the overall campaign. A costly repair job on a starship could mean the crew does without that new laser battery they wanted. Failing to fix a helicopter's control panel puts the party trekking for days through enemy territory. Jerry-rigging a dead car engine allows the heroes to arrive on time and save the day. The *Basic Space Combat* chapter of ***GURPS Spaceships*** has more ideas on what can happen when a vehicle's systems fall apart.

*Airline travel is hours of boredom interrupted by moments of stark terror.*
*– Al Boliska*

## Using Abstract Resolution

Tech levels aren't important in most abstract resolutions. The consequences of moving at half normal speed are the same whether it's in a Ford Model-A or a reactionless gravity drive. In abstract resolution, tech levels instead provide the details that make a scenario colorful and engaging.

Abstract resolution works best when vehicle trouble:

- Adds potential expenses in a campaign based on travel or trade.
- Increases pressure in a time-sensitive mission.
- Responds to a party's decision to skimp on maintenance and service costs.
- Establishes that a vehicle is old, unreliable, or otherwise quirky.
- Allows the party to coax out extra performance at the risk of damaging their ride.

Abstract resolution minimizes mechanics while it maximizes description and context. Storytellers and deep roleplayers will appreciate this method for its emphasis on story-based consequences. Players highly invested in system rules might dislike this approach, as it can feel arbitrary and inconsistent.

## Examples of Abstract Breakdowns

Here are a few ideas for using abstract resolution in adventures.

### *TL6: Race Against Time*

Only the party's tank survived the battle on the Russian planes, but it didn't come through unscathed. Prisoners of war report an impending attack on a vital supply depot in the area. The adventurers are the closest Allied force with the power to assist – six hours away at normal speed. Their damaged engine can get them there in eight, but they can push it faster with a Mechanic (Tracked) check every hour. Each success cuts 30 minutes off of travel time. A critical failure stops the tank cold for an hour of improvised repairs.

### *TL8: The Cost of Doing Business*

On an oil survey in the newly opened Antarctic, costs run to tens of thousands of dollars per day. When the recharging station for the team's green, electric-powered ATVs goes out, progress halts – but costs continue to mount. A low-difficulty Electrician check will get the station up and running each morning, or the engineer can skip another day's functionality to attempt more difficult checks that might fix the recharger permanently. This isn't a potentially deadly situation, but repeated failure could be lethal to somebody's career.

### *TL9: Re-Entry*

Approaching a dirtside rendezvous in an atmo-capable spaceship, the party discovers their guidance computer is 15° off true. This would be a minor and correctable glitch in space navigation, but is disastrous under the stress of re-entry. A Computer Programming check will re-align the guidance system, or a Piloting (Aerospace) roll can land the ship safely using manual controls. Failure doesn't have to mean fiery death for all hands, but will definitely mean costly repairs to the hull.

### *TL11: Don't Use the Force*

Low on funds, the party decides to pay maintenance costs only for their ship's weapons and shield systems. On their next expedition, the force-field containment unit for their antimatter engine goes on the fritz. Engineering must make an Armoury (Force Shields) check any time the ship needs to accelerate or decelerate. Failure means undergoing six hours of system recycling before they can try again. All the while, their ship's velocity and direction remain unchanged.

## Narrative Breakdowns

Narrative breakdowns occur solely to make another story happen. It's a common hook, used well in *Breakdown*, *Apollo 13*, and the "Out of Gas" episode of *Firefly*. With a perfectly functional hyperdrive on the *Millennium Falcon*, Han and Leia would have been comfortably bored throughout *The Empire Strikes Back*. Traveling-salesman jokes would not exist as a genre if not for narrative breakdowns.

These breakdowns work in fiction. They put protagonists in a dangerous position. They create conflict, challenge and engagement. However, the GM should use caution when inserting this device into their games. Screen and fiction writers have to deal with audiences – *not* with the people they write about. If an adventure hinges on a failed skill roll, the GM is out of luck if the roll succeeds. He could choose to ignore the roll and move forward with the breakdown, but such decisions risks well-deserved resentment. Even worse is the mysterious engine problem that responds to no skill roll or clever improvisation – until an entirely unrelated adventure plot draws to a close.

One way to successfully use a narrative breakdown is to design one and have it on hand. Keep it ready for action until an appropriate time appears naturally in the game. It's all right to stretch the point by taking any reasonable excuse to throw in the problem. Just don't force the issue with transportation trouble that pops up from "out of the blue."

Sabotage is another useful justification for narrative breakdowns. During the course of an adventure opened by vehicle trouble, the adventurers can learn who caused the trouble and why. Under these circumstances, it's the saboteur who ruined the party's favorite vehicle – not the GM.

# Cinematic Resolution

Cinematic resolution means action-oriented repairs and immediate peril. Where abstract resolution focuses on what happens after, cinematic engine trouble is all about dealing with the challenge of repair.

*Star Trek* is rife with examples of cinematic resolution. Unless the photon retroconverter gets renobulated in the next five minutes, the antimatter antimacassar will exfoliate and take the whole ship with it. Since everybody with even an undergraduate degree in antiparticle physics knows that it takes a full 20 minutes to renobulate a photon retroconverter, all seems lost. But just in time, a plucky ensign saves the day by doing it in four – all because he thought to replace the nanofiltration seine with a sweaty gym sock.

Done poorly, this sort of technobabble is opaque and boring. Done right, it builds drama and produces conflict compelling as the best boss fights. Doing it right requires three steps: setting a dramatic scene, establishing clear and challenging victory conditions, and creating a meaningful context.

## Setting the Scene

The more vividly a GM establishes the mechanical trouble, the more dramatic the breakdown scene will feel. The GM should match a detailed problem with a compelling threat, letting the adventurers know exactly how much trouble they're in for. The best way to choose a problem is to approach it from the desired result. Instead of picking an engine part for the source of a problem, the GM instead comes up with a scenario, and he works out which part of the vehicle best makes that situation happen.

Tech levels play a role in cinematic resolution by giving ideas for what might go wrong, and by providing the verbs and adjectives for vivid descriptions. A TL5 locomotive's boiler might have its release valve stuck shut, threatening an explosion. At TL9, a ship's reaction drive might have accumulated waste products in its jets that slow it down during a chase. A TL12 teleportation drive might have a skewed galactic model matrix that risks destroying a dozen alternate universes with every jump.

## Establishing Victory Conditions

This step means making it clear what the heroes must accomplish if they want to save the day. One dramatic way to do this is to define the actions, skill checks, and time frame that would normally fix the problem – then explain how that's not an option. It could take too long, or cost too much. It might require access to a part of the vehicle that's currently on fire, overrun by enemy troops, or dangerously irradiated.

To make the repairs in time, the group must get resourceful. They'll comb through their skill selections, advantage choices, and memories of how the vehicle works. The clock ticks while they desperately search for a solution. The GM should run with whatever ideas come across the table. Unlikely ideas come at the cost of skill penalties, and critical failures will make the situation even worse. It's good to reward creative thinking with skill bonuses and shortcuts to success. When somebody saves the day with an off-the-wall solution, the gaming group will remember it for years. See the *Dirty Tech* boxes in ***GURPS High-Tech*** for examples of interesting improvised solutions.

> *If at first you don't succeed, try, try again. Then quit. There's no use being a damn fool about it.*
>
> *– W.C. Fields*

## Meaningful Context

What happens around a breakdown is as important to cinematic resolution as the breakdown itself. Two people changing a fishing boat's fuel pump in dry dock isn't an adventure; it's a workday. Those same two people changing the fuel pump in a raging storm makes for a memorable scene. Context makes engine trouble immediately threatening, and can even make the repair itself potentially hazardous.

A second role of meaningful context is to involve anybody not directly engaged in the repairs themselves. Although the engineer's player will enjoy time in the spotlight, the rest of the gaming table will bored and antsy if they have to sit idly and watch. It's much more fun for two heroes to work on the fix while a third attempts to lash down the barrels of explosives and a fourth struggles to hold on to a passenger who's about to go over the side. The whole scene is made even more impactful because it would all be easy if things were safe and normal.

## Using Cinematic Resolution

Finding solutions is the core component of cinematic resolution. The GM presents a clearly defined problem, and the players solve it. Although long-reaching consequences may add value and color, getting out of immediate danger is what makes this style fun.

Cinematic resolution works best when the vehicle trouble:

- Ups the ante in a combat or navigation challenge.
- Encourages creative problem solving.
- Emphasizes damage taken during a recently completed scene.
- Lets the technical protagonists show off.

Players who love encounter-based gaming will roll up their sleeves with satisfaction once they recognize this as a defined problem with a specific solution. Players who prefer roleplaying might grow bored with cinematic resolution, since it feels much like combat and resolves action using die rolls instead of conversation.

## Examples of Cinematic Breakdowns

Here are a few instances of cinematic resolution in action.

### *TL4: Whoa! I Say, Whoa!*

When the reins of a stagecoach come loose from their mountings, the horses run at full speed toward a local church picnic. If the heroes simply jump free, the stage will crush the innocent bystanders. They party must figure out how to restore control to the runaway stage while surviving the jostling of the high-speed ride.

### *TL7: Gas Leak*

Damage to a destroyer's engine has flooded the engine room with carbon monoxide gas. Personnel who come in to fix the problem run the risk of dying before they can execute repairs. With the battle ongoing, somebody needs to re-establish control in the area despite the danger. The situation gets worse with multiple failed attempts, since the GM has decided the ship will catch fire in 60 seconds.

### *TL9^: Invasion*

When a species of weaker but incredibly fast aliens invade Earth's first civilian space station, a civilian scientist comes up with a desperate ploy. If some of the survivors can recapture the environmental-control center, they could double the station's artificial gravity. This would slow the aliens enough to even the playing field. Those not qualified to make the adjustments are tasked with creating a diversion big enough to give the special team their chance.

### *TL11: Pinball Wizards*

As the party escapes pursuing warships through a dense asteroid belt, their force-field generator loses primary power. It has only enough energy to take three more hits before the ship is exposed to incoming masses of rock and ice. A successful Armoury (Force Shields) roll will add one more hit to the field's capacity. The engineer must divide his time between beefing up defenses and the more demanding full repairs. Meanwhile, the pilot dodges through the debris, and the ship's gunner tries to blast a clear path.

# Technical Resolution

Some folks love to tinker, even when they're fussing with an imaginary vehicle using imaginary technology. For players who like this, the mysteries of an imaginary universe and the elegance of existing devices are as compelling as combat and intrigue are to others. A technical approach to vehicle breakdowns engages these players. In a science-fiction game, it simultaneously reveals details of the setting.

The GM can begin building a technical breakdown by creating a basic model for what he wants to break. A complete schematic isn't necessary – just a basic flowchart of how the vehicle (or vehicle subsystem) and the components work together.

## Subsystem

Every system, including vehicles, consists of five different kinds of subsystems.

*Input:* Where materials enter a system. All systems have a power input. A bicycle's power input is the pedals. A starship laser cannon's is a battery or power conduit. If a system manufactures something, it also has an input subsystem for taking in raw materials.

*Structure:* Every system needs a place to live, and many need supports that hold them up or secure them in place. A car's chassis and a reactor's core containment are both examples of structure. At ultra-tech levels, system structure may not be physical. It could be magnetic, laser, force, or gravitic. This subsystem also includes safety measures, such as the cooling fans on a computer.

*Processing:* This is where the system does the primary work of what it's designed to do. In a car, the engine is the processor. On a sailboat, the sail is both the input and the processing subsystem. A reactionless drive's processor could be an enigmatic, gravity-controlling sphere. Unless a system has two separate jobs, it's best to consider the entire processing subsystem as a single unit, regardless of how large and complex it is.

*Interface:* How a user tells the system to start and stop, along with any tools for fine-tuning the results. The interface for a flashlight is an on/off switch. Cybertech and biotech systems might interface directly through human senses or neural impulses. On many spaceships, the primary interface for any system is a computer terminal. Often, the same terminal allows a user to interface with multiple systems.

*Output:* This subsystem delivers what the system is made for. The axels and wheels form the output subsystem of a car. In a star cruiser's nanofactory, it's the cargo bay where it places finished product. At higher tech levels, the output may be invisible – something users only notice by looking outside at how the constellations have changed. This subsystem also includes structures for eliminating waste products from a vehicle, such as the smokestack on a locomotive.

Some systems have more than one iteration of each subsystem – such as the fuel input and coolant input for a submarine's nuclear plant, or separate interfaces for the bridge and engine room. Many subsystems can be complete systems in their own right (for example, the cooling apparatus for that reactor).

Each subsystem potentially consists of dozens, even hundreds or thousands, of individual parts. Just think of how many components go into a 21st-century car's steering column. The GM doesn't have to catalog all of these components, but should name the key items involved in the vehicle's breakdown. They should also identify which skills are most appropriate for dealing with those parts.

## System Design

At early tech levels, systems and subsystems will be recognizable to modern gamers. This has the advantage of allowing a GM to look up real-life examples. One disadvantage is that some players might know more about the vehicle than their GM – creating an opportunity for embarrassing mistakes or rules lawyering.

As the tech level increases, the GM has a freer hand. Eventually, the systems themselves can become invisible to the naked eye, or be made entirely of light or energy. This is no reason to become intimidated. Dealing with technology that doesn't exist means more room for creativity. Despite cosmetic difference, system structure concepts remain the same at all tech levels. Consider some example drive systems from TL6 and TL11.

### *TL6 Combustion Engine*

*Input:* Fuel Lines.
*Structure:* Chassis, Gas Tank.
*Processing:* Engine.
*Interface:* Steering Wheel, Pedals, Dashboard.
*Output:* Wheel/Axel Structure, Exhaust Pipe.

### *TL11 Advanced Antimatter Plasma Torch*

*Input:* Power Conduit, Hydrogen Feed, Antimatter Feed.
*Structure:* Chassis, Antimatter Containment.
*Processing:* Annihilation Chamber.
*Interface:* Remote Encrypted Neural Link, Emergency Manual Shutdown.
*Output:* Exhaust Nacelle.

## Presenting Symptoms

Once the GM decides what part of a vehicle will break down, he then lists potential symptoms of the problem. It's good to be creative or even misleading at this stage. A fuel light coming on might mean the car is running out of gas, or it might mean the fuel sensor or fuel gauge has started to malfunction.

The passengers and crew first become aware of the problem by experiencing the symptoms. Some situations will call for a warning claxon alerting all hands. Others will come up as a simple indicator light, or a polite e-mail from a starship's AI. The first sign of trouble might be as dangerous as a fire, or as harmlessly amusing as food replicators serving only borscht topped with oyster crackers. As the adventurers explore the problem with actions and skill checks, their efforts expose a string of clues that zeroes in on the faulty subsystem.

## Identifying the Problem

The GM should stand out of the way during early phases of a technical breakdown. Provide clues for successful skill rolls, give hints to reward astute observations, and set out red herrings for bad ideas and critical failures. If the players grow bored or frustrated, a hint from a subordinate or a revealing new symptom can redirect the investigation.

Once the heroes accurately identify the problem, satisfying technical resolution can mean a series of detailed skill checks as they work their way through the repairs. The GM can also shift to abstract or cinematic resolution at this point, setting a more exciting pace at the climax of the scenario.

### Funny Glitches

Black-water processing problems, sarcastic computer viruses, or gravity failure during a formal dinner can all provide comic relief even in an otherwise serious game. Joke glitches can serve as a lightweight way to establish that a vehicle needs attention. In a science-fiction game, it could even mean a spaceship's AI has a complaint or needs therapy.

Technical resolution, despite its focus on the details of engineering, is often the best resolution for this kind of engine trouble. The abstract method rarely works because meaningful consequences detract from the humor. Cinematic resolution gives the glitch more weight than it warrants. A technical approach focuses on the symptom – that is, the part of the mechanical trouble with the most comedic potential. This keeps the situation light while continuing to plague the heroes' curiosity and dignity until they finally discover a solution.

## Using Technical Resolution

Where abstract resolution focuses on consequences and cinematic resolution is about solutions, technical breakdowns highlight the mystery of diagnosis. It's slower paced, but often more deeply engaging.

Technical resolution works best when the vehicle trouble:

- Highlights and explores the technology of the game world.
- Serves players who delight in engineering or repair.
- Makes the ship itself a character – as a wounded ally or frustrating adversary.
- Builds an adventure based on solving a puzzle.

Players who enjoy interacting with systems will have fun with this kind of resolution. This includes technically minded players, but also power gamers and rules lawyers. A consistent system of ship repair gives them another set of rules to bend to their wills. Storytellers and players who prefer action may grow bored with this method, since it draws out a process that's already not their favorite part of the game.

## Examples of Technical Breakdowns

Here are some sample technical resolutions at various tech levels.

### *TL4: Which Hunt?*

On a crossing to the New World with a group of religious refugees, the ship slows to half its normal speed despite fair winds and normal currents. Water stores won't last the trip, and the superstitious passengers are starting to look askance at the adventurers and mutter about demons. Investigating the keel reveals a giant squid latched to the hull, causing massive drag as it enjoys a free lunch of barnacles. A fight is just one of the possible solutions once heroes discover the beast.

### *TL7: Out of Gas*

An ocean ridge at 6,000' may contain oil reserves worth drilling for. While surveying the site, the party's submarine goes dark. No engines. No light. There's only air because it works on pressure differential instead of electricity. The adventurers must diagnose and repair the problem before their air and heat run out – all while remaining inside the sub. They eventually discover an exterior water leak that has tripped the main breaker. Someone must go outside to fix the leak before power can be restored.

### *TL9: An Ill Wind*

The flight plan for a lightsail ship calls for rapid acceleration as it comes out of the shadow of a gas giant. Coming out, no such acceleration occurs. A coating of high-albedo stellar dust has covered 90% of the ship's surface, including the sail. Invisible to sensors and the naked eye, the dust can't be detected directly. Instead, changes in the ship's gross mass and obscured structural markings provide clues to the solution.

### *TL12: Golem*

An itinerant mining ship's onboard nanofactory has started producing only small metal figurines of dwarves, trolls and elves. It won't stop. At the current rate of production, it will overfill the cargo holds within three days. A cyclical interrupt in the power input makes the nanofac repeat its most recent instruction with every short circuit – and the cycle measures in picoseconds. Worse yet, the nanofac's AI predicts a shortfall in raw materials, and is already drawing up plans to harvest ship components to get more.

## About the Author

Jason Brick is a freelance writer whose 30-year gaming habit has included all four versions of ***GURPS*** and countless other systems. Though this is his first appearance in *Pyramid,* you can find his work in print and dead tree magazines worldwide. In his spare time, he enjoys travel, martial arts, and time with his family. Read more at his blog, **www.brickcommajason.com**.

# Spirited Rides

## by Alan Leddon

Sailors speak in hushed tones of *The Flying Dutchman*, a ghostly sailing ship doomed to never make port. Sailors have related tales of the *Dutchman* in hushed whispers since the 17th century. As recently as the 1980s, civilian sea crews have reported seeing the vessel, glowing dimly from within. Those few crews of the 19th and 20th centuries who claim to have made contact with the *Dutchman's* crew say that the lost sailors wish to get messages to shore, addressed to loved ones now long dead.

Could it be that all who profess to have encountered *The Flying Dutchman* over her 300+ years of exile have been lying? Or, could something more sinister be at work? Perhaps some supernatural agency is involved.

The world is full of phenomena that *might* be otherworldly or supernatural. Everyone has heard tales of haunted houses, mysterious disappearances, abductions by Fair Folk and Grays, and so on. Tales of these types seem to affect nearly every aspect of human life . . . and the following vehicles are no exception.

## A Lascaire Aonair

In places with large Irish populations, the older folk can sometimes be persuaded (via dealings, drink, or donations) to speak of *A Lascaire Aonair* – "The Lonely Fisherman." *A Lascaire Aonair* was a typical family-owned fishing vessel operating at the end of the 16th century. Its owner, Sean, and his sons and nephews (a crew of nine) worked off the coast. The family made a good living, owing largely to dedication and to the vessel's slightly larger than average capacity. One summer the fishing was poor; the vessel was obliged to travel further from shore than was usual in order to fill its hold. This was not a big deal through June and July, but the ship was caught by a storm in early August, far from shore and with a hold full of fish. This is where the story becomes interesting.

Three days after the storm, the youngest of the crew, Conor, was found on the beach amid a collection of jetsam. Conor was nursed back to health by his family, and it took five days for him to regain the strength to even speak. He related what is now "The tale of *A Lascaire Aonair*": With the ship foundering and the crew exhausted, Sean cast a fish and a handful of coins into the ocean and called on an ancient sea god named Mathonwy, begging him to spare the vessel and crew. A booming voice told them that he asked for too many lives to be spared for so few coins, and nothing else on the boat was of interest. Sean then offered the voice, "I will send my eldest nephew to you this moment as your servant, send my youngest son to shore to speak of your power, and use my craft and crew to rescue others, saving you the trouble." The voice agreed, and Sean cast Conor into the swells.

The tale was initially scoffed at, written off as delirium. However, another storm came up a few weeks later, catching several ships far from shore. The following day, crews from three of those vessels were found on the beach, relating how Sean and the now-skeletal crew (totaling seven, not nine) of *A Lascaire Aonair* had plucked them from the freezing water, fed them, and brought them safely to shore. Over the following years – but never more than once per year – whole crews appeared on that same beach, telling the same tale: Sean looked unchanged, but the six other sailors were all skeletons. The rescued mortals were each given a bowl of hot, creamy fish soup by the skeletal sailors, then were brought to shore and left off before dawn. The tale has now been told by successive groups of survivors for centuries.

### *A Fare Is Fair*

The heroes have reached the climactic point of a long search, having defeated their foe and recovered the Holy Grail or some similarly important and elusive artifact. Now, the plane or boat that they are using to bring their hard won trophy home goes down in a storm. Their rescuers – the undead crew of a fishing boat – demand a payment for rescuing the adventurers: "We'll have the trinket you are carrying in the *blue* suitcase, donchaknow?"

| *TL* | *Vehicle* | *ST/HP* | *Hnd/SR* | *HT* | *Move* | *LWt.* | *Load* | *SM* | *Occ.* | *DR* | *Range* | *Cost* | *Loc.* | *Draft* | *Notes* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHIPHANDLING/TL (SHIP) | | | | | | | | | | | | | | | |
| 5 | *A Lascaire Aonair* | 64† | 0/3 | 10 | 2/6 | 5 | 3 | +6 | 30 | 4 | – | $14K | gMOs | 3 | [1] |

Notes

[1] Wind-powered. Weight includes ballast.

## *In the Campaign*

*A Lascaire Aonair* should not appear often in a campaign. It is a ghost story, something to use to wrangle drinks from credulous travelers. Perhaps the adventurers catch a glimpse of a vessel meeting the description during a storm, or they meet beachcombers who speak of it. If the heroes have done everything right, and the dice have left them afloat in unforgiving seas, this is just the *deus ex machina* to rescue them and give them a second chance. This is also a sneaky way to take them to a distant Irish (elven, whatever) land . . . wreck their boat anywhere in the world, and dump them on the beach chosen by Sean.

Alternatively, an entire campaign could be built around the quest for *A Lascaire Aonair.* Is there a TV station counting on the success of their paranormal-adventure program? A wealthy old man who was rescued by the ghost ship long ago? An impulsive and curious parapsychologist? Any of these might drag the adventures into an odyssey *a la* Pellinore and the Questing Beast. Over and over, the investigators endure the deadly storms of the North Atlantic, occasionally getting a glimpse (or even a photo!) of their quarry, condemned to never quite catch it . . . while having other adventures along the way.

# Tanngrisner and Tanngjnóster

These two pickup trucks are always found together. Both are a uniform dark-gray color (similar to that of storm clouds on the horizon), and both have an airbrushed image of a goat on the hood; each vehicle has its name spelled out in runes on the goat's horns. The vehicles do not match any known make or model, and parts taken from them cannot be matched to any known manufacturer. However, whenever they appear, their lines are "stylish" and the vehicles look attractive to mortal viewers. They both have the typical range of accessories for the year in which they are found: airbags, GPS, eight-track player, etc. In any era, both vehicles have front-mounted winches, large tool boxes mounted in the bed, sprayed-in bed liners (even before these are invented), built-in storage above the back tires (four cubic feet on each side), and trailer hitches that are impervious to any type of damage.

Both trucks are larger than commercial models, with extra bed capacity and the ability to seat five individuals each – three in the front seat, and two in the (cramped) back seat.

Tanngrisner's engine has a tendency to rev itself when the vehicle is idling. This can occur at red lights, while stopped at a drive-through, when waiting for a police officer to give permission to drive on, etc. Tanngjnóster has a problem with its right rear tire; it gets no traction from this tire on slippery or ablating surfaces, and the driver must make Driving rolls at -2 to maintain control in such conditions. A failed roll causes the pickup to swerve right 90° while traveling its full movement.

## *The Heroes' Journey*

From a gaming point of view, Tanngrisner and Tanngjnóster are designed for use by adventurers, and are described in those terms. (Of course, the GM is free to use them for those outside the PCs' group; tweak descriptions accordingly.)

Both trucks are found in the same location, often a garage or a glen. The keys are in their respective ignitions, the tanks are full, and the fluids are topped off. The glove box of each one contains a small hammer, a voucher for $100 worth of groceries at a nearby grocery store, and a title document.

The title document is the first mystery. When found, each truck clearly shows that the trucks' owners are one – or two – of the PCs (each truck can have a different owner). Those chosen for this honor must have a Average Wealth or below and a Code of Honor. (These requirements, of course, should not be spelled out to the players.)

The grocery voucher is the second mystery. It is never for a large chain market; rather, it's valid at a local mom and pop store with reasonable prices. When the voucher is used, the truck it came from stops running until the following morning at dawn, when it resumes working as though nothing had happened. Also at dawn, the voucher is replaced with one for a different (but nearby) grocery store. If the group has definite plans to travel to a distant location, the voucher that appears is for a store near the destination.

The third mystery is who can drive. No one with points spent to raise Wealth above Average can get the trucks to start; neither can those with Laziness. For those of Wealth or below who willingly put in their day's work, the trucks start on the first try, every time, and run smoothly (unless one of the vehicles gets bored and starts revving its engine).

The fourth mystery is that the trucks observe the behavior of their owners. A serious breach of the owner's Code of Honor will cause the name on the title document to change to that of another PC, an Ally, or a Dependent. If no one suitable remains, the truck will "vanish" the next time it is out of the PCs' sight; witnesses will describe a muscular man with red hair and beard unlocking the truck and driving off with it – and any possessions in it. It is *not* necessary for both trucks to be taken at the same time.

### *Car Thief*

Having been loaned Tanngrisner and Tanngjnóster by another adventuring party (along with a complete list of instructions), the party awakens to the sound of Tanngrisner revving its engine, then squealing its tires. Left with Tanngjnóster, they must track down the thief and recover the other pickup – or face the wrath of another heavily armed group of thrillseekers.

| *TL* | *Vehicle* | *ST/HP* | *Hnd/SR* | *HT* | *Move* | *LWt.* | *Load* | *SM* | *Occ.* | *DR* | *Range* | *Cost* | *Loc.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DRIVING/TL (AUTOMOBILE) | | | | | | | | | | | | | |
| 7^ | Tanngrisner and Tanngjnóster | 56 | +1/4 | 12 | 4/60 | 2.5 | 1.15 | +3 | 1+4 | 8 | 600 | $40K | G4W |

### *In the Campaign*

The obvious use for Tanngrisner and Tanngjnóster is to provide transportation to adventurers who have none. The trucks could also be used by the GM to hint about heroes' moral transgressions: When a traveler with the Code of Honor (Chivalry) ignores an insult to a lady and then loses his truck to a Dependent, that sends a strong message. Further, if the adventurers tend to skirt the limit of their Codes of Honor, these trucks can drive the point home by taking off laden with weapons or other equipment.

## The Opal Racer

*The Opal Racer* has appeared throughout history as a ship of some sort – a rowed or sailed vessel, an airship, and even an FTL courier ship. It always has certain characteristics, however.

- She is *fast* – at least 20% faster than the fastest vessel owned by any military or police organization.
- She has three decks. This is the same whether she is a rowed vessel, a dirigible with a three-decked gondola, or a spacecraft.
- She is armed. Most of her weapons are directed to the sides and rear. She can deliver a devastating but non-fatal strike to any pursuer – enough to make him stop for repairs.
- She can carry 16 passengers plus their luggage.
- Not all of her passengers disembark at their destination.
- The vessel cannot be held. Even if the crew are locked in secure cells and the ship impounded, she gets underway according to her schedule, with all hands aboard. This is especially confounding to TL10 police agencies.

*The Opal Racer* is sometimes seen as an ill-omen. She has been seen to follow or parallel another ship for a time; records passed down through the centuries indicate that the vessel so favored has always wrecked within 36 hours of this attention. She has been known to join battles on the side of the eventual loser; scholars on the topic of the *Racer* have suggested that she knows the outcome of the battle, and fights the eventual winner to increase the total casualties of the war!

Passengers who board the vessel always outnumber those who disembark at the end of the trip. Those who do arrive at the destination have no recollection of the missing people having been onboard, and are mystified if they are shown video of the missing people embarking the ship with them. Typically two or three passengers are lost on a trip.

Attempts to investigate the vessel have always ended in failure. Over the centuries, many boarding parties and police teams have disembarked at the ship's next destination, minus two or three of their number, and with no explanations.

The experience of people traveling on *The Opal Racer* is pretty much the same every trip. The food is decent and well-prepared, but not spectacular. The entertainment is recorded (or a single storyteller at low TLs) and not really great. The missing people were not onboard.

Many ports have a policy against any vessel named "*The Opal Racer*" taking on passengers; in such cases, the ship usually leaves peacefully. This can present a problem, if – for example – the adventurers would like to go to the *Racer*'s next destination, no other ship is going there, and some bureaucrat in a uniform says, "You can't board that ship." Further, most people don't believe the story, and assume that the ship is otherwise like any other (perhaps with the rumors started by an owner with a warped sense of humor).

Due to the many forms that the *Racer* can take, no stats are given. The GM should use any standard ***GURPS*** vehicle stats that most closely approximate the type of vessel he needs the *Racer* to be, increasing the Move, Handling, and Stability Rating to make it the fastest vehicle in the setting.

### *In the Campaign*

*The Opal Racer* makes an interesting entity to chase. It is too fast to catch, and – once caught – can leave when it chooses. Heroes who embark on it may find themselves trying to locate missing Dependents or Allies – perhaps being the ones to solve the mystery of *The Opal Racer.* This is complicated by the fact that they don't remember the missing characters being on the accursed ship!

*Luke: Everybody else was killed on the street! Lauren was killed in the middle of her own living room! She was special . . . why? Because she cursed him, that's why!*

*Wade: I don't believe it, I don't accept it.*

*Luke: Wade, that car flew into that house four feet off the ground. And how did he know where she lived?*

***– The Car***

## About the Author

Alan lives in Madison, Wisconsin, with his wife, daughter, and other critters. A lifetime devotee of ***GURPS,*** he has been forced to endure other game systems by the "people" of his gaming group.

When not roleplaying or writing articles and books, Alan engages in pointless activities known as work, housework, and sleep. These use up time that would be better spent in important pursuits like playing games and writing articles. In addition to a growing number of articles in *Pyramid* and *JTAS,* Alan is the author of *The Ghosts in the House,* a campaign for the ***Call of Cthulhu*** roleplaying game.

# The Between-Space

## A Terminal Vehicle for Many Eras

### by J. Edward Tremlett

*March 3, 1974.*

*The 10 astronauts walked into the small connecting room at the Kennedy Space Center, followed by dozens of other people: scientists, technicians, doctors, and porters. The harsh lights of the cameras and cries of well-wishers were blocked as the heavy steel doors clanged shut behind them, leaving only the barely controlled chaos of the cavernous Portal Room beyond.*

*The Portal Room contained everything needed for the several missions NASA was running: massive banks of computers; numerous covered assembly areas ringed by large, well-stocked technical bays; and a great number of separate mission controls. A communications satellite, chopped into six parts, sat nearby on a series of wheeled carts, as did a train of supplies for Moonbase Beta and a few small cross-sections of Skylab's new module.*

*In the center of the room, shimmering as if in a haze, was the Portico. The white stone structure's columns, like the bright white portal it enclosed, all had just enough space between them to allow two large men to enter it at once, but no more.*

*Nervously, the astronauts dressed for "launch" within close proximity of the Portal. They got their equipment, slid down the glare shields to protect from them the Portal's blinding white light, and were aided in walking between the columns. The mission leader gave one last thumbs-up to his mission control before communications blackout. Then, one by one, his crew walked through, lugging small carts behind.*

*On the other side, a seemingly endless stone structure awaited, its floor lit brightly but cold to the touch. Other groups of astronauts – some from other countries, some from other worlds – walked to and fro in the distance, their identities and cargoes obscured by the swirling white mist that wafted down from the unseen ceiling. Each group was led by a tall, robed Narthex unit, which glided along the floor just fast enough to keep them from dawdling.*

*A Narthex unit awaited them as well, looking down at the astronauts like a hungry dog just barely restrained by its master's hand on the collar.*

*"Men of Earth," it spoke, its voice like pebbles being rubbed together. "Where would you go?"*

*"Mimas, a moon of the planet Saturn," the leader of the mission said, handing over a carefully composed letter. "It's all there in the letter. We'll be expected back in 24 of our hours."*

*Narthex carefully opened the letter open and read it, slowly and intently. "Who will pay the toll for the journey?"*

*"I will," one of the men said, his voice cracking a little, now that he was really here. "As per the agreement, you can have all my memories of this trip."*

*The Narthex considered the man, and the leader didn't like the look in the being's "eyes" as it did so. For a moment, he was worried Narthex might reject the payment as too paltry, and demand more. So he was relieved when it rolled up the letter, placed it within its robes, and gestured to the seemingly endless white space behind it.*

*"Come with me, Men of Earth," the being replied, eerily gliding along the lit floor. "Your toll is determined. Your destination awaits."*

Instantaneous transportation from one place to another has long been a dream of humanity. To those who worked toward that goal, the alien spacecraft called the Between-Space would seem a dream come true. What else would you call the ability to travel to any point in the known universe in mere minutes, without suffering the temporal ravages of relativity?

However, dreams are not realized without cost. In addition to the immediate price of passage – some or all memories of the journey – a substantial sacrifice is involved in having a permanent portal on a planet. This "brain drain" doubtlessly stunts a planet's development, and having to open up to travelers from other places – all with their own mysterious (sometimes hostile) agendas – doesn't help either.

Is the ability to travel the universe in mere minutes worth global stagnation? Does Narthex take far more than the Between-Space can ever give?

Presented here is the known layout of the Between-Space, its rules for use, and details on the Great Market at its core. It gives what little is known about the vehicle's history, the Narthex who run it, and the dangers using it can bring.

There are also plot suggestions for a number of intriguing eras in Earth's history, all of which either involve using the Between-Space directly, or focus on the consequences of someone else using it.

## Arranging Transport

To use the Between-Space, a society must first be contacted by it. This is not as difficult as it sounds.

At some point in a civilization's evolution – perhaps when its desire to see more than the current locale can provide becomes almost rabid – a Portico appears. The Between-Space invariably manifests its first Portico before someone both well-suited to appreciate what lies beyond it and in some position to make the decisions needed to use it. Once that person enters, it vanishes, and will not return until an arrangement has been made or declined.

Porticoes can be temporary or permanent, but always appear exactly the same. These doorways to and from the Between-Space are brightly lit, arched, 2' wide portals set in a white, stone wall 10' wide and 10' tall. The wall is surrounded by a columned portico made of the same stone; the surrounding, covered colonnade measures 10' wide, 5' deep, and 10' tall, with the columns 1' in diameter, spaced every 2' apart.

On the other side of the Portico, Narthex waits. It welcomes the traveler, tells him he is in the Between-Space – described as the "ultimate vehicle." It exists to take people and whatever objects they carry with them from one place to another. It can take them from one corner of their world to another, or to another world, or any point in the vast space between them – it's entirely up to the traveler, so long as he will pay the price.

It's also possible to use the Great Market – a truly neutral ground for those who wish to do business with one another, or buy or sell things from across the universe. Using the market requires a smaller price than travel, given the minimal energy costs involved, but the market must be used at the travelers' own risk; no violence is tolerated there, consumers' protection does not exist, and all sales are final.

## Travelers' Advisory

The rules are simple: A single person or group may enjoy a one-time trip to and from a destination in exchange for a measure of the memories of that trip. If a person is traveling solo, Narthex demands only a few fragments, though which pieces are taken are entirely up to Narthex. If there are two or more travelers, one of them will lose all memory of the journey; everything from when he stepped out onto the other Portico, and then back into the Between-Space, will be gone. The memory extraction is quick and painless, and done without Narthex even having to touch the donor, which makes trying to flee to avoid payment a foolhardy gesture.

## Narthex

Every vehicle needs a pilot, but the exact function of the being(s) known only as Narthex is unknown. Pilot, tour guide, or fractionated control system? Separate entity, or part of the structure? Separate beings, or a group mind?

Narthex is clearly alien: a 10'-tall, vaguely humanoid being, it – or they – is best described as a living chess piece. As white as the Between-Space, its cylindrical trunk is 9' tall and 5' in diameter. Narthex's two long and spindly arms are capable of extending up to 20' away, but it rarely deigns to exercise that much, preferring travelers come to *it*.

The head of Narthex is an oval 12" tall and 10" in circumference at the widest point. Its sole feature is a line of four deep hollows bisecting the oval, which may be unblinking eyes, or some other sensory package. Narthex's voice seems to emanate from the ceiling immediately around it; what it says never needs translation.

Below the arms, long white robes made from some light-but-opaque material cover its body. They pool about the floor, denying even a glimpse of the creature's method of locomotion. Narthex glides languidly and silently along the floor; sometimes it turns its head and/or arms to face a new direction, sometimes not. This is often unsettling to watch.

Many Narthex units are seen on the Between-Space, taking different groups of travelers from Portico to Portico, patrolling the endless halls, and attending to matters in the Great Market. They seem to be mentally connected: They "stare" at each other rather than speak aloud, and all Narthex in the same chamber sigh in rapturous unison when memories are taken from a traveler, and twitch in unison when attacked.

No one has ever seriously injured a Narthex unit. Any violence directed toward one, or another traveler, is swiftly dealt with by the rapid vanishing of the aggressor. Lucky ones are ejected from a Portico back onto their home planet, never welcome in the Between-Space again. Unlucky ones just vanish – perhaps ejected out into deep space, a star, or something worse.

It is uncertain how or why Narthex consumes memories. The how is most likely a continuance of its instant translation abilities, perhaps aided by – or an extension of – the translator mist that roils down from the ceiling. But are they hungry for vicarious sensations, being apparently bound to the Between-Space? Does memory fuel the unseen engines of the ship? Or are they trading in experiences – or storing them for some reason?

It is also uncertain how prescient Narthex is. While it is always there to greet a new group of travelers, it still registers surprise – or at least irritation – at some of their antics. It seems to know when its presence is needed in the Great Market, and yet there have been entire generations of stowaways on the Between-Space that it seems incapable of catching. Is it only omniscient in certain matters, or does it permit certain things to happen for its own, unfathomable reasons?

Once the travelers are at their desired destination, the Portico vanishes behind them. They can arrange for it to reappear in the same location after a certain period of time has elapsed, or have it appear at a different place at a specific time if they plan to do some travel or deep exploration.

This return opportunity only exists for as long as it took the travelers to completely leave the portal when they first arrived. If the travelers are late, they will miss their ride, and unless they left a member of their party behind on the Between-Space to renegotiate on their behalf, they're stuck. Narthex seems to enjoy demanding more memories during such negotiations. See *The Price of a Trip* (below) for additional details.

To better facilitate such trips, the Between-Space can establish a permanent Portico on a planet. It can also place another permanent Portico somewhere else on the same planet, on one of its moons, or in fixed orbit around it. *The Price of a Trip* (below) has more information on how this happens.

## A Flight of Unknown Origin

To hear some say it, the Between-Space has existed forever. It may be older than the sun or the earth – possibly even as old as the universe, itself, if not somehow predating it.

No one claims to have built it. No one knows who made it. Narthex is incredibly cagey on where it came from, but the fact that it easily supports human life, and has separate accommodations for those who need vastly different forms of life support to survive, could be a clue. Was it always intended as a cross-cultural, multi-user platform?

Narthex will also not reveal what the Between-Space looks like from the outside, or where "outside" is. It may be in orbit around some strange, alien star, or stuck in the dead space between galaxies. It may transcend such crude spatial relationships, and be parallel or perpendicular to our universe, or much larger or much smaller than it.

Seeing only small pieces of its immense design, ancient human mystics named it Yog-Sothoth, and ascribed some kind of vast and inhuman intelligence to its seemingly random comings and goings. By the Middle Ages, the great philosophers and alchemists of the day described encounters with "the invisible church" – its mercurial, moving door, and strange guardian; however, their accounts of what lay beyond were quite inconclusive.

Porticos cannot be damaged or moved; it is as though they are fixed points in space and time, and beyond physical concerns. They can be built *around,* though, which makes them ideal starting points for bases, space stations, and the like.

If a planet has sapient beings living on it, then the Between-Space cannot allow passage to it, its moon, or its orbit unless a group of those native beings have bought a permanent Portico. After that, it can drop temporary Porticos there for others with no problems. "Living on it" generally means "are native to it," but once a previously unoccupied planet or moon has been colonized and it's clear the colony isn't going away, Narthex tends to respect their ownership.

The Between-Space doesn't really recognize or respect separate geopolitical borders on worlds, though. If it had made contact with Earth in 1940, it could have placed permanent Porticos – or opened temporary ones – in England on behalf of Nazi Germany, and vice versa. Its only concern would be if the two sides tried to fight each other inside the Between-Space, which would be dealt with harshly.

While Narthex is not the most caring of transports, it seems unwilling to quietly watch its users make fatal errors (perhaps because this results in a lack of payment to it). For example, uninformed travelers who wanted to visit Earth's moon without a spacesuit would be gently advised to go buy one from the Great Market. However, if they refuse to heed the warning and went through the portal anyway, Narthex would not stop them: It would simply drain all their memories as they walked through the Portico, and call it a bonus.

# The Price of a Trip

The price of a permanent Portico is the life memories of 10 long-lived beings of that planet – preferably ones with great amounts of knowledge and experience. This price must be paid for *each* separate Portico, and the donors must all be willing. Subsequent trips through the permanent Portico still require a payment of memory, but the voyagers have the option to come and go as they wish, unlike those who use the Between-Space on a "pay as you go" basis. They also have the ability to have people waiting for them at the Portico, so if they're too late in returning, they can enter the Between-Space and seek to renegotiate with Narthex.

The "pay as you go" model seems to be something Narthex only does grudgingly. Anyone wishing to avail themselves of it is given a white column, identical in size and shape to the ones on the Portico. To contact the Between-Space for pickup, a person need only speak to the column, and then wait an indeterminate amount of time to hear back from Narthex, asking "Is it your wish that we meet?" Narthex's speed is legendarily pokey: minutes, hours, days – sometimes months or up to a year go by before he deigns to reply.

If answered in the affirmative, a Portico appears nearby, giving its customers just enough time to get inside before it disappears. The trip can be made then, but if the travelers would rather set up a later date, that can also be arranged. They will be allowed to return, and another temporary Portico will be sent at the time and place requested.

# Infinite Deck Plans

The layout of the Between-Space seems simple, but quickly descends into near-endless complexity.

Past the Portico is a large, circular, misty chamber. It is seemingly carved from living white stone – the same kind the Porticos are made of. Muted light comes from the white, stone floor, casting strange and portentous shadows.

The ceiling is covered with mist, which both obscures the true height of the rooms and makes it harder to see for any distance. The mist is psychoactive; it reaches into the mind, studies a traveler's language, and lightly "writes" the meaning of what others say and do in the air ahead of him. The mist is mostly foolproof, but its translation speed often leaves something to be desired – especially when dealing with complex languages.

The walls in the chamber are lined with tall columns, with a single portal between them. Active portals are lit with blinding, misty light, while inactive ones flicker weakly and rhythmically, like dying fluorescents. No visible markings signify where a portal might lead to: jumping blind could reveal welcoming land, an airless rock, or the void of deep space. Only Narthex knows where each one goes.

Every 16 sets of columns, there is a tall, arched, columned passage instead of a portal. The passages range from fairly short to seemingly endless, but all eventually lead to other chambers. Each chamber is seemingly identical to the one the voyagers just left, but some could be larger or smaller than others; the confusing geometry and mists make it hard to get an accurate count of how many portals are in each chamber.

Every 16 sets of columns down the passages are a facing pair of tall archways. These usually lead to single rooms for travelers to stay in, with bunks, refreshment areas, and hygiene facilities. Sometimes the archways are a pair of entirely new passages, and sometimes they are "blank," with only white stone behind them. The blank ones may be "locked," or perhaps have yet to be used; Narthex will not say.

Different rooms are set to accommodate various lifeforms. Some have airlocks leading to areas filled with strange liquids or gasses, or with different gravities, radiation, or light. No visible markings indicate what lies beyond. Only Narthex knows which rooms are best suited for each group of travelers.

The rooms are free to use by travelers who have been left behind to monitor others' journeys, or groups requiring brief rest, medical care, or planning pre- or post-journey. No additional cost is required, but sometimes it seems that a room's inhabitants have been there for much longer than they would prefer. Sometimes there's a pounding at a door and weak cries to be let out. Narthex hustles travelers past such sorry displays, and refuses explanation.

All the chambers, passages, and rooms are on the same level; there are no signs of stairwells, lifts, balconies, or ledges. No group of travelers is ever given full reign to explore the Between-Space and map out what leads to where, but there is a sense that it may well extend forever in two dimensions. Or it could be wrapped around – or possibly *inside* – a spherical body, such as a planet.

How large of a planet? Great Market thieves and danger-seekers who've dodged Narthex long enough to go exploring claim to have traveled in one direction for *weeks* without once retracing their steps. Eventually, they ran into "dark areas," where all the portals were inactive, none of the passageways had rooms, and Narthex was nowhere to be seen.

One lost soul claims to have made it far enough to find what may have been the end. However, it may have been a series of wrong turns instead. He's not sure.

## Hazards on the Way

The deal the Between-Space offers seems a good one, but no one should enter lightly into a deal with an alien entity and its ship full of wonders. Wonders have a bad way of becoming terrors after a time.

For one thing, there's the brain drain. One member of a party losing his memories of the trip is one thing; hopefully, he'll get to keep them next time. However, losing 10 of any society's most long-lived and learned people to make a single permanent portal is quite a proposition. All they could have ever offered or advised will be gone, leaving only second best.

## The Great Market

The Great Market – often heard before it's actually seen – is a chamber that has no portals, only passages leading to it. The entirety of the circular area is taken up by a vast agglomeration of stalls and stands, each with alien vendors selling strange and unearthly wares, often shouting over one another to be heard in the din. Otherworldly music and whorls of conversation turn the makeshift structure into a true Babel, which is only somewhat alleviated by the translation program hanging within the ever-present mists.

There are three rules in the Great Market: Everything is for sale, all sales are final, and no coercion or violence is tolerated. Several Narthex units patrol the aisles at all times, and respond quickly, though not always competently, to any situation requiring their presence. A caught rule-breaker is swiftly dealt with, instantly teleported from either the Great Market or the Between-Space itself, depending on the severity of the infraction.

Some travelers come to the Between-Space solely to visit the market, and could be selling or buying – possibly a little of both. Many vendors are transitory, but some – especially those with overly elaborate stalls – seem to have little or no intention of going home. There are also those who either cannot or will not return home: desperate buyers with nothing to barter but their own bodies and memories, thieves canny enough to escape Narthex, and seemingly insane people who've clearly been there too long.

What can you get at the Great Market? Anything: powders and pills, weapons and medical gear, clothing and environment suits, books and holographs, maps and legends, foodstuffs and drinks. There's also a market for slaves, and some visitors are unfortunate enough to be sold by companions who direly need whatever a vendor is selling for the next stage in the journey. Narthex is usually close at hand when the sale of a sapient occurs, so as to mercifully wipe that traveler's memories clean after the sale; it cuts down on the noise.

Another feature of the Great Market is the interplanetary "guides." These entrepreneurs are happy to sell maps and destinations to would-be explorers, telling them of the great sights of the universe, as well as supposedly uninhabited worlds for them to exploit, or possibly lay claim to. It should go without saying that many of these guides are hucksters, but some are mostly genuine, though not entirely above exaggerating their wares. The easiest way to tell a fake from a friend is to offer to pay double for them to come along on the trip: The legitimate will usually jump at the chance, while the frauds will often refuse, or at least look for the first excuse they can to abscond.

If the society wants to create *another* permanent Portico, there will only be third best, then fourth, and so on. In the long term, this means that rival nations will quickly surpass yours in science, technology, and other critical areas.

For another, there's the fine print no one thinks about until alien beings are walking through someone's backyard: *The permanent Portico is a two-way street*. If people from your planet can go to other inhabited worlds, then it's only fair – at least in the Between-Space's way of thinking – that people from other worlds can travel to *yours*. It should go without saying that these tourists and explorers should behave themselves while there, but Narthex is merely a tour guide, not a policeman or passport -control officer. Once the travelers are through the Portico, what happens is their affair, and up to the people of that planet (if any) to adjudicate.

Wise worlds might seek to better define the nature of their permanent Porticos prior to purchasing, and require that visitors seek permission with their authorities before traveling through them. In such cases, Narthex holds a would-be excursion party at a Portico, and sees to it a letter of their intent is handed over to officials on that world at a permanent Portico for vetting and possible veto. If the officials give their assent, the travelers can touch down wherever they like (or wherever the officials will allow them to); if they say no, Narthex will not let them through.

Unfortunately, this caveat cannot be added to an already-in-operation Portico. Once a planet's learned from its mistake, it will have to repurchase the Portico to add that safeguard to it. Narthex never initially offers the option, perhaps out of greed.

Once the deal is concluded, it can only be rescinded in one of two ways. The first is for the party that bought a permanent Portico to tell Narthex they want out, and to never send an inquiring, temporary Portico to their world again. If more than one group of people on that planet has a permanent Portico, they must *all* be united in their refusal; otherwise, Narthex will not remove anything at all.

The other option is for all parties to *try* and damage the Porticos simultaneously. Such efforts are extremely unlikely to work, but the Between-Space will still consider the attempt a potentially dangerous insult, and immediately remove all Porticos.

Either way, the world will be free of future entreaties from Narthex, but the donors will *not* get their memories back.

# Package Tours

The Between-Space could be used in a lot of different games and eras. It could be a means of travel or a destination unto itself; the key to a puzzle that spans the galaxy; or the center of its own, strange mystery. It might quickly uplift a world's civilizations or slowly destroy them, or swiftly bring ruin in the form of an alien invasion that a slow-moving, careful society isn't yet ready for. Will it herald the dawn of a new, more-cosmopolitan age on Earth, or be misused in time of war, political intrigue, and economic catastrophe?

## *We're Strangers Here Ourselves*

The travelers made a rookie mistake and didn't leave someone behind on the Between-Space to renegotiate if something went wrong. They missed the Portico, and now they're stuck on the planet until someone else comes along.

The good news is that they don't need atmosphere suits, can eat the fruit of the land, and aren't alone. The bad news is that the beings that live here are alien enough that the travelers can't just blend in, and the inhabitants are not universally well-disposed to "Hoo-Manz" or any other alien life form. According to legend, the natives' attempts to deal with the Between-Space were so infuriating that they buried their permanent Portico, somewhere, rather than negotiate with Narthex to have it removed. Now they deal with unwanted guests with scorn, shunning, and the occasional wave of overwhelming violence.

Can the visitors make a life on this exotic, byzantine world, with its deadly social rules and strange, unwritten obligations? Or can they somehow find the hidden Portico and get back to civilization?

## *The Politest Invasion of Earth*

When the permanent Porticos went up, Earth's governments never thought about aliens using the fine print to attack. But that's exactly what's happening, and the Vyrd are truly terrible enemies – using temporary Porticos to wreak havoc on a global scale. Thankfully, the many armies of Earth can use the Between-Space to counterattack them in the same way, but neither side can assault the other while in transit.

This has led to some strange, almost cordial encounters whereby Human and Vyrd meet and mingle. There's a lot of trash talk, of course, but also some sense. Is there some way the sensible ones could form a plan to stop the war before either side, or both, is annihilated? Or is Earth's secret plan to smuggle nukes on board the Between-Space and set them off as a done deal?

## *Lost in Subspace*

Maybe it was the way they argued for a return trip, and maybe Narthex didn't like the captain's tone, but the great Plutonian expedition was doomed the moment their leader drew a gun and fired. He went out into space, and the rest of the group fled, convinced they were next on Narthex's ejection list. However, they have no idea which Portico leads back to Earth, and getting too close to the chamber they think it's in is sure to attract unwelcome attention.

So the 10 souls have been hiding ever since. They run with thieves in the Great Market, skirt dark areas, lurk in the passages, and grab what food and shelter they find. Can they find a way home, or are they doomed to lurk in the Between-Space forever?

## *Fantasy Era*

Campaigns designed using ***GURPS Fantasy, GURPS Banestorm,*** or the ***GURPS Dungeon Fantasy*** series might benefit from the addition of this bizarre ship.

### The Goblin Market

It is said that, should a wizard wish to buy things that no one on Earth could have – indeed, that no man, creature, or god in all of the Realms has even heard of – there is such a place. That magician must travel far, brave many dangers, and climb to the top of a certain mountain, as far north as one can go before the ice fields engulf all. At the top of that mountain is a large, white column, and if one speaks one desire to see the Goblin Market into that stone, a way will eventually present itself.

Such a supplicant should bring along several items of interest to trade, not to mention some stout, brave, and expendable fellows.

### The Great Hunt

A horrible, large, and quite intelligent dragon was ravaging a large city recently. It tore down the burg's defenses, ate its guardians, took its treasures, and then flew away to parts unknown. A group of dragon hunters were sent to end the beast, but the monster's tracks ended at a strange, white colonnade.

Inquiries made in the strange temple beyond indicate that the beast comes from another world. There, dragons are the dominant species and go off-world to hunt more dangerous game. The being who presides over the temple beyond is willing to take the group there, for a price, but how long will they last on that world?

*Presents, believe me,*
*seduce both men and gods.*
*– Ovid*

## *Renaissance Italy*

For details on this period, see ***GURPS Hot Spots: Renaissance Florence.***

### Who Are the Patrons' Patrons

A new, recently landed family of merchants is seeking entry into Florence's high society. They are rolling in money, and their guards wear light but formidable armor, and carry hand weapons that kill with a mere touch. The family claims these items are imports from places further east than China, but the de Medicis have their doubts.

Not happy with these upstarts, or their outright refusal to sell these arms and armor, Lorenzo de Medici wants the PCs to find the source of this family's gold and toys. The answer lies within a well-guarded Portico in their palace, but the investigators may find what lies beyond much more interesting – especially the new family's inhuman backers, and their ultimate plan for Florence.

### Italian Wars, Alien Allies

Starting in the late 15th century, France and Spain went at each other to wrest control of the smaller Italian states. Louis of France invades in 1499 to try to take what had been denied his predecessor (Charles) in 1495, but this time France marches with new soldiers. Weird war machines that move without the need of horses roll behind the columns of distinctly unnerved French soldiers, and foreign mercenaries clad in all-encompassing armor march alongside them. The armored soldiers never seem to take their gear off, much less raise their helmets, and carry arquebuses of an unknown design, which fire bright green lights that tear their targets to flinders.

Leonardo da Vinci, from his hiding place in Venice, has a keen interest in these strange allies of the French. He wishes to have the swashbuckling heroes bring him as much of their armor, weapons, and gear as they can scavenge from the field of war. This may be easier said than done, but – with the strange, new weapons from da Vinci's black sketchbooks – they may yet have a chance.

## *Victorian/Steampunk*

Use this strange vessel with inspiration from ***GURPS Steampunk*** and *Pyramid #3/39: Steampunk.*

### The Greater Game

Following the treaty between the Crown and Narthex, a great new era of exploration has come about. No longer must England's colonization be dependent on ships and caravans! No longer must that colonization be confined to this one world alone! The Between-Space gives God-fearing men of science and industry the ability to tame the moon, Mars, and worlds invisible to the telescope!

Unfortunately, it also provides the same ability to France, Russia, Spain, and the United States of America, who signed similar treaties with Narthex. Now is the time for all men of valor to take to the heavens, and bring English civilization to a galaxy clearly in need of it – preferably before the others beat them there.

### A Suitable Suitor

The unthinkable has happened. Queen Victoria has found a new love, and has announced her intention to marry Erglin, the Potentate of Ergel. The United Kingdom will merge with the Throne of Ivory and Quartz, and bring Earth – or at least England – into a vast brotherhood of planets. To help usher in the new age, Erglin has arranged for a full-scale cultural "betterment," including advanced technology, high culture, and their own, decidedly alien religion.

Not everyone is happy with the upcoming nuptials, obviously. But the most interesting resistance is coming from the underworld of London, where the criminals are being driven out of their warrens and businesses by savagely violent aliens. Turns out they're the same species as that fancy-pants king the Queen's going to marry, but the police don't seem to care for their plight; shouldn't they at least take the side of an honest Englishman thief over a foreigner?

So it's up to the thugs, thieves, ne'er-do-wells, and gangsters of London to set this matter right. Can they stop the wedding, somehow, or at least preserve their unique way of life? Can they discover what's making most of the more law-abiding citizens accept this intergalactic nonsense? Failing that, can they get out of London and warn the outside world, before something truly terrible happens?

# About the Author

By day an unassuming bookstore clerk, J. Edward Tremlett takes his ancient keyboard from its hiding place and unfurls his words upon the world. His bizarre lifestyle has taken him to such exotic locales as South Korea and Dubai, UAE. He is a frequent contributor to *Pyramid,* has been the editor of *The Wraith Project,* and has seen print in *The End Is Nigh* and *Worlds of Cthulhu.* He's also part of the *Echoes of Terror* anthology. Currently, he writes for Op-Ed News, and lives in Lansing, Michigan, with his wife and three cats.

# Random Thought Table

## Driven to Heroism

### by Steven Marsh, *Pyramid* Editor

Hey, kids! It's trivia time!

1) What recurring character is the first we see on the premiere episode of *Doctor Who,* who is still on the show today?

2) What climactic demise occurs at the end of *Star Trek III: The Search for Spock,* after having appeared in every episode and film of the original *Star Trek* series (including the pilot)?

3) What do the openings of the *Dukes of Hazzard* television series and *Star Wars: A New Hope* have in common?

Of course, unless you just happened upon this article in a vacuum, you know that this is the vehicles issue . . . which probably gave you big clue toward coming at the right answer. Still, let's see what we can learn – and how it can help our gaming.

## The Doctor Is In

Even some fans assume that the only constant character in *Doctor Who* is the Doctor himself. However, this overlooks the TARDIS – which appears in the first minute of the first episode. In fact, it's arguable that the TARDIS is *more* consistent; it's certainly changed appearance less often than the crazy man piloting it.

In this way, vehicles can serve as just another "character" in the gaming group – perhaps with the same narrative immortality enjoyed by the rest of the heroes. In that case, they might logically be run as an "NPC." The strength of those air-quotes is determined by the level of sapience/personality the vehicle in question has: KITT from *Knight Rider* has more vocal personality than anyone else on the show, while the TARDIS usually limits its inputs to occasional chirps and shudders . . . and the General Lee from *The Dukes of Hazzard* is just a car (even if it does enjoy immunity from fatal damage).

If a vehicle has enough personality to be interesting but not enough personality to be a full, constant character, then one option is to have it be "played" by one of the players – perhaps switching around every session. (Such variances would help replicate how some serial-entertainment vessels with quasi-personality are sometimes quieter or react differently to similar situations.) Such a character-sheet hand-off can occur every session, or the player might be chosen based on other factors – say, his regular PC has been captured, and the player still wants to be involved.

Expanding on that, in some campaigns, it's entirely possible for a vehicle with some personality to become a *real* character – at least for one adventure. (Perhaps most famously, this happened in *Doctor Who* in the Neil Gaiman-penned "The Doctor's Wife," when the TARDIS became a flesh-and-blood person.) This can either be done for plot reasons – in which case the vehicle is likely to be run by the GM – or it can be a fun contrivance for the GM to have on the backburner in case a player needs a character in a pinch.

> *The Doctor: Do you have a name?*
> *Idris: Seven hundred years and finally he asks.*
> *The Doctor: What do I call you?*
> *Idris: What do you call me? Sexy.*
> *The Doctor: Only when we're alone.*
> *Idris: We are alone.*
> *The Doctor: Oh. Come on then, Sexy.*
>
> – ***Doctor Who*** *#6.4*

## The Ship Has Hit the Fan

The ends of *Star Trek II: The Wrath of Khan* and *Star Trek III: The Search for Spock* have something in common: They both involve the "death" of an element that had been a part of *Star Trek* canon since the show was first conceived. In *The Wrath of Khan,* it was the death of Spock, and in *The Search for Spock,* it was the destruction of the original *NCC-1701 Enterprise.* (Curiously, both "deaths" were overturned one movie after they happened; Spock came back, and the heroes got another ship named *Enterprise.*)

In this case, the *Enterprise* experienced a certain amount of immunity (it survived an incredible number of adventures), but not to the extent enjoyed by vehicles such as the General Lee or KITT. In the case of *Star Trek,* the spirit of the franchise can survive the replacement of the core vessel with a similarly named one.

One takeaway for gamers is that replaceable vehicles with an emotional investment are a perfect way to skirt around cinematic restrictions against killing heroes. No, *you* won't die . . . but your snazzy cool ship might not survive.

Similarly, in a campaign where the heroes aren't even likely to be seriously injured, damage to a vehicle can serve as a surrogate – and make things more complicated for the PCs. One possible way to simulate this in a campaign is to allow the players to skim points from their vehicles to spend on themselves in an emergency. Thus, in a ***GURPS*** campaign you might use the vehicle guidelines from ***GURPS Supers*** (pp. 84-85) in reverse, bleeding points from improvements (or adding vehicular disadvantages) that are immediately spent to save the heroes or improve their situation. In this case, it makes the most sense if the ship can in some logical way "contribute to" the welfare of the PCs . . . but in a cinematic enough campaign, even that might be hand-waved away.

*Example:* Aboard the *Stellar Wind,* a nameless crewman has succumbed to a space illness of unknown origin, giving him super-speed and dexterity. He's shooting at the heroes with a stolen laser pistol. The GM encourages use of the flesh wounds rules (p. B417), and makes it known that he won't pull punches in this encounter. The infected crewman gets off a good shot that means the captain's had it – especially since he spent all his bonus character points from last adventure to boost his Sex Appeal. The player asks if he can bleed a point from the *Stellar Wind* to keep in the fight. Since the fight is aboard the ship, the GM allows it. The GM rules that the point comes from the ship's handling, resulting in -1 Hnd. The bulk of the shot blows up some random (vital) handling circuitry, the captain takes his one HP of damage, and the fight can continue.

If the GM wants to try this, he might tinker with the conversion rate (for example, requiring each point spent to bleed 2 points from the vessel . . . or even 1d points), and he may or may not permit the players to guide where the points are bled from.

Regardless, ramping up the danger to a beloved vehicle is a great way to skirt around a reluctance to kill PCs, and can open the door to many new adventures as the heroes need to find replacement parts, engage in planet-bound adventures while their vessel is in dry dock, etc.

## The Vessel With the Pistol Holds the Ptchew That Is True

Both *Star Wars: A New Hope* and the first episode of *The Dukes of Hazzard* open with a vehicular chase. (In the case of *The Dukes of Hazzard,* it was the General Lee chasing a sheriff's car . . . with a voice-over explaining how things are a bit different in Hazzard County.) Interestingly, in both cases, you see vehicles before you see humans.

From a heroic perspective, the *Star Wars* universe doesn't care terribly much about its vehicles. They're usually disposable, with some exceptions – the *Millennium Falcon* is probably closer to the *Enterprise* as far as its plot immunity.

However, in the Star Wars universe they're incredibly useful in establishing the scene; each location has vessels that are uniquely suited for its environment. For example, the logical vehicle on a moon with lots of closely clustered trees is a superfast open-cockpit design designed for people with limited visibility. (Either that, or it's coyly showing that the Empire is as clueless as most behemoth bureaucracies.)

From a gaming perspective, vehicles can be a good way to make even similar environments feel different. For example, the *Indiana Jones* series has several encounters in jungles, but a fight aboard trucks feels very different than one involving a spinning-blade cutter or an escape via biplane.

Plus, even if vehicles aren't intended as having "personality," it's entirely possible for the players (and their heroes) to develop an attachment to long-running ships. In this case, the PCs might find themselves investing points in the ship . . . or even trying to spend resources to make sure a vessel doesn't "die"! The GM can encourage this (or not) as desired, but it's entirely possible for even a "mundane" vessel to migrate to one of the roleplaying forms discussed earlier . . . which should open up all manner of gaming goodness.

### The Same, But Different

If you're considering using the "death" of beloved vehicles as a way to up the tension in a campaign, you might be wondering if the players will really feel a sense of loss – especially if the campaign requires a vehicle for the core premise. ("Oh, well; we lost the *Weeping Virgin;* all aboard the *Weeping Virgin II!*")

One way to drive the point home – especially if you think the players are getting irresponsible with their toys – is to note that the new *vessel* isn't the same. Even though the *Star Trek* crew was assigned to the *NCC-1701A,* the plot of *Star Trek V: The Final Frontier* makes it abundantly clear that this new ship has a number of quirks that make life complicated for the crew. Sure, the good guys might break in their new ride given enough time, but until then, it's going to be a difficult situation that should serve as an action-packed equivalent of mourning.

Oh, and in the expanded *Star Trek* universe, the *NCC-1701A Enterprise* also got blown up in the novel *The Ashes of Eden.* You can thank William Shatner for that.

## About the Editor

Steven Marsh is a freelance writer and editor. He has contributed to roleplaying game releases from Green Ronin, West End Games, White Wolf, Hogshead Publishing, and others. He has been editing *Pyramid* for over 10 years; during that time, he has won four Origins awards. He lives in Indiana with his wife, Nikola Vrtis, and their son.

# Odds and Ends

## Transhuman Armor

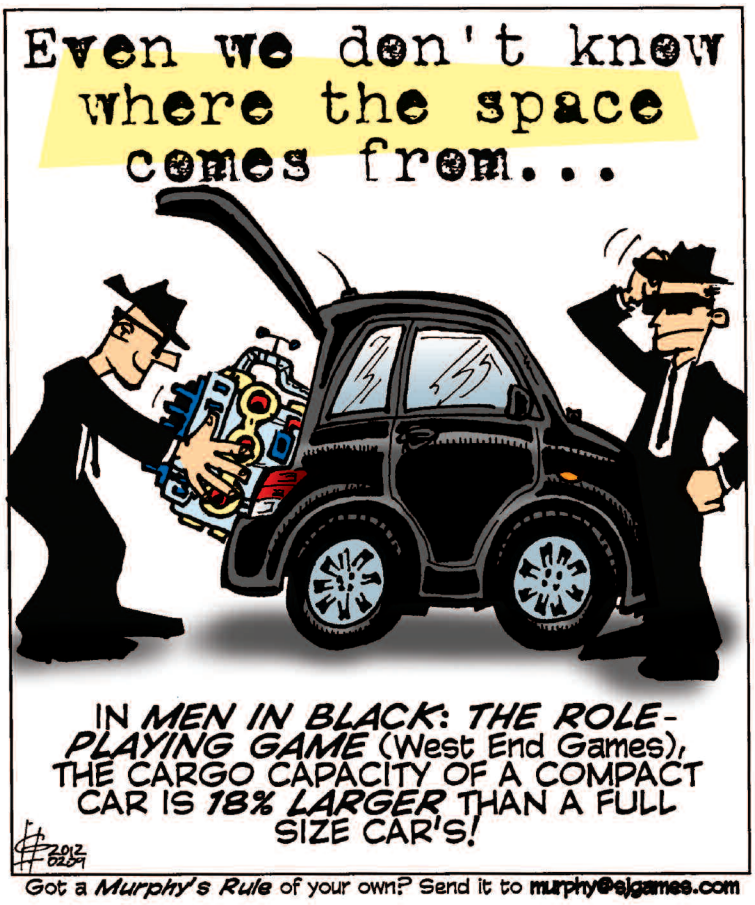
by Kenneth Peters

In addition to introducing some cool new modules to ***GURPS Spaceships*** in general, *Alternate Spaceships* from *Pyramid #3/34: Alternate* ***GURPS*** introduced an optional rule regarding armor volume. (In a nutshell, spaceships with lots of armor modules get an armor multiplier and a reduced effective SM for targeting purposes.) This rule can apply to quite a few designs from ***Spaceships 8: Transhuman Spacecraft.*** Here, then, is every design from that supplement that can benefit from this rule, what its dDR would change to, and its effective SM (if there was a change).

| *Spaceship* | *Page* | *dDR* | *New SM* |
|---|---|---|---|
| *Kupu-Kupu* | 11 | 50 | +6 |
| *Rajasi* | 12 | 33/8/8 | |
| *Predator* | 12 | 75/30/45 | |
| *Zhengyang* | 13 | 39/19/29 | |
| SATV | 18 | 13/13/65 | |
| *Seminole* | 21 | 84/42/42 | |
| *Puma* | 21 | 11/3/0 | |
| *Bumblebee* | 22 | 7 | |
| *Grizzly* | 26 | 360/240/120 | |
| *Gang Lung* | 26 | 180/120/60 | |
| *Avskèrmar* | 27-28 | 80 | +6 |
| *Barricade* | 28 | 22/13/9 | |
| *Shanzi* | 28 | 144 | +11 |
| *Hermann Oberth* | 30 | 96/24/24 | |
| *Königsberg* | 30-31 | 120 | |
| *Riguang* | 31 | 180/120/60 | |
| *Salahudin Samboja* | 31-32 | 156/78/39 | |
| SDV-90 | 32 | 108/72/36 | |
| *Xingzhai* | 32-33 | 108/36/36 | |
| SEM-23B | 37 | 18/6/6 | |
| X-92 | 37-38 | 75/30/45 | |

## Murphy's Rules

by Greg Hyland




## The Fore-Car Garage

Favored by costumed crimefighters with more rides than space, the fore-car garage can store up to four vehicles, despite having an opening that's only wide enough for one. The garage is then able to arrange its contents so that the most worthwhile vessel for any situation is at the front of the garage, pointed outward and ready for action.

Thus, if the garage owner has parked a roadster, an ATV, a motorcycle, and an armored monster truck, the garage would know if there was a high-speed chase (roadster), a heavily armored gang (armored truck), or a situation on the outskirts of town (ATV).

Whether the garage determines the most appropriate vessel by magic, telepathy, happenstance, or some other method is at the GM's discretion.

*Our national flower is the concrete cloverleaf.*

*– Lewis Mumford*

## 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 e-mail: **info@sjgames.com**. Resources include:

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***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.