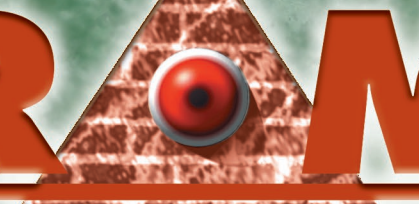


# PYRAMID<sup>®</sup>



Issue 3/87 January '16

## LOW TECH III



### THE BROKEN BLADE

by Douglas H. Cole

**PURVEYORS OF THE PRICELESS**  
by Christopher R. Rice

**MEDIEVAL SEA TRADE**  
by David L. Pulver

**KNOWLEDGE IS POWER**  
by Matt Riggsby

**THE MUSIC MAKER**  
by Jon Black

**TEN MINUTES IN OCTOBER**  
by Steven Marsh

**TEMPERED PUNKS**  
by Graeme Davis

# STEVE JACKSON GAMES

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Everything old is new again! With this issue of *Pyramid*, we're taking another look at bygone days, with the latest in low-tech innovations. Spice up the past with new rules, insights, possibilities, and more.

Perhaps the greatest danger in melee combat comes from *The Broken Blade*. These rules from Douglas H. Cole – author of *GURPS Martial Arts: Technical Grappling* – add the excitement and danger of weapon breakage to your *GURPS* campaign . . . and teach you how to make your armaments battle-worthy again!

Getting the best price for goods is always helpful for *Purveyors of the Priceless*. These optional subsystems for *GURPS* – from prolific *Pyramid* penman Christopher R. Rice – let you barter and trade like a pro. You can even use these rules to make commerce your full-time in-game profession.

Set sail with more things to sell, by taking up the *Medieval Sea Trade*. In this issue's Eidetic Memory, David L. Pulver adapts his trading rules from *GURPS Spaceships 2: Traders and Liners* to more retro realms, allowing lucrative low-tech dealings. Buy cargo, transport passengers, and put into ports around the world, living the life of a free-trading crew.

When it comes to accessing the inner realms of bureaucracy, *Knowledge Is Power*. *GURPS Hot Spots: Constantinople, 527-1204 A.D.* author Matt Riggsby helps you enter the halls of power of Imperial China, with a guide to the education, examination, and implementation of that empire's awe-inspiring administration, plus insight into how to apply its machinations of other great civilizations.

When it comes to legendary low-tech musical instruments, one name is perhaps most associated throughout history as *The Music Maker* – Antonio Stradivari, also known as “Stradivarius.” Author Jon Black takes you on a tour of the life and legacy of this legendary craftsman, including *GURPS* stats for the master himself, information about his amazing violins, and adventure seeds for all genres.

In a “punk”-style campaign, heroes are encouraged to push the envelope. But sometimes it's necessary to strive for *Tempered Punks*. Graeme Davis – co-author of *GURPS Crusades* – offers some systemless campaign ideas for how to keep innovators from being *too* innovative in a low-tech campaign.

This month's Random Thought Table gives you permission to break reality, while Short Bursts provides another glimpse into the new *Car Wars* universe from *Pyramid* Editor Steven Marsh that shows what happens when tech goes wrong (including stunning new artwork from Brandon Moore). Whether fighting, trading, or innovating, this issue of *Pyramid* is sure to be the *tech* of the town!

## ARTICLE COLORS

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

*Pale Blue:* In This Issue

*Brown:* In Every Issue (humor, editorial, etc.)

*Green:* Columnist

*Dark Blue:* *GURPS* Features

*Purple:* Systemless Features

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# FROM THE EDITOR

## GET IT IN GEAR!

Arguably, all aspects of human studies ultimately boil down to tech. At a fundamental level, tool-usage is what sets us apart from most animals (we're keeping an eye on you, New Caledonian crows). And advanced technology – the ability to evolve ever-more-complex innovations – definitely sets us apart from any other critters out there. (Take *that*, crab-eating macaques!)

Thus it's no surprise that even something as thoroughly documented as pre-Industrial Revolution-era technology continues to provide fertile ground for new gaming innovation. New ways of looking at the past always crop up, whether it's an analysis of tech that's been part of all low-tech games from the beginning (pp. 4-8), an in-depth exploration of a little-focused social construct (pp. 22-27), or new rules for tying in existing bits into a larger satisfying subsystem (pp. 15-21). As we argued last month (*Organization Rules!* on p. 32 of *Pyramid* #3/86: *Organizations*), the existence of new systems or insight allows for expanded creativity when designing new challenges for heroes.

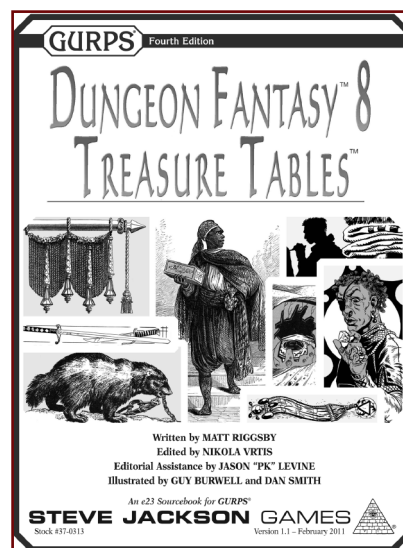
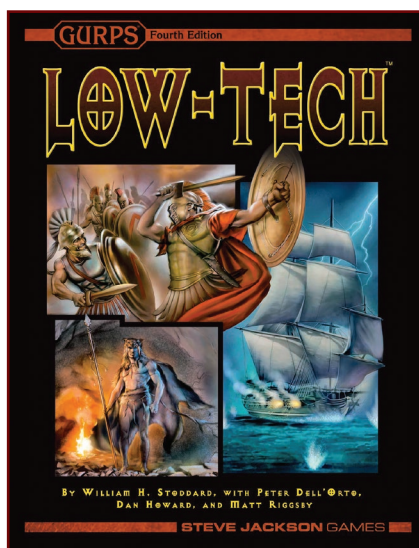
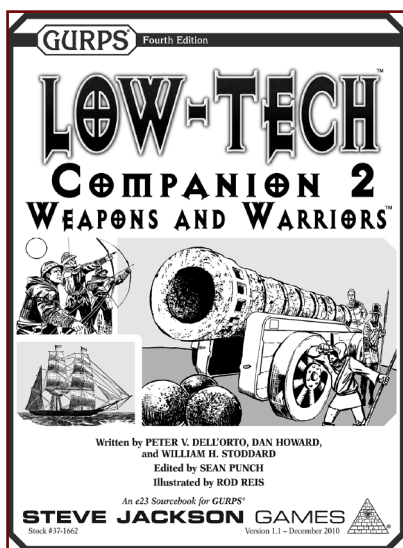
So whether you're exposing adventurers to the vagaries of an uncaring bureaucracy, opening up trade possibilities for mercantile-minded explorers, or giving the heroes a chance to acquire one of the great historical treasures that has stood the test of time (pp. 28-32), it's always worthwhile to explore new and different areas of past eras.

May this issue prove to be a passport to new and exciting vistas of gaming goodness!

## WRITE HERE, WRITE NOW

Speaking of gaming goodness, was this trip to Ye Olden Times time well spent? Or was something not your cup of tea (even if it *was* imported at great expense and risk by some plucky merchants)?

We always love to hear your thoughts, and modern technology means you barely need to pick up a quill! Send your mischievous musings privately to [pyramid@sjgames.com](mailto:pyramid@sjgames.com), or visit our public pub of peerless peers at [forums.sjgames.com](http://forums.sjgames.com).



*Additional Material:* Phil Masters, Matt Riggsby, William H. Stoddard, and Jonathan Woodward

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# THE BROKEN BLADE

BY DOUGLAS H. COLE

Weapon quality in *GURPS* carries a lot of utility. It is a gauge of weapon *robustness*, measuring resistance to breakage when parried. It quantifies *deadliness*; a high-quality weapon gets a bonus to basic damage. This also helps punch through obstacles, which takes into account both weapon geometry and materials properties, as well as rates *armor penetration*.

These optional rules look at a different way to think about weapon quality, with a new mechanism for weapon breakage. These rules are *not* a treatise steeped in realism or physics – they are game-mechanical in nature, dividing up these characteristics to provide optional detail.

## WEAPON ROBUSTNESS

Beating on foes – especially foes in armor – tends to play merry havoc with weapons. They chip, shatter, bend, and dull. *GURPS* already has rules for the point at which *defending* against blows from very heavy weapons (or very strong unarmed strikes) can cause a weapon to break, invoking a quick roll against 1d (see *Parrying Heavy Weapons*, p. B376) to see if the instrument survives the attempt.

With the current rules, weapons are pretty safe: You need to parry a blow by a foe (strong or weak) wielding a weapon that weighs more than three times your own. That makes weapon *breakage* the narrative result of “I parry the huge Ogre’s tree trunk with my broadsword!” rather than something that can be expected to occur regularly or, to some extent, even unexpectedly. Much like the *Damage to Shields* rule (p. B484), these new robustness rules trade extra work for a larger spread of narrative outcomes. The GM should select which options to implement based on the desired feel of the campaign.

### Roll Them Bones

One side effect of using these rules is that everyone needs to check for weapon breakage on any blow for which the attack roll is successful. Accordingly, on a successful strike, the blow *might* be hard enough to cause the attacker’s weapon to be at risk of damage. On a successful parry, *both* weapons – attacker’s and defender’s – might be threatened. Roll damage as soon as the hit is made, regardless of whether the defender parries.

### USING AND ABUSING WEAPONS

Weapons are given robustness statistics based on their HT and weight. Most hand weapons have HT 12, Hit Points proportionate to their mass, and DR based on their construction. (For a comprehensive table, see *GURPS Low-Tech Companion 2: Weapons and Warriors*, pp. 23-24.)

This article provides more detail on each property, eliminates the 1d roll for weapon breakage in favor of a HT roll (see *Weapon Breakage Checks*, p. 6), and makes breakage a result of the force (potential or actual damage) of an incoming blow rather than just the weapon’s weight.

*Superior blades and armor  
could make the difference  
between victory and defeat  
in any battle fought with  
sharpened steel.*

– Paul Hardt,  
*Badmoonrising:  
The Gates of Bonshea*

### Robustness Stats

A weapon’s ST statistic (p. B270) tells how much strength a warrior needs to use the weapon as designed. A weapon’s ST and HP are intimately related through the weapon’s mass. The ST rating for the weapon therefore makes a satisfactory (and precalculated) proxy for how much impact a weapon can successfully absorb without risking *catastrophic* failure (see *Weapon Breakage Checks*, p. 6). This is different from DR (p. 5), which measures the weapon’s resistance to penetration/deformation by a blow. If a weapon has several usage modes, each with a different ST rating, use the *highest*.

## Defense Breakage Threshold

A weapon may break on a parry if it absorbs more HP in one blow than its ST rating. Any impact higher than the ST rating forces a breakage check.

## Attack Breakage Threshold

Weapons can break if used to make too powerful a blow. If a weapon *strikes* a blow that is more than 1.5 times its ST rating, it must make a breakage check. This *replaces* the prohibition against weapons not inflicting more than  $3 \times$  their ST rating on p. B270 – do whatever you want, but be prepared to pay the price.

*Example:* A short baton has ST 5, giving a defense breakage threshold of 5 and an attack threshold of 7. A bastard sword has ST 11, for a defense breakage threshold of 11 and 16 for an attack breakage threshold. A gada has ST 16, giving a defense breakage threshold of 16, and 24 for an attack breakage threshold.

## Safety Limits

In addition to breakage thresholds, calculate a safety limit by converting the attack and defense thresholds to dice by dividing by 6, retaining the remainder as adds (e.g., a weapon with ST 8 would have a defensive safety limit of  $1d+2$  and an offensive limit of  $2d$ ). If the damage being dealt or absorbed is equal to or lower than this value, the wielder will *never* have to check for breakage. This can speed play when facing lesser foes.

*Example:* A broadsword, with its defensive threshold of 11 and attack threshold of 16, would have safety limits that converted to  $1d+5$  and  $2d+4$  for defense and attack – dividing the dice by 6 and retaining adds to show the die rolls that will stay under the thresholds even with max damage. You can convert adds to dice as long as the maximum remains the same:  $1d+5$  would be  $2d-1$  (both with a max of 11), while  $2d+4$  would convert as  $3d-2$  (both with a max of 16).

## Failure Increment

The harder the blow, the more likely the weapon is to break. The *failure increment* is equal to the weapon's ST rating divided by 5 and rounded to the nearest whole number; thus, a ST 13 weapon has a failure increment of 3. For every full multiple of the failure increment by which a blow exceeds the breakage threshold, it suffers -1 on breakage checks (p. 6).

## Breakage Threshold Combat Example

A ST 18 knight is wielding a *small knife* in combat, having been caught without his greataxe at a fancy ball. His damage would be  $3d-3$  cut on a swing or  $1d+1$  imp for a thrust. It is ST 5, giving a defense breakage threshold of 5 if defending, and 7 while attacking. The safety limits for these thresholds are a (measly)  $1d-1$  on defense, and  $1d+1$  if attacking. To “stay safe,” our knight must thrust or cut with but a fraction of his high ST! Thrusting with it, he will never have to check for breakage on normal attacks, but striking at  $3d-3$  will force a check roughly every other blow! Defending, he risks his weapon on any blow of more than 5 HP of basic damage. The knife's failure increment is only 1 point (ST 5 divided by 5),

so he faces steep penalties if his damage given or absorbed much exceeds his breakage threshold.

## HT

Most of the alterations to a weapon's robustness are described in terms of the weapon's HT. If you are using the usual quality modifiers provided in the *Basic Set*, treat a *cheap* weapon as HT 10 or less, *good* quality as HT 12, *fine* quality as HT 14, and *very fine* as HT 16.

## DR

A weapon's innate Damage Resistance is used when considering if a blow causes *localized* damage. Hafted weapons usually have DR 4, and all-metal ones typically have DR 6. DR is *not* used to determine a weapon's resistance to sudden and total failure (a weapon breakage check). DR is always used if a foe is targeting a weapon to deliberately damage it using the rules for *Striking at Weapons* (pp. B400-401) – see *Weakening the Weapon* (p. 6) for more details.

## WEAPON GEOMETRY AND BREAKAGE THRESHOLD

Weapons that use the same motion and structure to attack and defend qualify for a higher defense breakage threshold (above); use 1.5 times ST, the same as their attack threshold. This includes weapons that are fully symmetric and uniform – but *not* unbalanced weapons (which tend to parry with a wooden haft), fencing weapons, swords, or polearms, all of which use the standard defense threshold equal to ST.

*Example:* A baton or quarterstaff is symmetrical and presents essentially the same cross-section and surface for attack and defense. It uses the attack breakage threshold of  $1.5 \times ST$  when considering all breakage checks. A sword is more reinforced along the blade than the flat, while an axe or mace parries with the haft, whether reinforced or not, not the blade: They use the lower ST-based defensive breakage threshold to parry, but  $1.5 \times ST$  for the attack breakage threshold.

## WEAPON FAIL

Put too much stress on your tools, and they might let you down. A weapon can become damaged in one of the several ways. They can fail outright and catastrophically, leaving you with a hilt or haft, and little else. They can be worn down over time, either through being targeted purposefully or through normal use and abuse in combat. Finally, sharp edges can become dull with use – an optional rule that will have the fighters paying special attention to their weapons during downtime!

The various methods of checking for weapon degradation all require a damage roll to be made regardless of whether an attack succeeds. Roll to see if a blow hits and for how powerful it was at the same time.

## Weapon Breakage Checks

A breakage check is a roll against the weapon's HT+2 that occurs on parrying any blow that exceeds the defense breakage threshold (p. 5), or delivering a blow that exceeds the attack breakage threshold (p. 5). Every full multiple of the *failure increment* (p. 5) by which a blow exceeds a breakage threshold gives -1 to this roll.

If the roll fails, your weapon suffers damage in the form of lost HT equal to the margin of failure (minimum 1). The blade *also* breaks outright if the HT of the weapon is reduced below 3, a breakage check is failed by 5 or more, or if a breakage check is critically failed (regardless of the margin of failure).

*Example:* The knight with his small knife must defend against someone swinging a broadsword at him; the knife's defense breakage threshold is only 5. His attacker swings for 2d+2 and rolls 9 points of basic damage, exceeding the threshold by 4 points. The small knife, with its ST 5 rating, has a failure increment of 1, so the breakage check is rolled at a net HT-2. A heavier weapon such as a shortsword (defense breakage threshold of 8, and failure increment of 2) would roll at its full HT+2.

The loss of HT might represent notching of the blade or haft, or any other damage and deformation to the weapon. Such damage may be repaired if it is not too severe (see *Repairing Damaged Weapons*, pp. 7-8).

## Striking Hard Surfaces

If striking purposefully at something with hard DR such as armor or an object (but not when striking at a foe's weapon, or while parrying), the GM may decide that the weapon suffers additional HT penalties to breakage checks.

Flesh and bone without inherent DR incur no penalty, nor do tough hide and cloth armor. Wood or hard organic armors (such as scales or plates) and tough hide give penalties: -1 for DR 1-4, and -2 for DR 5 and higher. Hard armor materials like bronze, iron, and steel (as well as high-tech stuff such as boron carbide or other ceramics) take a penalty equal to their DR/2, rounded up, with a maximum of -5.

## Making Skill Count

More skillful combatants can attempt to reduce the risk to their weapons when delivering or receiving hard blows. Treat such skillful deflection as a combat option. Each -2 to a hit roll, or -1 to a Parry, increases the corresponding breakage threshold by one for that attack or defense. It effectively allows fighters to use their skill to slide blows from their weapons instead of meeting them head-on, at the risk of being too clever and missing completely.

## Weakening the Weapon

For playability, only consider the DR of a weapon for breakage when it is the deliberate target of a foe's attack. If such an attack lands (e.g., a successful hit roll or a failed parry), subtract the weapon's DR from the rolled damage, and the weapon then suffers -1 to HT for every multiple of the weapon's failure increment, rounding down. Do not reduce HP! That would represent having pieces of the weapon knocked off, instead the increased fragility of the weapon is represented by HT loss.

## Dangerously Fragile Weapons

Any weapon whose HT is reduced to 6 or less has its breakage thresholds and DR halved (minimum 1 for threshold; a weapon *can* have DR 0). Additionally, if the weapon normally has a higher attack threshold than its defensive threshold, treat them both the same, equal to the lower value.

## THE DULL BLADE

Beating on foes, especially encased in armor, tends to do bad things to a weapon's cutting edge. If someone abuses a weapon in this way, roll vs. the weapon's HT-2; on a failure, the weapon dulls. If the weapon is striking a hard surface, apply the following additional penalties to the HT check:

- Wood, internal DR due to bony structures (such as the skull's DR 2), and hard organic armors (such as animal scales or bony plates), and tough hide give a penalty: -1 to HT for each 2 points of DR, to a maximum of -5.

## WEAPON ROBUSTNESS QUICK REFERENCE

In all formulae, if a weapon has several usage modes, each with a different ST rating, use the *highest*.

*Defense Breakage Threshold:* weapon's ST rating

*Attack Breakage Threshold:*  $1.5 \times$  weapon's ST rating, rounded down

*Defense Safety Limit (in dice):* (weapon's ST rating) / 6; retain adds

*Attack Safety Limit (in dice):*  $(1.5 \times$  weapon's ST rating) / 6; retain adds

*Failure Increment:* (weapon's ST rating) / 5, round normally (e.g., ST 3 has an increment of 1)

*HT:* Cheap weapon has HT 10 or less; good quality has HT 12; fine quality has HT 14; very fine has HT 16.

*DR:* Usually DR 4 for hafted weapons, and DR 6 for all-metal ones.

*Edge HT:* (weapon's HT) - 2

*Breakage Check:* current HT + 2

## STRIKING BONE AND MEAT

"Hard organic armor" (see *Striking Hard Surfaces*, above, and *The Dull Blade*, below) includes bone structures such as the thigh bone (femur), the long bone in the upper arm (humerus), the pelvis, spine, and the skull. All would have DR 2 when it comes to cleaving them with weapons, yielding -1 to breakage checks and -2 for dulling. Other strong bones, such as those of the shins and forearms and the shoulder blades, are in this category as well.

Larger creatures with strong structural bones should scale this DR: Use the creature's HP/5 as a good baseline. Giant birds will be less; supernaturally tough creatures should be more.

- Hard armor materials like bronze, iron, and steel take a penalty to HT equal to their DR, to a maximum of -10.

A blade that dulls does so in stages, lowering the behind-armor cutting damage modifier. The first stage drops the

cut modifier to only a 25% increase, then to 0% but still cutting (for cases like the neck being struck with a cutting weapon), and finally only does crushing damage, like a club.

*“This blade has been fashioned from sixty bundles of rods,” he was told by the Carthagagan weaponsmith. “Each of those rods has a different carbon content, to give it flexibility as well as strength and sharpness.”*

– Kim Hunter, *Knights Dawn: The Red Pavilions*

## ANVIL AND WHETSTONE

Fighters will want to know how much money it costs to procure a weapon with a certain HT score, or to repair one that has been damaged or dulled.

### WEAPONCRAFTING

A weapon’s HT at the time of its purchase sets the maximum it can ever have, short of a total re-forging or magic. If a warrior wishes to purchase weapons that are either substandard or higher quality, consult the following tables.

#### Substandard Weapons

Buying used or poor-quality weapons is chancy business, but it can be done. Note that buying a sword with HT 10 is the same cost factor as a *cheap* weapon using the rules in the *Basic Set*.

Desired Weapon HT:	12	11	10	9	8	7
Cost Factor:	0	-0.4	-0.6	-0.75	-0.85	-0.9

There is no further reduction in cost for procuring a weapon with HT lower than 7. The 10% of the base cost of (for example) a sword represents the cost of a few pounds of lousy iron and barely enough time to pound it into a sword-ish shape. It will likely be good for a few desultory blows, after which point it will be ruined. Or rather, more ruined – it *started* ruined.

At TL7+, increase the HT of whatever you’re buying by two – a HT 12 TL7 blade can be had at a CF of -0.6, as if it were *cheap*.

#### Weapons of Quality Table

To purchase a new weapon of superior HT, simply double the cost for each +1. If combining this cost with other options, look up the cost factors below.

Desired Weapon HT:	12	13	14	15	18	17	18
Fencing or Sword-Type:	0	+1	+3	+7	+15	+31	+63
Crushing or Impaling:	0	+0.5	+2	+5	+11	+23	+47
Other Cutting:	0	+4	+9	+19	+39	+79	+159

A HT 14 weapon is equivalent to a *fine*-quality weapon, while a HT 16 one is equivalent to *very fine*. The basic rules preclude non-sword weapons from being very fine; the GM may either limit the HT of such weapons to 14 or vastly increase the cost. At TL7+, superior metallurgy boosts the value of what someone can buy – increase the HT for a given price by two (thus, a sword with a CF of +1 as HT 15 instead of HT 13).

### HONING AND SHARPENING

A weapon that dulls may be resharpened. Each cutting level (see *The Dull Blade*, pp. 6-7) to be restored requires a base of 10 minutes and an appropriate set of whetstones and tools. The weaponsmith also must win a Quick Contest of Armory (Melee Weapons) vs. the weapon’s HT. As always, the crafter may use *Time Spent* (p. B346) to either gain a bonus by taking his time, or accept a penalty to go faster.

If the weaponsmith loses the contest, the weapon stays in its dull condition. If he loses by 10 or more, he has damaged it, and it suffers -1 to HT. If he *wins* by 10 or more, the next blow struck by the weapon does +1 injury, as per the dwarven whetstone (see *Dungeon Fantasy 1*, p. 25). If the weaponsmith is using a dwarven whetstone, then divide the time to sharpen a blade, but not the difficulty, by 10!

### REPAIRING DAMAGED WEAPONS

Repairing a weapon that has been damaged in battle is an exercise in balancing the amount of damage done with the cost of repairing that damage. A point will come when it will be more expensive to fix a weapon than to simply throw it away and buy new. It may still be worth doing, depending on the weapon and how the GM is treating special properties. A great-axe worth \$1,000 but layered with \$10,000 worth of enchantments might be worth fixing despite a great deal of damage.

To determine the cost and time of weapon repair, look up the HT loss of the weapon from its fully robust state on the *Weapon Repair Table*. It is assumed that the work will be done by a competent weaponsmith (someone with Armoury (Melee Weapons)-12 or better).

## Weapon Repair Table

HT Loss:	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Cost of Full Repair:	2.5%	20%	50%	100%	150%	250%	325%	450%	550%	700%
Base Time Required:	6 hours	1 day	2 days	5 days	10 days	2 weeks	3 weeks	5 weeks	7 weeks	10 weeks

### Time and Cost

On the *Weapon Repair Table* (above), “HT Loss” is how many points the weapon has been brought below its fully robust HT. “Cost of Full Repair” is the percentage of the weapon’s base cost (including any modifiers for weapon quality and decoration, but not enchantments or anything not built into the weapon itself) in order to bring the weapon up to “like new” condition – at least as far as its HT is concerned. You won’t be able to sell it for brand-new unless you can dupe the buyer!

“Base Time Required” indicates the amount of time the weaponsmith must spend before making the Armory roll. The skill roll is made at a bonus or penalty based on the original HT of the weapon being repaired, with higher HT weapons being harder to fix! The roll is at a bonus or penalty equal to (12 - HT). Thus, a HT 14 weapon is at Armory-2; a HT 10 weapon rolls at Armory+2. The weaponsmith can either take extra time or rush the work using *Time Spent* (p. B346). Treat one day as 10 hours of labor.

Fixing a weapon that has suffered HT loss due to damage requires appropriate tools. Increase the time required by an appropriately large factor – say 5 or 10 – if the weaponsmith is working with improvised tools. HT losses larger than 2 *cannot* be repaired, even partially, without a proper set of equipment.

### Partial Repair

If for some reason an adventurer won’t – or can’t – repair a weapon fully, use the difference between the starting HT loss and the repaired one to determine time and cost.

*Example:* An adventurer wishes to make a partial repair on a \$1,200, HT 13, thrusting broadsword that is currently at HT 10. He elects to bring it from HT 10 to HT 11 (HT loss of -3 to HT loss of -2), which will cost \$360 (30%) and 1 day.

## ABOUT THE AUTHOR

Douglas Cole is a sometimes writer and oft-times blogger, where he writes about roleplaying and other sundries at [Gaming Ballistic \(gamingballistic.blogspot.com\)](http://gamingballistic.blogspot.com). He has been roleplaying since 1981 and playing *GURPS* since 1988. His gripping release, *GURPS Martial Arts: Technical Grappling* was released in September 2013 – go buy it. He acted as lead playtester for *GURPS High Tech*, *GURPS Tactical Shooting*, and *GURPS Loadouts: Low-Tech Armor*. Douglas lives with his wife and two daughters in Minnesota, where many are cold, but few are frozen. He would like to thank the *Pyramid Write Club*, but the first rule of Write Club is *we do not talk about write club*.

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# PURVEYORS OF THE PRICELESS

BY CHRISTOPHER R. RICE

Haggling, bartering, and trading are the heart of any empire and commerce is the lifeblood that allows kingdoms to grow and flourish. **GURPS Basic Set** has little to say about trading, with a few words under the Merchant skill (p. B209) and the *Commercial Transactions* rules (p. B561). **GURPS Low-Tech Companion 3: Daily Life and Economics** has a small section (see pp. 43-44 of that supplement), and **GURPS Social Engineering** offers other tips. The following collection of guidelines offers additional game mechanics for bartering goods and services, owning your own business, and actually *being* a trader. The rules are designed for TL0-4, but can be adjusted to use higher tech levels.

*For the merchant, even honesty is  
a financial speculation.*

– Charles Baudelaire

## BARTERING AND TRADING

One of the oldest systems of commerce is *bartering* – the trade of goods and/or services between two or more individuals. As **Low-Tech Companion 3** notes, the problem with bartering is having a *coincidence of wants*. That is, you cannot trade services or goods you have with someone who doesn't want them. For example, you cannot trade bread to someone who has it in abundance *unless* your bread is sufficiently different (e.g., whole grain when sourdough is common), nor would it be easy to trade bread to a creature with Doesn't Eat or Drink.

Once you have someone to trade with and something that the person wants, you can get on to the transaction. See *Commercial Transactions* (p. B561) for rules for bartering, or use the guidelines from **GURPS Social Engineering**, particularly *Commercial Transactions*, pp. 26-28.

The GM should feel free to ignore slight overages (e.g., \$10 of eggs traded for \$12 of sausage could be an "even" trade). Optionally, if small but valuable items service as a kind of currency, the rest can be balanced out accordingly. For example, the Aztecs used cacao beans as a primitive currency and when bartering resulting in slight inequalities of goods, the cacao was used to even it out.

While it may seem the best way to get things is to barter services instead of goods, doing so requires that you stay in

one place for a while *and* have desirable skills. Less than satisfactory services due to failures (especially critical failures) could land folks in hot water with the locals, resulting in reaction penalties, hostile interactions, or even combat should they fail to live up to their end of the bargain!

## Bartering Capacity

As one alternative to traditional bartering rules, replace Wealth with a new advantage, Bartering Capacity (below). Each level of Bartering Capacity equals 10% of the campaign's starting wealth (p. B27). To determine someone's base Bartering Capacity, the player tells the GM what services he's bartering. The GM then determines his monthly pay, using either an existing job entry (see **Low-Tech Companion 3**, pp. 45-49, or **GURPS Banestorm**, pp. 202-217) or the rules for creating new jobs on pp. B516-517. To account for good and bad months, assume a fixed margin of zero for jobs whose pay depends on a margin. Divide monthly pay by 10% of the campaign's starting wealth (round up) to get the person's monthly Bargaining Capacity level. For example, a character who is a TL4 clockmaker (**Low-Tech Companion 3**, p. 49) gets \$1,700 per month. This translates to nine free levels of Bartering Capacity each month.

Bartering Capacity can go up or down during game play, and it may be bought up with unspent character points like any other trait.

*Abstract Wealth* in *Pyramid* #3/44: *Alternate GURPS II* offers a more detailed method of converting money that might be useful in campaigns with a strong bartering element.

## New Advantage: Bartering Capacity

1/level

Each level of Bartering Capacity represents 10% of the campaign's starting wealth (p. B27) that you have in goods, services you can provide, or a "line" on where you can get such things. This is intentionally abstract and might include anything with a Legality Class less than the Control Rating of the campaign. You may specify what goods you have if the GM allows, as long as you don't try to "sell back" to yourself by keeping items. In most cases, the GM will need to be very strict on what someone could have found or come across during his time. After a deal is struck, your Bartering Capacity goes down, and you get the goods or services you've bargained for.

## NEW PERKS

The following perks can prove useful to merchant princes and traders alike.

### Caravan Master

*Prerequisites:* Leadership 12+, Area Knowledge 16+, Riding or Teamster 16+, and Navigation (Land) 16+.

You are a master at leading caravans or other group of people, beasts, or vehicles. As long as at least one of your relevant skills (except Leadership) remains at 16 or more, you reduce any penalties due to terrain, weather, or lack of roads by  $5\% \times (\text{lowest skill} - 15)$ . For example, if you had Area Knowledge, Riding, and Navigation (Land) at 19, you could ignore up to 15% of penalties for *Hiking* (p. B351).

### Disbursed Time‡

This leveled perk allows someone with a job to spend one workday less on his occupation while still getting paid the same amount. Typical workdays a month at TL4 or lower is 25 days (higher TLs are often just five days a week, resulting in 22 workdays a month). Optionally, each level reduces total time by 5% instead. The GM sets the upper limit, but people should spend at least one day a week to get administrative paperwork in order, purchase new supplies, and so on.

### Eye for Wares†

Pick an Armoury or Connoisseur specialty (pp. B178, B185), or Jeweler (p. B202). You may use your Merchant skill to precisely identify the market value of items covered by your chosen specialty.

### Manipulative Salesman

You may use *any* Influence skill as a complimentary roll while attempting to peddle wares.

### Natural Fence‡

You have a knack for finding somebody interested in finding your wares. Each level (maximum of four levels) of this perk gives +1 to any roll to locate someone willing to barter or buy for what you are selling.

### Occupational Proficiency†‡

This leveled perk (maximum of four levels) gives +1 per level to *all* rolls associated with performing a specific job (p. B516). This includes specific skill rolls for figuring out monthly competence, rolls to determine negative effects on a critical failure, and so on. It only adds to job rolls and never helps with actual adventuring tasks! You must specialize by particular job. For example, if Robert the Clockmaker had both Machinist and Mechanic (Clockwork)-12 and two levels of Occupational Proficiency (Clockmaker), he'd roll against 14 every month for his job. For all other rolls, his skills would be at their normal levels.

### Traveled Roads

Experience allows you to optimize getting goods from point A to point B. After you have made a trip at least once, you may ignore -1 in penalties due to distance while trading per 4 points you have in Merchant (round down).

### Unfettered by Corruption

Through charm, knowledge, or being a charlatan yourself, this perk lets you ignore -1 in penalties due to corruption while trading per 4 points you have in either Merchant *or* Streetwise (round down).

## BEING YOUR OWN BOSS

As *Low-Tech Companion 3* notes, merchants must spend 80% of their starting money on materials and goods relevant to their business. This can be gear useful for the merchant's business. For example, a blacksmith could claim 80% of his starting money is tied up in his smith's kit (*Low-Tech*, p. 30) – those tools are important to his trade! If he's the head of a group venture or must answer to a group of stake- or stockholders, this is better represented with Merchant Rank (p. B29 and p. 11) or an appropriate Patron (p. B72 and below).

### Self-Made Men

From the dabbler to the self-styled merchant-prince, it can be difficult to decide exactly what sort of traits are needed. Is he a simple facilitator of goods or is he actually haggling with other merchants? Useful skills include Area Knowledge, Connoisseur, Diplomacy, Fast-Talk, Finance, Freight Handling or Packing, Merchant, and Savoir-Faire.

### Patron

see p. B72

Patron can be used to represent someone who has various "back channels" within his own business or corporation. This allows him to reallocate resources quickly enough to use his business in immediately useful ways. A classic example of this is Bruce Wayne in *Batman Begins*, where Wayne purloins various advanced technologies to help him become Batman. Optionally, those with *GURPS Boardrooms and Curia* could create their business as an organization, to determine its cost as a Patron.

Because Patron is a per-session advantage, this may not be appropriate to some campaigns. At the GM's option, a Patron can be called on once per *game* week, instead of once per *game session* (this is essentially adds Game Time to Patron; see *GURPS Power-Ups 4: Enhancements*, p. 14, for further details).

### New Special Limitations

*Equipment Only:* As per the enhancement on p. B73, except that this is the *only* thing your Patron does for you. It can't pull strings, get you out of prison, etc.

This is a +0% feature if the equipment is worth no more than the average starting wealth of the campaign, or +50% if it worth more than that.

**Owns Business:** Your Patron is not an NPC, but rather an organization that you directly control; it acts like a Patron in all other respects. Higher frequencies of appearance mean you're more capable of reallocating resources within your organization. Because you own and operate your business, you must make monthly Administration rolls *and* spend an extra 10 hours per month making business decisions, addressing important matters, etc. Failure on a monthly Administration roll gives a cumulative -1 on future frequency of appearance rolls (-2 on a critical failure). Each success removes -1 worth of penalties until there are none (critical success removes them all). At the GM's option, you can make a Finance roll before making a frequency of appearance roll. Success results in +1 to the frequency of appearance roll for that one instance, while failure gives -1. Critical success gives +2, while critical failure gives -2. This may be done more than once during a game session, but additional rolls result in a cumulative -5 to skill. This limitation is worth -10%. If you don't need to spend any extra time or make rolls, this is worth -0% and is thus effectively a feature, but you cannot gain any bonuses for the frequency of appearance rolls.

## Rank

see p. B29

For trade-centric campaigns or those that feature mercantile-oriented PCs the GM may wish to expand the capabilities of Merchant Rank (or "Corporate Rank" in modern campaigns). In addition to the usual effects, those with Merchant Rank can gain a cost reduction for equipment bought from their organization (-5% per point of Rank they possess, up to 20% off of the base price). See *GURPS Dungeon Fantasy 17: Guilds*, p. 5, for additional suggestions for this advantage.

## Wealth

see p. B25

The differences between owning an organization through Wealth (e.g., you possess a controlling interest in its stock or are a silent partner), heading it up via Rank, or owning it outright as a Patron can be tricky. People may have one, both, or all three in any combination. As a guideline, *individual* Wealth should be approximately 1/200th of the average assets of the organization. Thus, someone representing his small trading firm with a 10-point Patron advantage should have Comfortable Wealth.

# EXPANDED TRADE RULES

The rules for trade in *Low-Tech Companion 3*, pp. 43-44, gives quick rules for the costs (in character points and currency) to run a business and glosses over some aspects. The following rules expand on those and give more guidelines for optional steps in the process.

## Step 1: Determining Stock

While the example in *Low-Tech Companion 3* is fine for most purposes, the GM may wish to allow traders to purchase

stock independent of starting Wealth. Stock varies *wildly* by occupation, and, some merchants may have different stock from turnover to turnover as they try to chase the latest fad for more profit. At the GM's option, entrepreneurs may purchase individual items in lots to sell (buying in bulk) at a reduced per-item price. The actual reduction may be up to 20% for some items, but not allowed at all for items that are always bought in bulk (like most small foodstuff) The GM may also wish to limit the total amount of stock purchased to 40% to 60% of starting wealth.

Depending on player choices, individuals might not have brisk enough trade to maintain both their business *and* Status level. In such cases, they may voluntarily drop their Status and live below their means. Doing so gives -1 to reaction rolls per level of difference between their living Status and actual Status until rectified.

## A BUSHEL AND A PECK

Not all campaigns have a standardized currency; in fact, some may have *no* currency. In such cases, a common question may be, "Who sets the standard rates for items?" The answer may range from "I do!" to "You do." The GM may decide to use the following table to determine the immediate value of a given service or item. Roll 1d+7 for most goods, 2d+3 for goods with a luxury pricing (*GURPS Low-Tech*, p. 37) modifier of x2 to x20, or 3d for goods with a modifier of x100 or greater. Results last for the game session or until the group leaves the current area.

Roll	Local Cost Fluctuation
3	Increase item cost by 100%.
4-5	Increase item cost by 50%.
6-8	Increase item cost by 25%.
9-12	Use item's base cost
13-15	Decrease item cost by 25%.
16-17	Decrease item cost by 50%.
18	Item is essentially worthless.

## Step 2: Turnover Rate

To determine how much money someone needs to make before expenses to maintain the desired Status, use the following formula:

$$(\text{Cost of Living for Status Level}) / (\text{Turnover Rate}).$$

Turnover rate is one month for most sellers. See *Low-Tech Companion 3*, pp. 43-44, for a more in-depth look at turnover rates and various options for it.

## Step 3: Markups

The minimum markup on the original purchase price of an item equals a portion of the expenses incurred when bringing goods to market. Expenses could include consumed supplies (such as fuel), taxes, transportation fees, bribes, guild dues, and so on. For an overview of determining this minimum markup, see *Low-Tech Companion 3*, p. 43.

Historically, markup values varied wildly from time and place and were usually whatever the merchant could get away with and what the market could bear. For example, in early 17th-century Ghana, nearly all European goods shipped to West Africa had a whopping 100% markup (sometimes called the “Guinea price”)! In most places, 25% to 50% markup is more typical.

One thing *Low-Tech Companion 3* does not discuss is how taxes, duties, and other financial charges levied by the local government interact with the rules for trade. This simplifies game mechanics, as taxes fluctuate according to time, place, and culture. For example, Julius Caesar’s Roman Empire imposed a 1% tax on all sales (4% for slaves). As a rule, taxes usually match the *Control Rating* (pp. B506-507) of the nation. To determine the *average* taxation level for a location, multiply CR by  $\times 5\%$ . A CR of 0 means *no* taxes of any kind are levied.

Emergency taxes may be instituted during war or famine that aren’t active all the time. For example, the Athenians had a special wartime tax (the *eisphora*) that applied to

*everyone* while the conflict persisted and was rescinded after it was over.

Depending on the culture or kingdom, specific classes, occupations, or entitled individuals could simply *ignore* taxes. Treat this as a variant of Tenure (p. B93). For instance, the Mongolian Empire had a special title called *darqan* that exempted the holder from all imperial taxes. It was considered one of the highest honors that could be bestowed.

Getting to where you need to sell your goods might require that you pay bribes in addition to transportation costs. In most cases, the rules for *Money Talks* (p. B44) can be used as-is. Alternatively, if using *GURPS City Stats*, use half the absolute value of Corruption plus one and then refer to p. B44 to determine average cost of a bribe for a town. For example, if a given city has a Corruption of 6, then the total cost in bribes would be  $6 / 2 = 3 + 1$ , or 4. Referring back to *Money Talks*, that’s the equivalent of a year’s worth of wages. In both cases, use the average Wealth of the campaign or the Wealth of the city, whichever is higher.

Merchants and traders may also have to pay dues if they belong to a guild. Between 10% and 30% of income is fairly typical of most guilds.

Finally, merchants may wish to create an emergency fund by adding special markups.

## HISTORICAL TAXES

Most GMs draw on history when designing their campaign settings. While creating even a general list of taxes for all civilizations would be an exhausting task, here are a few interesting tidbits to get the GM’s imagination fired up (see p. 13 for more useful books concerning commerce and trade).

**Excise Tax:** An excise tax is one the seller or producer pays instead of the buyer. The U.S. government passed an excise tax on whiskey in 1791 that was so unpopular it incited a rebellion!

**Income Tax:** A tax levied directly on the annual income of a subject. Henry II created a 10% tax on all personal income and movable property in 1188 to raise money for the Third Crusade.

**Inheritance Tax:** An inheritance tax is paid by those who benefit from an estate or those who receive a gift. Caesar Augustus instituted a 5% inheritance tax on all gifts, estates, and similar benefits (*except* those given to children or spouses) to provide retirement funds for the military. Centuries later, both the English and Dutch would use his models to create their own laws.

**Land Tax:** A tax on lands or holdings. The Ming Dynasty taxed land at 4% to 10% of its value, depending on the soil quality and historic productivity.

**Poll Tax:** A poll tax is essentially paying money to have a vote in a democratic society. The Athenians imposed a special tax called the *metoikion* on any citizen who did not have an Athenian mother and father. This cost a drachma for a man or half a drachma for a woman; each drachma was about \$6 and could be more broadly defined as 1% of a person’s *Cost of Living* (p. B265).

**Tariffs/Duties:** A tariff or duty is a tax on imports and exports. During the reign of King Necho in the New Kingdom (609-594 B.C.), there was a 10% duty on all imports or exports.

Some taxes were proportional to a person’s ability to pay. Not all states imposed unfair taxes on the common citizen. In fact, smart rulers would often have their wealthiest citizens pay more because the rulers knew they could *get* more. For example, the 1377 poll tax on Great Britain’s Duke of Lancaster was over 520 times what a peasant paid!

### Example

Ren Dhrow is a jeweler in an age of sail (TL4) Caribbean-style port city. She is Wealthy and has a Status of 2, thus her starting money is \$10,000. Her monthly Cost of Living is \$3,000. She decides that 20% of this goes to her adventuring gear, 40% is tied up in her lavish apartment and shop, and the remaining 40% is in her stock (\$4,000 of raw gemstones and precious metals). Ren’s turnover is two weeks, so she needs  $\$3,000/2 = \$1,500$  profit every two weeks to maintain her Status. Her taxes are an additional 15% (it’s a CR3 society), or \$225. Thus, she needs to make at least \$5,725 every two weeks to support her Status *and* stay in business.

## TRADING AS A JOB

Historically, moving goods from where they are common to where they are not is a good way to get rich as quickly as you can move the product. Instead of using the *Low-Tech Companion 3* rules for trade, this could be treated as a job.

To simulate risky buys, take -1 on your Merchant rolls for a potential 15% increase per point of penalty (not the normal 10% for adjusting for margin of success or failure) in monthly pay; if the roll fails, you lost an additional 15% per point of penalty (not 10%)!

To simulate “safe bets” with a low profit margin but high chance of success, add up to +4 to your job roll; success reduces total profits by 5% per +1 added, while failure gives only normal losses.

**Example:** By taking -3 to his skill roll, a merchant could gain an additional 45% on his monthly pay or *lose* 45% from his monthly pay.

Alternatively, taking +3 to the skill roll would reduce final pay gained by 15% (rather than getting any bonus based on margin of success).

Additionally, the GM can assign any of the following penalties he feels are appropriate:

- A penalty equal to *half* of the worst Control Rating dealt with, rounded down (e.g., trading between a CR 2 and a CR 4 nation would inflict -2 to rolls).

- 0 to -4 for dealing with a corrupt governmental system. (Or add *half* the Corruption penalty if **City Stats** information is available).

- 0 to -2 for guild fees.

- -2 or more without an appropriate Area Knowledge or Current Affairs skills covering the area. Contacts or NPCs may also provide such information on a successful roll or for a price.

- If the merchant must transport goods out of his home city, look up the total mileage to his destination in the “Linear Measurement” column on the *Size and Speed/Range Table* (p. B550) and add *1/10* the speed/range penalty, rounding up. Use *twice* this penalty if he can’t find something for resale to haul back with him (e.g., a farmer taking his stock to market).

Assume that it takes approximately a month for a merchant to find appropriate stock, house or transport it, and then make the deal. (Alternatively, roll 1d to determine how many *weeks* this would take.) The rules for *Time Spent* (p. B346) also can be used to increase final profit at the expense of expediency. Minimum time is *always* at least a day; “instant use” is not an option. As a *highly* optional rule, the GM may allow even more time to be spent: +6 requires 60x as much time; +7, 120x; +8, 240x; +9, 500x; +10, 1,000x; +11, 2,000x; and +12, 4,000x.

If using **Social Engineering**, see *Buyers*, p. 22. Successfully finding a buyer gives +2 to job rolls, or +4 if you rolled a critical success (you found the *exact* buyer for your product!).

*Example:* Ren Dhrow is a highly successful businessperson who buys, sells, makes, and trades jewels and jewelry. Ren makes a risky buy from a dealer she doesn’t know; her player takes -4 to her roll (increase final profits by 60%, if successful). She takes another -1 because the CR of her home city and destination are both 3 (CR 3 / 2 = 1.5 or -1). Finally, she’s shipping from a port that’s just under 100 miles away, so she takes another -3 to her roll (100 miles is -30 on the *Speed/Range* table, so -30 / 10 = -3). Since she has Merchant (Jeweler)-18, she must roll a 10 or less to succeed. Each point by which she succeeds will give her a further 10% increase in final pay.

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## BALANCING THE BOOKS

An important aspect of business is keeping the books to know what assets you have and, more importantly, know what you *owe*. Single-entry bookkeeping goes back as far as Mesopotamia, or some 7,000 years, detailing lists of expenditures and goods received. Luca Bartolomeo de Pacioli, a 15th-century Franciscan friar, invented *double-entry bookkeeping*, which *vastly* reduced accounting errors; this is a TL3 invention. Ideally, merchants will have at least one point in Accounting to keep their own books (though most make due with a default and a bonus for *Time Spent*, p. B346). Those with **Social Engineering** can use Accounting as a *Complimentary Skill* (see **Social Engineering**, p. 33) to most Merchant rolls. Double-entry bookkeeping causes a familiarity penalty of -4 for those not accustomed with it.

Double-entry bookkeeping can make skimming money from a company more difficult. With double-entry bookkeeping, make a Quick Contest of Accounting between a thief and the accountant. Success on the accountant’s parts means he spots the embezzler’s activities. Without doubly-entry bookkeeping, spotting theft is difficult at best. The accountant makes a roll at -5 to identify such nefarious activity.

## ABOUT THE AUTHOR

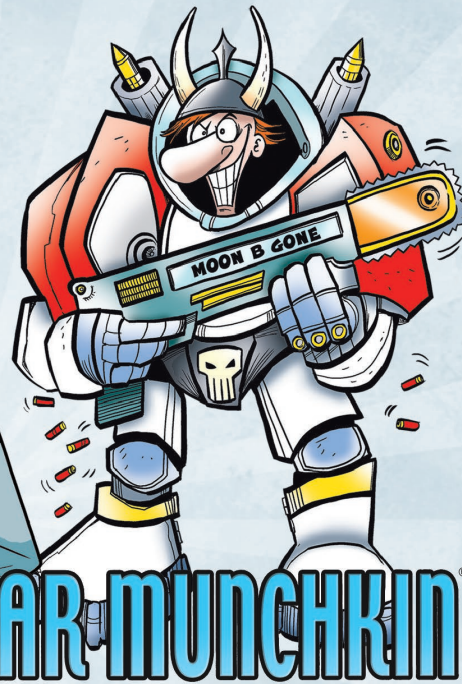
Christopher R. Rice likes going to thrift stores to see what treasures he can find in this modern age. From Portsmouth, Virginia, he dreams of being able to write full time, or at least eke out a living doing it. Of course, if he’s not writing about **GURPS**, he’s blogging about it. Visit his site “Ravens N’ Pennies” ([www.ravensnpennies.com](http://www.ravensnpennies.com)) for more **GURPS** goodies. He wishes to thank L.A., his own personal muse, as well as the rest of his gaming group; Antoni Ten Monrós; Beth “Archangel” McCoy, the “Sith Editrix”; Shawn Fisher; Emily “Bruno” Smirle; Paul “Gecko” Vissing; Walter “Nyndok” Wilson; Travis Foster; and Matt Riggsby, for being most excellent sounding boards and researchers. Occupational Proficiency was inspired by Sean Punch, while Disbursed Time was inspired by Anthony Jackson.

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# EIDETIC MEMORY

## MEDIEVAL SEA TRADE

BY DAVID L. PULVER

*GURPS Low-Tech Companion 3: Daily Life and Economics* mentions merchants who travel from city to distant city engaging in very-long-turnover trade (*Low-Tech Companion 3*, p. 44), and suggests this be run as an adventure. Much of this trade takes place aboard ships. If the PCs are sea captains or merchants who own one or more ships, they may wish to know what types of cargoes or passengers their vessels are carrying, or make specific decisions regarding the size and amount of cargo they are investing in.

These rules – derived from *GURPS Spaceships 2: Traders and Liners* – offer a quick way to determine what cargoes or passengers are available for merchant-adventurers and how much profit they could bring. Although intended for TL3 medieval European trade, they may also be used in TL2-4 settings or fantasy worlds. While designed for sea vessels, they could also be adapted for air ships, provided overall speeds are similar. In addition, the cargo rules may be useful to determine the contents of a trading ship or a port warehouse that was captured by pirates, privateers, or raiders,

### SHIPS AND CAPTAINS

Coastal trade made up about 3/4 of all trading voyages and was often handled by smaller ships of 20-30 tons, but somewhat larger vessels were typically engaged in longer ocean voyages that are more interesting from an adventuring perspective. A common ship used by medieval European seafarers was the cog (or roundship), a one-masted sailing ship (which could do double duty as a warship if necessary). See the table below for typical statistics. Refer to *Low-Tech Companion 3* for statistics on other merchant ships.

Coastal vessels and some ocean-going ships were owned by their shipmaster (captain). Larger vessels were more often owned by a wealthy merchant house or association of merchants and other investors, though it was not uncommon for the shipmaster to also be an investor or part-owner who received a share of the profits. Even when not part-owners, shipmasters often received some of their own wages in the form of a specified portion of the cargo at journey's end; this was especially likely when carrying easily resalable goods such as wine. Shipmasters who weren't owners traditionally received other perks, sometimes including a few tons of the ship's cargo space allotted for use in their own personal trading ventures.

Sea trading, especially in long voyages, could be a chancy operation. A shipmaster needed navigational expertise to guide his vessel; merchant skills to properly dispose of cargoes and deal with portside brokers and rapacious customs duties; the leadership and diplomacy to handle his own crew; and an understanding of international law, foreign languages and customs, and sometimes politics. Most of all, he required a good measure of luck: pirates, privateers, scurvy and illness, and contrary winds could leave a ship becalmed in port for weeks (risking crew deserting if their wages weren't paid).

In the era before the widespread use of naval cannon, there was little difference between warships and trading ships when it came to ocean-going sailing ships (as opposed to galleys, which were primarily used for war). Few kingdoms could afford a standing navy, so merchant captains and their ships might be pressed into royal service for various duties. Some captains even sought out mercenary opportunities when they needed extra capital, or they found themselves in debt due to poor trading or other misfortunes.

### Cog Table

This ship is a sailing craft. It has unreinforced decks, it can't mount cannon. Terms and notation are as defined in *Vehicle Statistics* (pp. B462-463).

TL Type ST/HP Hnd/SR HT Move LWt. Load SM Occ. DR Range Cost Locations Draft

#### SHIPHANDLING/TL3 (SHIP)

3	Cog, 60'	147†	-3/4	12c	0.1/4	85	60	+7	18	5	-	\$140K	M	13'
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Naval service can include battles at sea (primarily fought with archery and boarding actions); troop or logistic transport; protecting fishing fleets; patrolling the coast against raiders; or transporting messages, ambassadors or royalty. Ships and crews seconded to a royal navy are promised a decent

wage, but payments are often late when monarchs run short of cash. Other perks could make up for this: captured prizes, royal charters that grant monopolies or freedom from customs duties, high-level contacts, or the ability to buy captured ships or prize goods at a discount.

## SPECULATIVE TRADE

Shipmasters that own their vessels may lack the wealth to fit it with cargo and instead resort to carrying freight and passengers (pp. 19-21). However, it is more common for a merchant to own a decent-sized merchant ship, even if he stays at home rather than being its master. He accepts a greater risk for the chance of greater reward by engaging in speculative trade, the art of buying low and selling high. Since sea travel was often about 25 times cheaper than land travel, seafaring merchants could afford to carry a wider variety of goods over longer distances than their land-based counterparts.

Ocean-going trade follows patterns based on common regional imports or exports. For example, in the 14th century, merchant ships from Genoa and Venice in Italy shipped precious metals, silks and other luxuries from the eastern Mediterranean out into the Atlantic and down the English Channel to England and Flanders, where they bought northern European products like woolen cloth and timber for the return voyage. Similarly, German and Dutch ships took iron, copper, and lead south to the France, Spain, or the Mediterranean and brought back oil, wine, and salt. Longer and more dangerous (but often more lucrative) sea voyages ventured between Europe and India or Asia.

To represent this sort of relationship in a very simple fashion, the GM should determine the characteristics of the various ports along the route that the vessels will travel. Some trips may be back and forth between two particular ports, but a more interesting trading voyage will take the merchants along a chain of three or more ports that ultimately circle back to their home port (e.g., a classic triangle trade).

The best way to encourage such long voyages is to set things up so that different ports along the route have particular commodities they want to buy or sell to the next port in the line, or offer other advantages or disadvantages that will allow canny merchants to make strategic choices as to whether to visit them.

To do this, the GM may wish to use *GURPS City Stats* to assign characteristics to each potential port in a region. If the GM does not have *City Stats*, what's most important is the port's approximate population, average wealth level (usually Struggling, Average, or Comfortable), the highest Status of its occupants, and in some instances, the local Control Rating.

In addition to the characteristics described in *City Stats*, assign each port – or several ports in a particular region – a set of *Notable Exports and Desired Imports* (see below). This indicates where particular goods are available or in demand. A short cut to doing this is to make these imports and exports regional in nature (e.g., applying to all ports in a given region, province, or country. For example, a particular region might

export gold, ivory, slaves, and salt while desiring to import iron, silk, wood, and wine.

### *Notable Exports and Desired Imports*

The GM should add flavor to a port city – or all ports in a given region – by listing a number of commodities that are notable exports and desired imports its merchants deal in. Pick one to three desired imports and a similar number of notable exports; perhaps a few more in a major city, and maybe only one in a small port town. Base these on what you know or guess of the region's economy and geography; use the *Cargo Table* (p. 17) for inspiration. Of course, most ports will deal in multiple commodities; these choices represent ones it is famous for. When a commodity is a notable export or desired import, a number of modifiers come into play. (The modifiers are mentioned in the various rules, but are repeated here for reference. Be sure not to count them twice.)

*Notable Exports:* These are particular commodities more likely to be available at low prices and in quantity from this port. A random roll on the *Cargo Table* (p. 17) of a commodity that is a port's notable export results in *twice* the usual lot size. A focused cargo search (p. 18) for a notable export is at +3. Notable exports are -2 to purchase price.

*Desired Imports:* These commodities are in high demand at the port, due to rarity, high local consumption, or the port connecting to a significant land trade route that leads to a market for the goods. If they do turn up for sale by a random roll on the *Cargo Table* (p. 17) at that port, halve the lot size. Impose -3 on focused cargo searches (p. 18) for them in the city. Desired imports are +2 to purchase price.

*Acquire cargo in one port to sell in another along the route.*

## BUYING CARGO

Starting the first full day after the ship reaches port, a merchant's crew may begin searching for speculative cargoes to purchase. It's also possible that a merchant house will have acquired the cargo through its existing relationships with regular suppliers.

### *Finding Sellers*

Each attempt to find cargo takes two days, though the usual rules for *Time Spent* on p. B346 can be used to increase or reduce the time. If an attempt fails, repeated attempts may be made at no penalty other than lost time unless a critical failure occurs (use the same results as outlined in *Focused Cargo Searches*, p. 18). Attempts to find goods can be done at the same time as attempts to find buyers for goods already in the hold (see *Selling Cargo*, p. 19). Searching for deals involves meeting local merchants, guild members, and the like, gathering information, and attempting to broker deals.



## Cargo Table

To randomly determine cargo, roll 1d, 1d, reading each number individually and comparing the result to the “Roll” column.

Roll	Commodity	Price*	Lot Size	Conditions
1, 1	Meat (salted)	\$6,000	2d tons	fine (6)
1, 2	Grains, flour	\$500	8d tons	
1, 3	Iron	\$13,800	2d tons	
1, 4	Wood	\$500	7d tons	fine (6)
1, 5	Dyes, pigments, cinnabar	\$60,000	1d tons	fine (7), luxury, illegal (5)
1, 6	Ivory (elephant, walrus, etc.)	\$500	8d×2 lbs.	luxury, illegal (6)
2, 1	Pewter, tin	\$100	5d×10 lbs.	fine (6)
2, 2	Ceramics or glassware	\$2,500	3d tons	fine (8)
2, 3	Precious stones	\$230,000	1d lbs.	fine (8), luxury, illegal (5)
2, 4	Porcelain	\$10,000	2d tons	fine (8)
2, 5	Ale	\$1,300	5d×2 tons	fine (7)
2, 6	Dried fruit or nuts	\$7,000	4d tons	fine (8)
3, 1	Cloth (coarse)	\$2,300	6d tons	
3, 2	Livestock	\$2,400	5d tons	live, fine (8)
3, 3	Fish	\$4,000	7d tons	
3, 4	Soft metals (copper, lead, zinc)	\$8,600	2d tons	
3, 5	Wine	\$5,000	2d tons	fine (8)
3, 6	Carpets	\$20,000	3d tons	fine (8)
4, 1	Semi-precious stones (jade, amber, etc.)	\$23,000	1d×10 lbs.	fine (8)
4, 2	Soaps, oils	\$40,000	1d tons	fine (8)
4, 3	Cloth	\$5,000	4d tons	fine (7)
4, 4	Salt	\$3,100	3d tons	
4, 5	Cloth	\$14,000	2d tons	fine (8)
4, 6	Silk	\$17,000	1d tons	fine (10), illegal (5)
5, 1	Furs	\$5,300	2d tons	fine (8)
5, 2	Arms (swords, armor, etc.)	\$100,000	1d tons	fine (8), illegal (8)
5, 3	Consumer goods	\$10,000	3d tons	
5, 4	Tools	\$30,000	1d tons	
5, 5	Cosmetics	\$128,000	1d/2 tons	fine (9), luxury
5, 6	Slaves	\$21,000/slave	6d-5 slaves†	live, fine (8)
6, 1	Silver	\$1,000	5d×2 lbs.	
6, 2	Gold	\$20,000	1d lbs.	
6, 3	Spices	\$2,400	3d×5 lbs.	fine (8), luxury, illegal (6)
6, 4	Perfumes	\$1,600	4d×5 lbs.	fine (8), luxury, illegal (6)
6, 5	Books, scrolls, icons	\$1,000	6d lbs.	fine (8), luxury, illegal (7)
6, 6	Tea	\$72,000	1d tons	fine (8)

\* Price is per ton or per pound, as indicated in lot size.

† Assume four human slaves (plus provisions, shackles, etc.) per ton of cargo space. May pack in twice as many at -3 to live cargo loss roll (see *Live*, below).

### Conditions

*Fine:* Roll 3d; if the roll is less than or equal to the number in parenthesis, it means it is even higher quality. Halve the size of the lot, but multiply base price by  $(1d \times 0.5) + 1$ . In addition, if not already classed as a luxury item, it counts as one.

*Illegal:* Roll 3d against the number in parentheses to see if it is illegal (p. 18) at the point of purchase. The GM should then roll again to see if it is illegal at the intended destination. The GM should only make the destination information available to the merchants selling it if they can succeed at appropriate skill rolls (Area Knowledge, Geography, Research), have foreign contacts, etc. Otherwise, this could come as a surprise. In addition to the usual rules, the GM also may decide that attempts to sell illegal goods require coming up with ways to

***GURPS Dungeon Fantasy  
8: Treasure Tables and GURPS  
Dungeon Fantasy Treasures 1:  
Glittering Prizes can help add  
more details to generic cargo.***

smuggle them past customs inspectors: meeting local fishing vessels in the dead of night, landing at a hidden cove several miles from the main port, bribing customs officials, etc.

*Live:* Each week of travel requires a skill roll against an appropriate medical skill (e.g., Veterinary for animals, Physician for slaves). Failure means 10% (round up!) of the cargo is lost, reducing its value.

*Luxury:* This cargo *always* counts as a luxury item (p. 18) at the full lot size, whether or not the “fine” number is rolled.

To find someone who has goods for sale, roll vs. Merchant skill, with the usual modifiers (see p. B209). Any penalty for lacking an appropriate Cultural Familiarity applies (see p. B23), as does any penalty for not being a native speaker of the local language. Any applicable Reputation (good or bad) also modifies the effective skill. Add 1 if anyone on the team has Area Knowledge for the local region at 12+, or 2 at 20+. In addition to the merchant in charge of the effort, others may attempt complimentary skills, such as Carousing or Streetwise, with successes providing +1 to the primary roll, representing gathering rumors, wining and dining local merchants, or similar activities.

Another important modifier is the size of the port. Apply a search modifier, as shown in the table below, based on the port town or city's population (see *City Stats*, p. 5, for more details).

Port's Population	Search Modifier
Less than 100	-3
100-999	-2
1,000-4,999	-1
5,000-9,999	0
10,000-49,999	+1
50,000-99,999	+2
100,000 or more	+3

In some settings, there may be a trade association. If such a thing exists, membership in good standing may give +1.

Unless using the focused search rules (see below), once a lot of speculative cargo has been located, determine what is for sale by randomly rolling on the *Cargo Table* (p. 17). The "Lot Size" column shows the die roll used to determine the actual lot size. In a few cases, lots of certain very valuable goods are in pounds rather than ton; 2,000 lbs. can fill one ton of cargo hold. If the commodity is one that is a notable export, double the amount available. If it is a desired import, halve the amount available.

Check for special conditions and their effects (described below the table). Then decide whether to negotiate for the goods, or reject them.

### Focused Cargo Searches

Instead of seeking out good deals, merchants may perform a focused search for a specific type of commodity listed on the *Cargo Table* (p. 17), such as cloth or spices; if so, conditions detailed there apply.

All of the modifiers (for size, skill, etc.) listed above apply. In addition, take an extra -4 (-7 if the commodity is one whose lot size was measured in pounds rather than tons). Apply an additional +4 if the commodity is a notable export or -4 if it a desired import.

A focused search for illegal cargoes uses Streetwise skill instead of Merchant. It is made at a penalty equal to the local CR. Any failure by three or more or critical failure always results in some sort of confrontation with local law enforcement or criminal gangs, regardless of where they are (see below for more ideas).

A successful roll indicates one lot of speculative cargo has been located for purchase. Success by three or more indicates two lots. Critical success indicates three lots. Failure indicates no cargo is available that day, but another attempt is possible by initiating another search. However, if population is less

than 5,000, apply the port's population modifier as a *cumulative* penalty for each successive cargo search taking place within a week of each other.

Unless the merchants are operating at their home port, a critical failure results in the traders either being the subject of some scam, fraud, or criminal activity (e.g., being sold a cargo that is less valuable than it initially to be), or inadvertently upsetting local laws, customs, religions, guilds, or authority figures, or being perceived as a threat by a local monopoly. In the former case, careful use of appropriate skill may identify the fraud before it is too late. In the latter, the shipmaster or his crew may be accused of violating customs regulations, of being foreign spies, or facing trumped up criminal charges. Even if legal penalties are avoided, no one from the ship will be able to deal with cargo markets again until they make amends. What this involves may range from paying a fine or bribe to a customs inspector to having to perform a favor for a local dignitary. Failure to cooperate may result in prison or worse. Resolution may require Administration or Law skill, or a personal meeting with a port official and a favorable reaction roll, or just making a quick getaway from the port, with or without the promised cargo . . .

*The buyer needs  
a hundred eyes,  
the seller not one.*

– George Herbert

### Determine Purchase Price

First, determine the asking price. Roll 3d on the *Actual Price Table* (p. 19). Based on the port where the goods are being purchased, subtract 2 if the goods are notable exports. Add 2 to the roll if the goods are desired imports. Add 1 to the roll in times of piracy, war, etc. Include modifiers based on conditions (see below). The result is the percentage modifier to the asking price as given on the *Cargo Table* (p. 17).

*Illegal:* Add 3 to price, but any sale must be on the black market.

*Luxury:* Any item that qualifies as a luxury may fetch higher prices due to local demand. When determining the actual price of luxury goods, add a modifier equal to half the Status of the city's highest Status resident (round up) plus a modifier based on the city's *average* wealth level: -3 if Dead Broke, -2 if Struggling, 0 if Average, +2 if Comfortable, +4 if Wealthy, etc. The overwhelming majority of cities are Struggling, Average, or Comfortable. Thus, a port whose highest status resident was Status 7 (+4) and which had an average wealth of Comfortable (+2) would add a net +6 modifier to luxury prices.

If a lot is larger than desired, breaking it up and buying only a portion is possible. This requires a positive reaction roll from the seller, or one member of the merchant team may attempt an Influence roll (p. B359) instead; modifiers for Cultural Familiarity and language skill still apply.

## Negotiations

The traders may opt to negotiate, using Merchant skill to lower the asking price, engaging in a Contest with the would-be seller according to the rules on p. B209; a typical opposing Merchant skill is 1d+10. A victory will *lower* the price by 10%, while a defeat *raises* it by 10%. For groups desiring more options for bargaining, see pp. B560-562 and **GURPS Social Engineering**. The GM may choose to play out the meeting with the seller.

*Exception:* If goods are illegal, roll against the lower of Merchant or Streetwise skill when negotiating prices (two characters on the team can roll separately and take the worst of these two rolls).

*The merchants can try to locate goods at the same time as trying to find buyers for goods already in the hold.*

## Actual Price Table

Roll	Actual Price	Monetary Metals*
3 or less	30%	80%
4	40%	85%
5	50%	90%
6	60%	90%
7	70%	95%
8	80%	95%
9	90%	100%
10	100%	100%
11	100%	100%
12	110%	105%
13	120%	105%
14	130%	110%
15	140%	110%
16	150%	115%
17	160%	120%
18	170%	120%
19+	180%	125%

\* Use this column for silver and gold commodities, which tend not to vary in price as much as that of other trade goods.

## SELLING CARGO

Beginning the first full day after arrival at a new port, a merchant crew may search for buyers for any speculative cargoes their ship is carrying. Each attempt to find a buyer for any one lot takes a day (but may be modified using *Time Spent*, p. B346; it is never instantaneous). It's made using the best skills from among the merchant team who are searching.

Attempts to find a buyer use the same skills and modifiers as *Buying Cargo* (pp. 16-19). If the goods are illegal, roll to see whether they're considered unlawful *here*; if so, use Streetwise, with a penalty of the city's CR, to find a buyer.

On a success, a buyer is found. On a critical failure, the crew runs into difficulties with local law or customs as described in *Focused Cargo Searches* (p. 18).

If an attempt fails, repeated attempts can usually be made by taking another day, at no penalty. If the ship has more than one lot of speculative cargo in its holds, the crew may opt to split its team so that some are searching simultaneously for buyers for each of them while others are searching for a lot of goods to purchase.

## Determine Selling Price

Once a potential buyer has been found for a given lot of goods, the sale price must be determined. Use the same process detailed under *Determine Purchase Price* (pp. 18-19).

Based on the port where the goods are being sold, add 2 if the goods are desired imports, subtract 2 if the goods are notable exports. Add 1 in times of piracy, war, etc.

As with buying goods, a Contest of Merchant skill can be used to improve the sale price. A victory *raises* the price by 10%, while a defeat *lowers* it by 10%.

The sale price offered by a potential buyer doesn't have to be accepted, but refusal to sell means no other buyer can be sought for these goods for an entire *week*.

The crew is responsible for unloading the goods, clearing them through inbound customs, and paying (or evading) any customs duties owed on them.

# FREIGHT AND PASSENGERS

In addition to or instead of carrying speculative cargo, ships may arrange to transport freight ("other people's cargo") or paying passengers.

To do this, the ship's captain must advertise where his vessel will go next, usually arranging for the destination to be posted in a public place or announced in local taverns. After the destination is posted, the GM should determine what the basic rates for freight shipments and passenger tickets are.

## BASIC SHIPPING AND PASSENGER RATES

Basic freight rates are calculated per ton of freight per unit of distance. These rates are based on the assumption that the

typical vessel is a 60' cog with a crew of 10 (and room for eight passengers). A suggested shipping rate for freight is about \$7 per hundred miles. A suggested passenger rate is about \$10 per hundred miles. Due to increased risk, double this in a war zone, pirate-infested area, etc.

## LOOKING FOR FREIGHT OR PASSENGERS

Medieval ships usually transported their owner's cargoes rather than serving as freighters. However, it's possible for a ship owner to seek out a merchant who wants a shipment transported somewhere and doesn't have a ship available.

The captain or his representative may look for freight, passengers, or both that are heading for a particular destination port. The same procedure applies for either. Roll *separately* if seeking both! Each attempt to locate passengers and/or freight takes two days to arrange (rules for *Time Spent* on p. B346 apply). The same modifiers as *Finding Sellers* (pp. 16-18) are relevant. In addition, apply long-distance modifiers (p. B241) based on the distance to the port.

A success on the Merchant roll means there's one freight shipment going out (if looking for freight) or one group of passengers (if seeking passengers) to be transported to the ship's posted destination. A success by three to five means two shipments or passenger groups; success by six or more, or any critical success, means three shipments or groups. For freight shipments, see *Freight*, below. For passengers, see *Passengers*, below.

Failure means there are no customers (but repeated attempts are possible). A critical failure has the same effect as when seeking speculative cargo.

On any roll except a critical failure, repeated attempts are possible by spending another two days looking. There's no penalty if the ship has so far failed to achieve success in a particular category (freight or passengers), but each extra attempt made after the first *success* has a cumulative -2. The captain may also give up and announce a different destination, unless already committed to taking some passengers or freight.

## Freight

To determine the type of freight in a shipment, roll on the *Cargo Table* (p. 17). As usual, these goods may be native to the port's area, or transhipped through that port from another region. Refer to the "Lot Size" column on the table and roll to determine the actual tonnage of freight shipped. (If this tonnage exceeds the capacity, the load is too big to fit.)

The shipper will pay a fee equal to the standard freight rate for the voyage (see *Basic Shipping and Passenger Rates*, p. 19), in advance. The fee is not dependent on the price/ton of the

commodity. Cargo that has the "live" special condition may get a bonus of +5% per 10% of the live cargo that reaches the destination alive.

Shipments are expected to be delivered in a timely fashion, but merchants are aware of the vagaries of weather conditions. However, any ship that takes more than three times the average time to deliver freight or passengers may gain a negative Reputation or the ire of the merchants or passengers.

*Merchants have no country.  
The mere spot they stand on  
does not constitute so strong  
an attachment as that from  
which they draw their gains.*

– Thomas Jefferson

## Passengers

A vessel with unoccupied space may solicit for passengers, as detailed above. After determining how many groups of passengers are interested, for each group, roll 2d on the *Passengers Table*, below. This indicates the type of the group and what class of service they require. The ship's Occupancy, minus the number of crew carried, determines the available passenger space.

The "Passengers" column is the type of passengers in the group. "Class" is either normal or steerage. Normal accommodations are limited by the vehicle's occupancy.

## Passengers Table

Roll	Passengers	Class	Number	Notes
2	Entertainers or courtesans	Normal	1d	
3	Nobles or gentry and retinue	Normal	2d	
4	Soldiers	Steerage	3d	[1]
5	Clergy	Normal	1d	
6	Travelers or well-off pilgrims	Normal	1d	[2]
7	Ordinary pilgrims	Steerage	3d	
8	Merchants, clerks, or bankers	Normal	1d	
9	Apprentices or laborers	Steerage	1d	
10	Scholars or physicians	Normal	1d	[3]
11	Courier or ambassador and assistants	Normal	1d	
12	Spies or assassins	Normal	1d	[4]

### Notes

[1] 10% of the soldiers (round up) are officers or knights who require standard rather than steerage accommodations.

[2] Travelers includes a variety of mixed middle-class passengers journeying for any number of noncommercial reasons, e.g., to visit family, tourism, get married, escape into exile, etc.

[3] Scholars instead could be wizards or alchemists (real or charlatans).

[4] Spies or assassins will be disguised as someone else on the table (roll again, discarding any results with the "Steerage" class). For assassins, the GM should decide if they are fleeing the scene (and thus may be pursued), or if their target is someone on the vessel or someone at the vessel's destination.

## HOW RATES WERE CALCULATED

The rates assume a ship that is crewed by a master (Comfortable job, \$1,400/month), two mates (Average jobs, \$700 a month), and eight sailors (Struggling jobs, \$350/month) for \$5,600; this includes food. The ship's financed at 8% compound interest requiring 1% of its worth every month in payment; a \$140,000 ship requires \$1,400. Add an extra 1/500 cost for general maintenance expenses (canvas, nails, pitch, etc.) at \$250/month. Total monthly cost is \$7,250. Add another 1% a month for insurance or an emergency fund, for another \$1,400.

The ship has 60 tons of cargo. However, that includes the occupants (occupancy 18 at 0.1 ton each for 1.8 tons) and any provisions (about 12 lbs. per day per person of food and drink, or 0.18 tons per month, for 18 people, or 3.2 tons). Assuming a maximum of a month's provisions for 18 occupants are carried for a typical voyage, that

leaves five tons of occupants and their provisions and 55 tons for cargo.

Break-even cost per ton is therefore  $\$8,650/55 = \$157$  per ton per month. Assume 1.33 times this to allow for some profit without being undercut by competitors. So, how much is this per mile? A cog has Move 4 (8 mph) under ideal wind conditions, or 5,760 miles per month, but that can't be guaranteed, and the ship needs to stop in port every so often as well, so let's halve it, to 2,880 miles per month. That means the estimated cost of shipping a ton of cargo per *hundred miles* is about  $\$157 \times 1.33 \times 100/2,880 = \text{about } \$7$ .

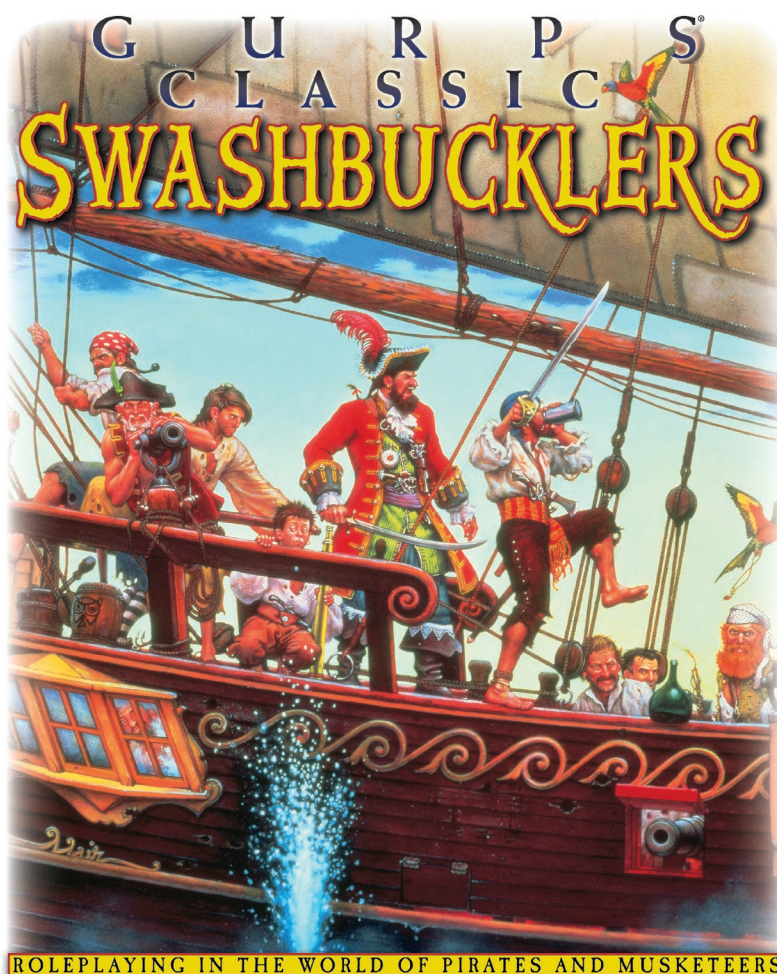
For short distances, time spent loading, unloading, and navigating crowded ports will also add up, so treat any distance less than 100 miles as 100 miles.

Usually high-status members share whatever cabins are available, while others mix with the crew. Steerage means the passengers are poor and will pay to travel in the ship's hold or on the open deck as cargo. One passenger can be safely carried in the hold for every quarter-ton not used for cargo (this includes room for their own food, bedding, etc.), but they pay only 1/4 the normal rate. This is much less comfortable, and the GM may require HT rolls to avoid illness for lengthy voyages in steerage conditions, especially if crowded.

"Number" is how many passengers within this category are seeking transportation. In general, a group of passengers are traveling together and won't be broken up, with the exception of general travelers. When rolling for number of passengers in a group, also *add* the population search modifier (p. 18) to the number of passengers (minimum one passenger).

## ABOUT THE COLUMNIST

David L. Pulver is a Canadian freelance author. An avid science-fiction 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.



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# KNOWLEDGE IS POWER

BY MATT RIGGSBY

Bureaucracy is the nervous system of an empire. Without countless functionaries composing reports, examining precedents, calculating taxes, and when necessary setting the more directly forceful mechanisms of the state in motion, large states are impossible. How, then, does a country build and maintain this vital tool?

In the West, civil servants were often selected on an *ad hoc* basis. In Rome, the senatorial class provided a pool of people suited for government office, while in the Middle Ages, the clergy and, later, universities (who were, in certain legal ways, clerics as well) provided a source of educated men for the task, but gaining a position was essentially a matter of knowing the right people. But for 1,300 years, starting in the late seventh century A.D. and ending in 1905, the Chinese empire followed a much more systematic, impersonal process. The imperial government identified candidates for government positions by administering academic examinations. Rigorous exams were used to identify qualified individuals from any walk of life, a practice which has since become the standard across the world. The result was a remarkably stable practice which, despite notable drawbacks, preserved an administrative system across several changes of dynasty from the early Middle Ages to the dawn of the 20th century.

*There will be great progress and success. Advantage will come from being firm and correct.*

– I Ching

## POWER AND THE IMPERIAL CIVIL SERVICE

Over the course of Chinese imperial history, the trend was away from exercise of power by local, hereditary, and military leaders (like, for example, most Medieval European nobility) and toward administration by civilian bureaucrats appointed by a central government based on individual merit. Initially, relatives and favorites of the sitting emperor were regularly placed in positions of authority, and up to the Sui dynasty, officials were overwhelmingly selected from more or

less feudal elites. Examinations were a relatively minor factor in recruiting officials for the first few centuries. However, starting in the mid-10th century with the Song dynasty, they became the most important conduit for talent. By that time, an estimated 80% of government officials were men who had passed through a rigorous system of academic examinations rather than those picked solely on the discretion of rulers.

The bureaucrats selected by examination were not mere paper-pushers. They filled judicial positions, governorships of China's many administrative divisions, and nonmenial positions in the central government's six ministries (appointments, revenue, rites, war, justice, and public works). However, the exams did not select all government employees. For example, although county magistrates, who were at the bottom of the official ladder, were drawn from those who had passed the exams, the magistrates would typically hire their staffs of police, clerks, and other low-level employees from the general population. They would also engage people of local importance to help organize and carry out significant local tasks such as building roads and keeping waterways clear and navigable. But short of the palace, just about every position of real authority was occupied by a bureaucrat selected by examination.

In addition to positions of power, winning a degree from the exams provided personal benefits. Notably, credentialed exam-passers, even if they weren't appointed to an office, were exempt from a number of taxes and certain punishments, as were their immediate relatives. This alone could make not just an individual's fortune, but his entire family's. They also had superior access to office holders and would charge fees to petitioners looking for someone to intercede for them with the bureaucracy. In a civilization without a significant tradition of lawyers and other advocates, this was a lucrative service.

The power of the bureaucracy and bureaucrats is only half of the story. The other half is that the civil service exams were, for the time, remarkably democratic. Women, Buddhist and Daoist clergy, and members of a handful of very low-status professions (such as actors and brothel-keepers) were excluded. This left a broad cross-section of the male population, including the great mass of peasants, eligible. There was also no penalty for failure. Office-seekers could and did take the tests repeatedly over the course of decades. In theory, just about anyone, no matter their social station, could rise to a position of wealth, power, and respect through hard work and determination. The exams, therefore, became the focus of ambition for all of society, not just those born to power.

In practice, of course, things were different. Though almost anyone could *take* the exams, the nigh-impossible standards ensured that very few members of the working class, or indeed any class, would actually *pass* them. The material was challenging, the competition intense, and the grading merciless. Even well into the 17th century, the imperial bureaucracy probably never exceeded 15,000 members, governing a population of tens of millions and turning over only a fraction of its membership each year, so perfect performance on the exams was required. The candidates who passed were the ones who could spend years studying rather than working and whose families could hire tutors to train them. Members of poorer families could sometimes win offices, but they were rare. Still, though families of officials did produce a disproportionately high share of new officials (about half of the people passing exams were related to an official), the exams did provide *some* path for advancement to the common man.

## CURRICULUM AND QUESTIONS

The subject matter for the exams centered on the “four books,” a set of foundational Confucian texts (*Analects*, *Doctrine of the Mean*, *Great Learning*, and *Mengzi*), and “five classics,” a set of less directly philosophical texts which were nevertheless associated with Confucianism (the *Book of Documents*, *Book of Rites*, *Classic of Poetry*, *I Ching*, and *Spring and Autumn Annals*). Children might start learning these works at the age of five or six, memorizing more and more of them as they grew older, to be ready to start taking exams in their mid-teens. Their education would also include a body of commentaries, related works, and the construction of certain prose and poetic forms.

Test questions focused intensely on the content of these works. Typical questions were along these lines:

- A partial passage is presented from one of the core works. The candidate must complete passage and present an analysis.
- The candidate must provide a passage from a particular work which fits certain conditions, such as the presence of specific words or grammatical features.
- The candidate must write a poem on a set topic in a specific format.

Both form and content were graded mercilessly. For example, by the Ming dynasty, candidates had to master the “eight-legged” essay, composed of eight sections, each of which had its own rules for its content, the number of sentences, and even sentence structure. Getting a single character wrong could mean the difference between passage and failure. Even corrections were penalized. For example, cutting a page with flawed calligraphy out of one’s exam book and starting over on the next was prohibited, and violators of that and similar rules were temporarily barred from future exams.

## TAKING THE EXAMS

The exams weren’t just difficult. There were a lot of them, a necessary winnowing device to narrow down the vast range of applicants to a manageable few. And they were administered under exacting conditions.

## Preliminary Exams

Candidates for office started with two or three rounds of similarly structured exams. These preliminary exams did not lead directly to offices. Rather, they were meant to shake out less able candidates before serious examinations began.

The first round, held at the county level (the number varied over time, but imperial China had over 1,000 counties), was intended for teenage boys; older men were given tougher questions and graded more harshly. Because of the pressure to win academic honors, though, older men lied about their age to the point of absurdity, and the magistrates responsible rarely pressed the issue.

Later rounds, at a prefectural level (there were something close to 200 prefectures) were more rigorous, and candidates there were typically older. Nevertheless, prefectural exams were typically scheduled so that those who had passed county exams had sufficient time to recuperate from the first round of tests and travel to the prefectural capital for the next.

The preliminary exams all followed a similar pattern. After arriving at the testing hall, candidates had their identities and qualifications vouched for by witnesses, were searched for contraband, and collected red-lined sheaves of paper not too much different from modern exam notebooks. They had to bring with them brushes, ink, food for the day, and possibly a chamber pot (only one break, for tea or to relieve oneself, was permitted). Testing took place over as many as five day-long rounds, with the toughest questions on the first day. The last round was nearly ceremonial in nature and almost impossible to fail. After each round, the magistrate responsible, who was sequestered for the duration of the testing process, was himself under pressure to evaluate the exams from that round in three or four days. Once grading for each round was finished, the results were grandly posted in descending order, and the next round began the following day. Final rankings based on an average of grades were then posted, followed by a ceremonial banquet.

## CONFUCIANISM

Confucianism is, of course, complicated, but here’s what’s important to know in this context: Confucianism was imperial China’s governing philosophy. It holds that humans are perfectible. That is, they can be taught to cultivate virtuous habits and correct behavior, and it’s important for those at the top of the social hierarchy to teach and model appropriate conduct. Confucians prize harmony, with all members of society righteously acting appropriately to their station in life. This involves loyalty to one’s superiors (gods, parents, political masters, etc.), but also benevolence and care for one’s underlings.

This article uses the word “Confucian” throughout, as do most Western works. However, the word essentially doesn’t exist in Chinese. To Chinese scholars, Confucius was an important figure in philosophical history, but he was just one contributor to the large body of thought to which Westerners apply his name. Several Chinese words exist for this body of thought, most of which can be translated as something like “scholarly teaching” or “literati studies,” emphasizing the ongoing involvement of generations of scholars.

Each jurisdiction had a quota of candidates who would be allowed to pass, based on a number of factors but mostly driven by the government's perceived needs. Depending on the year and location, a candidate could find himself competing against hundreds for as few as three or four slots, or against a handful of other candidates for nearly as many chances to move forward. Though passing earlier rounds was nothing to take lightly, only the last one provided any tangible benefit. Upon successfully passing the prefectural exams, a candidate was awarded the title of *sheng yuan*. This entailed immunity from forced labor requirements and corporal punishments, as well as a modest stipend from the government. These benefits were intended to allow the candidate to continue with his studies and prepare for future exams. Even if the candidate went no farther in his exams, he could at least live as a member of the local gentry. Attaining the *sheng yuan* degree was also cause for ceremonial processions, feasts, and sending celebratory announcements. Theoretically, *sheng yuan* had to take periodic exams to confirm their status, but they could be avoided for nearly a decade at a time.

### *Boo!*

In addition to fierce competition from other candidates and the hazards of the road – most aspirants to office had to travel a long way to take provincial exams – candidates were thought to face supernatural threats. If a candidate had done something wrong (abandoned a lover, ruined a rival family, etc.), this critical period was the time for vengeful spirits to strike. Stories abound of candidates who directed searching spirits to the appropriate test-taker or had to propitiate the angry dead in a hurry in order to pass their exams. Spirits also appeared to graders to sway their decisions.

## *Provincial Exams*

Provincial exams – held in September every three years in the 15 to 20 or so provincial capitals – were probably the single most important set. Qualifying exams simply winnowed a huge body of candidates down to a few who might have suitable skills; it was at this provincial level that successful candidates might be selected for office. Even so, provincial exams brought in thousands of candidates. Given their seriousness, testing procedures were even more rigorous than at the qualifying levels.

Candidates brought with them everything they might need for three days: brushes and ink (only black ink was allowed), clothing, bedding, food, a brazier and utensils for cooking, etc. They purchased examination notebooks and turned them in to the testing facility in advance to be checked, getting them back at the start of testing.

The provincial capitals had purpose-built testing facilities, consisting of grand entryways and a series of gates, followed by long aisles of cells. Candidates gathered in the entry of the testing hall at midnight the day before the tests started and were organized in groups by district. By the morning, the process of moving them into testing facility proper started. Each candidate passed through two gates and was inspected for contraband at each.

Once through the gate inspections, each candidate was assigned a small cubicle, perhaps four or five feet square and open at the front. Each cubicle had three pairs of rails along the side walls and three boards. Putting the ends of the boards on different levels of rails created a bench, desk, and shelf. Putting them on the same set of rails formed a sleeping platform, albeit a notoriously uncomfortable one.

Once the testing began, no one was allowed in or out; the sole exception was to bring in water for the candidates and examiners. If a candidate died (which did happen; some candidates kept plugging away into old age), the body was quietly wrapped up and tossed over a wall at night so as not to distract the other candidates. After three days of testing, the candidates were allowed a night off outside the testing compound. However, there were two more two-day rounds of testing to follow.

After an intense and elaborately structured round of grading, the names of successful candidates were posted with great ceremony, with the names of the top five saved for last and only revealed to the waiting crowd of candidates and their friends after a dramatic pause. Each province passed a number of candidates set by a quota, typically between 40 and 90, depending on the size of the province. Those who passed at this level attained the title of *juren*, which carried even better protections and benefits than a *sheng yuan*, such as tax exemptions (which were extended to immediate family as well) and the right to wear certain markers of high status. More importantly, it was at the *juren* level that government office became possible. It was not guaranteed, but *juren* was the minimum qualification.

## *Metropolitan and Palace Exams*

Having obtained the *juren* degree, the question became not whether an individual would succeed in life, but how well. Metropolitan exams, open to *juren*, were held in the imperial capital the year after provincial exams. With the difficulty of the previous exams and the near-universal need to take them repeatedly before passing, those who came to the metropolitan exams were already middle-aged men.

The metropolitan exams consisted of three separate overnight rounds of tests. Typically, 200 to 300 candidates out of over a thousand test-takers were allowed to pass, with the top-scoring papers given to the emperor himself to rank.

At the very end of the line came the palace exams, open to those who had passed the metropolitan exams. This exam was, to some extent, a formality. Those who made it this far were well-positioned for office, and hardly anyone was failed anyway. However, doing well and attaining the *jinshi* degree essentially guaranteed not just a good government job, but a particularly high office. The exam was administered under the eyes of the emperor himself (in theory, anyway; in practice, emperors in later dynasties would increasingly forgo an appearance). This involved all the ceremony that entails, including elaborate processions, exam books which were masterpieces of the bookmaker's art, and soldiers acting as bearers for the candidates' desks and other gear. This exam lasted for a single day, with answers composed in the form of memos to the emperor. The emperor was responsible for ranking the top 10 (on advice from the other readers, of course), and the top three scorers were accorded particular honors.



More ceremonies and several rounds of banquets followed on the announcement of passing scores and rankings. It was a long road for the newly minted jinshi, but in their 50s or 60s, they could enter government at the highest levels.

## CHEATING

Given the stakes of success and failure, cheating, or at least attempts at cheating, were rampant. One of the primary means of dishonestly gaining an advantage was smuggling cheat sheets. Candidates would copy passages or even entire texts in a very tiny hand on anything they felt they could get away with: undergarments, the inside linings of clothes or bedding, sheets of paper pasted to the skin, strips rolled up in hollow writing brushes, and so on. Two different sets of guards searched all the candidates closely for contraband.

The other major method of cheating was corruption. Candidates were forbidden from bringing money into the examining hall to prevent direct bribery, graders were kept strictly separated from candidates, and grading was handled by various means meant to anonymize the test-takers. At all levels, for example, test papers were identified only by a number; those numbers were matched back to names only after grading had been completed.

Particular care was made in grading at the provincial level and above. First, a staff of scribes copied the candidates' work

(identified only by number) onto new pages so no one's handwriting could be recognized. The scribes were only provided with red ink, to ensure that they would be unable to retroactively fix candidates' mistakes. A second staff of scribes compared the black and red copies (making notes in yellow ink) to ensure that the red copies were accurate. The black copies were securely put aside, and the red ones handed on to the graders, who made their own marks in blue ink. All of these groups were kept segregated from one another to prevent any kind of collusion. At the end of the process, numbers were matched back to candidates, passing papers were again checked against the black-ink originals to confirm their authenticity, and then sent to the capital for a final confirmation and archiving.

Some candidates, insecure in their own abilities, might hire ringers to impersonate them and take the exams in their place. Officials retained archives of old exams to compare handwriting. During the second and third rounds of provincial exams, in addition to answering new questions, candidates were required to reproduce passages from or extend on answers which they had turned in during earlier rounds. Since they weren't allowed to keep notes, they had to work entirely from memory. In addition to demonstrating scholarship and memory, this was a way to confirm the test-taker's identity and ensure that he hadn't hired a substitute for the later rounds.

## GAMING THE SYSTEM

If players are eager to actually play out the exams themselves, candidates must make successful rolls against four skills: Artist (Calligraphy), Philosophy (Confucian), Poetry, and Writing. Failure at any one of them means failing that exam. As competition increases at higher levels, passing becomes more difficult (see the table below); candidates who make it all the way through the palace exams have skills in the 18-21 range. The Calligraphy roll can obtain a modest bonus from high-quality equipment, but given the TL, the maximum bonus is +2.

On passing, the candidate attains a higher level of Status. Any critical failures mean that the candidate has made a grave error or inadvertently violated the rules, barring him from future exams for 1d years. Critical successes don't erase failures, but if all other skill rolls succeed, they indicate particularly high marks. One critical success means the candidate passed in the top 10. Two critical successes mean that the candidate passed in the top five, three mean he passed in the top three, and four mean that he was the top scorer. For the most part, these simply result in the candidate being the focus of festivities in the aftermath of the exams. However, top passers at metropolitan level get at least a +1 Reputation among bureaucrats, and top passers at the palace level may get choice appointments, giving them an additional +1 Status as well.

The candidate may attempt to smuggle in crib sheets of various kinds. The smallest useful texts give +1 to Philosophy, Poetry, or Writing (pick *one*) and +2 to Holdout skill.

More extensive texts provide a trade-off: an additional +1 to a skill for each additional -1 to Holdout. For example, a candidate may try to sneak in references giving him +2 to Writing and +2 to Philosophy and suffer -1 to Holdout.

Attempts at collusion with exam personnel can help a candidate pass, but rarely guarantee it. Each official convinced to play along gives +1 to each skill per guard or grader or +3 for the official in charge. However, on any critical failure, the corruption is discovered and everyone involved is punished.

See *Cheating* (above) for more specifics on methods of cheating and punishments.

<i>Level</i>	<i>Penalty</i>	<i>Status</i>	<i>Notes</i>
County	-(1d+1)	N/A	[1]
Prefecture	-8	1	
Provincial	-10	2	
Metropolitan	-11	3	
Palace	-11	4	[2]

### Notes

[1] County exams have a highly variable and somewhat unpredictable level of competition. Passing a county exam gives local Social Regard but no Status.

[2] While almost no one actually fails the palace exams (that is, only on critical failures), the skill penalties still apply for the purpose of filtering out anyone with insufficient skills sneaking into the exams and calculating the range of critical successes which determine top rankings.

Those who passed the metropolitan exams were called to the palace to write out a short autobiography, which was compared to their test papers to verify their handwriting and identity.

There were significant punishments for both candidates and officials implicated in cheating. For minor infractions, candidates could be barred from exams for a period of time commensurate with the violation, up to their entire lifetime, as well as stripped of any honors they had won. Officials implicated in cheating scandals could suffer criminal penalties up to exile and execution. Even those not directly involved could be punished for failing to notice and report problems. However, those who did turn in cheaters, like the guards searching candidates for contraband before exams, were rewarded.

*The path may not be left  
for an instant. If it could be  
left, it would not be the path.  
On this account, the superior  
man does not wait till he sees  
things, to be cautious,  
nor till he hears things,  
to be apprehensive.*

– Confucius,  
*The Doctrine  
of the Mean*

## IMPLICATIONS

Given its tight focus on a particular set of texts and approach to the material, the examination system had a number of drawbacks. One of the most notable is that the intense focus on Confucian classics and certain styles of poetry meant that officials were uniformly eloquent and erudite, capable of finding a maxim or philosophical principle for any occasion. However, they tended to lack technical competence in areas like engineering and finance. To the extent that this problem was recognized, it was usually dismissed. The important thing, to the administrators, was to have the wisest possible people in charge to serve as guides and examples. Technical skill was far less important than moral guidance, and could be handled by hiring suitable experts from among the common people rather than by actually putting them in government; a peaceful, harmonious society was more important than an efficient one.

The second is that a system which gave vast rewards to students of literature and philosophy drew the best efforts of the most able, ambitious men into that area. The military was therefore often commanded by men who were second rate, passing a parallel series of exams which were essentially

athletic contests with a smattering of Sun Tzu on top. There were exceptions, of course – notably foreign-born generals and officers who rose through the ranks – but China frequently punched below its weight on the battlefield due to questionable leadership. To the empire’s Confucian administrators, this was a feature, not a bug. Keeping violent men away from the levers of power was desirable. Like the Orthodox Byzantines, they saw warfare as an unpleasant and occasional necessity, not something to pursue, and buying off enemies was preferable to fighting them.

A third problem, which was acknowledged but never adequately fixed, is that the exams created their own patronage system. Candidates regarded the officials who passed them as their teachers – who, in Confucian thought, were worthy of the deepest respect and obedience – and formed life-long bonds with them. This created natural factions within the bureaucracy.

However, the system appears to have provided at the very least a generally competent administration and contributed to enormous cultural stability, despite encompassing no more than a few hundredths of a percent of the population at any given time. The obvious path for anyone in China with ambition was to try his hand at the civil service exams, which meant undertaking a serious study of Confucian classics. So even those who failed, which constitutes the vast majority of those who attempted it, were exposed to the Confucian canon. Moreover, many of those men went on to positions of local, if unofficial, importance or to pursue careers as writers, teachers, or other professional intellectuals. Confucian ideals and language provided a common background for educated conversation and literature, which did a great deal to enforce cultural unity beyond the officials themselves.

The emphasis on civilian over military authority also appears to have kept the peace internally. Once the Song dynasty was established, China, unlike most other empires, faced few credible attempts by ambitious native generals attempting to seize the throne. While the empire faced countless external threats, its own military was rarely a problem.

## BEYOND CHINA

Formal civil-service examinations did not begin in the West until the modern era. But could such systems have arisen in other preindustrial societies? If so, what would they have looked like? Obviously, prerequisites for an examination system include a reasonably large nation and strong central government capable of both needing and having the ability to push through reforms to ensure a constant supply of civil servants, as well as the development of a body of knowledge on which to set exams. Though the examination system didn’t really come into its own for several centuries after it began, it started fairly early in TL3.

The Romans, like the Chinese, had an imperial administration with a central government appointing governors to reasonably well-defined districts. The imperial period would have been a natural time to establish a system of examinations. An examination system alternatively might be the result of a plebeian revolt during the republic instead, putting appointment to offices on the basis of merit rather than class membership. The main thing the Romans lacked was a body of canonical texts, though they might have developed one derived from native legal commentaries and Greek philosophers.

*Take me as a substitute for the king. I was kind and obedient to my father. I have many talents and skills, and can serve the ghosts and spirits. Your principal descendant is not as talented or skilled as I, nor can he serve the ghosts and spirits as well.*

*– The Book of Documents*

But for the Romans, the lack of suitable technologies might be an issue. The Chinese exam system relied on significant quantities of paper. Alternative writing media such as wax tablets and parchment may well have been too clumsy or expensive, though papyrus could have provided a suitable substitute. And despite presenting an orderliness the Romans would have admired, it would have been a considerable departure from their ingrained militarism and systems of patronage.

The more philosophical and deliberately archaizing Byzantines were perhaps better candidates to build a system resembling the Chinese one, down to the (occasional) subordination of military to civil priorities. Orthodox Christianity would take the place of Confucianism. The Bible would form the core of their canonical texts, possibly combined with collections of commentaries and sermons (the works of Augustine and John Chrysostom are obvious candidates) and foundational legal texts like the *Codex Justinianus*. Though the empire might build testing facilities, it might just rely on the country's many churches and monasteries.

The Medieval caliphate, like the Byzantine empire, could likewise have assembled a canon of texts, including the Qur'an and some sets of hadith (sayings and stories attributed to

Mohammed, but not part of the Qur'an itself, used by Muslim intellectuals to aid interpretation). In short, it would be the same basis as the various schools of sharia underpinning Muslim legal and political thought. However, setting up a system of examinations would probably have required more centralized control than the Umayyads and Abbasids ever achieved. The Ottomans, though, with a stronger central government, might have attained it.

In the Muslim world, the emphasis on specific sets of hadith for use in government might have imposed a set of standards on disparate religious schools and traditions and led to a more rigorously defined form of Islam, but could also have inflamed religious sentiment, leading to conflict and an earlier breakdown of the caliphate.

## ABOUT THE AUTHOR

Matt Riggsby went to school for a long time and took a lot of tests, but if he's so smart, why isn't he rich? He lives with his knowledgeable wife, a son who is still in school, and several dogs whose calligraphy is second rate at best.

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# THE MUSIC MAKER

BY JON BLACK

Few historical figures are as rich in roleplaying possibilities as Antonio Stradivari (1644-1737), often known by the Latinized "Stradivarius." This Italian luthier, a maker of stringed instruments, created around 1,100 instruments during a career straddling the 17th and 18th centuries. His best instruments remain widely regarded as superlative, and the key to their remarkable sound yet to be explained satisfactorily. That the name of a 300-year-old luthier is widely known beyond classical music circles is instructive. His work is not simply a pinnacle of TL4 technology. Potent, mysterious, and priceless, Stradivari's instruments may be as close to magic items as anything the real world has produced.

The end of Stradivari's life crosses into TL5, but his golden period and the techniques and materials he used fall comfortably within TL4, making him appropriate for *GURPS Low-Tech* roleplaying.

*Potent, mysterious,  
and priceless, Stradivari's  
instruments may be as close  
to magic items as anything  
the real world has produced.*

## BIOGRAPHY

Stradivari was born in 1644 to a respectable family from the duchy of Cremona, situated along northern Italy's Po River. Beset by war and famine, Cremona's population was in free-fall, leading to suggestions Stradivari may have been born elsewhere, his family returning only after conditions stabilized.

As a teenager, Stradivari apprenticed under Nicola Amati, head of Europe's most prominent violin-making family. Though relations between them were good, Stradivari quickly displayed his independence and innovation. Flouting convention, the labels he placed on his finished works seldom mentioned Amati.

The pupil quickly equaled his mentor. By his mid-30s, Stradivari's reputation reached across Europe. A Venetian banker ordered instruments as presents for England's James II. Cosimo III Medici owned a complete set.

Stradivari's golden period lasted from 1690 to 1720. It saw the creation of his most celebrated instruments, anchoring his enduring reputation. Instruments produced after 1720 remained remarkable but fell short of those from his peak years. Stradivari worked until his death at age 93.

Stradivari enjoyed a lively family and social life. In 1667, he married a young widow named Francesca. They had a daughter three months later and four more children followed. Francesca died in 1698. The next year, he wed a woman named Zambelli, with whom the 55-year-old Stradivari fathered five more children.

At the time of his death in 1737, Stradivari was part of small group of top luthiers, including the Amati family, the Guarneri family, and Austria's Jacob Stainer. Over the following half century, his reputation eclipsed the competition.

## Antonio Stradivari

209 points

At age 64 (in 1708), Stradivari is in the full flower of his golden period: renowned, cultured, and masterful. He is clad in the latest respectable fashions. Though his beard has only a little black left among the gray, Stradivari's eyes shine with an agile intellect. His fingers are those of a master craftsman, long and graceful. Born 1644; died 1737.

**ST** 9 [-10]; **DX** 11 [20]; **IQ** 13 [60]; **HT** 10 [0].  
Damage 1d-2/1d-1; BL 16 lbs.; HP 9 [0]; Will 13 [0]; Per 14 [5];  
FP 10 [0].  
Basic Speed 5.25 [0]; Basic Move 5 [0]; Dodge 8.  
5'8"; 140 lbs.

## Social Background

*TL:* 4 [0].  
*CF:* Western European [0].  
*Languages:* French (Broken) [2]; German (Broken) [2]; Italian (Native) [0]; Latin (Broken) [2]; Spanish (Accented) [4].

## Advantages

Charisma 1 [5]; High Manual Dexterity 1 [5]; Longevity [2]; Single-Minded [5]; Reputation +2 (World-class luthier; To musicians, patrons of the arts, and cultured people) [5]; Status 2\* [5]; Very Wealthy [30].

## Disadvantages

Sense of Duty (Family) [-5]; Workaholic [-5].

## Skills†

Area Knowledge (Cremona) (E) IQ+1 [2]-14; Artist (Woodworking) (H) IQ+1 [8]-14‡; Connoisseur (Music) (A) IQ [2]-13; Group Performance (Conducting) (A) IQ-1 [1]-12; Merchant (A) IQ+1 [4]-14; Musical Performance (Violin) (H) IQ [4]-13; Professional Skill (Luthier) (A) IQ+12 [48]-25‡; Savoir-Faire (High Society) (E) IQ+2 [4]-15; Teaching (A) IQ+1 [4]-14.

\* Includes +1 from Wealth

† At GM discretion, tasks may receive +3 from Single-Minded (p. B85)

‡ High Manual Dexterity gives +1 to DX-based rolls against this skill (p. B59).

For a younger Stradivari, reduce Professional Skill (Luthier) and remove or reduce Reputation, Status, and Wealth while increasing physical attributes. An older Stradivari might have lower physical attributes, and possibly remove some combination of higher Perception, High Manual Dexterity, and Single-Minded.

There are gaps in our knowledge about Stradivari's personality. The GM can flesh him out by adding additional "normal" disadvantages (Charitable, Chummy, Curious, Greed, Honesty, etc.) not contradicting the overall picture of a man who was well-liked, socially adroit, and competent in business. Stradivari can be further developed by adding personal interest skills, a few points in Connoisseur (Wine), Games (Chess), Riding, or whatever fits GM preconceptions.

## THE MASTERPIECES

Stradivari produced around 1,100 instruments, about one per month over his 77-year career. Violins, his best-known creations, account for the preponderance of that output. Stradivari also crafted cellos, guitars, harps, mandolins, and violas.

His instruments are celebrated for their powerful sound and strong tone. Unlike many high-precision instruments, they are considered very forgiving, responding well even to a mediocre musician and becoming positively sublime in the hands of a virtuoso. They also are prized for their appearance, being carefully crafted and aesthetically pleasing.

Stradivari's instruments are distinctive in design and appearance. They are robustly built and typically larger than instruments produced by his peers. This is especially true of the "Long Strads" marking the pinnacle of his career. Other identifiers include dark varnish and meticulous care for the wood used. Stylistically, his instruments tend to be rounded, beveled, have a distinct scroll, and decorative inlay further set in.

## How Good Are They?

The recommended formula to determine modifiers for the best equipment possible at a given TL is +1/2TL, rounding down and with a minimum of +2 (p. B345). Stradivari's instruments certainly equal that, but do they exceed it?

Translating real-life data into game mechanics is challenging. Centuries of testimonials from classical musicians could certainly support +3 for instruments from the height of Stradivari's career. That fits assertions that a Stradivari allows an amateur musician to play like a professional (taking

effective skill from, for example, 10 to 13) and a professional to sound like a master (from 15 to 18). Except at the beginning and, perhaps, very end of his career, other Stradivari instruments are +2.

## Professional Skill (Luthier)/TL

IQ/Average

Defaults: Artist (Woodworking)-5 or appropriate Musical Instrument specialty-5.

This Professional Skill (pp. 215-216) allows design, construction, and repair of stringed instruments appropriate to someone's TL and culture. At higher levels, it involves aesthetic as well as acoustic considerations. Use is dependent on access to proper materials and tools (p. B345). Familiarity rules (p. B169) also apply. As those practicing this trade acquire some knowledge of music and musical theory, the GM can consider allowing it to serve as a default for Connoisseur (Music), Musical Composition, or appropriate Musical Instrument.

## Stringing Us Along

People love a mystery. And hate one. No hypothesis explaining the potency of Stradivari's instruments has endured. Numerous ideas, ranging from intriguing to incredulous, have been offered over the years. Today, every few years, a new "definitive" explanation emerges. Below are some of the more memorable hypotheses.

*The Wood, Part 1:* An early explanation, that Stradivari used wood from old cathedrals, has long been debunked both by dendrochronology and common sense. Of course, nothing prevents it from being true in a game. Such instruments might have very desirable properties, such as qualifying as consecrated ground.

*The Wood, Part 2:* Some cite the considerable, and surprisingly uniform, density of the wood. Slow tree growth during the Little Ice Age has been posited as a source. Others point out that the northern Croatian wood used by Stradivari was prized for precisely those properties. Both theories face the same problem: Most luthiers of Stradivari's day used the same wood he did. So it doesn't explain why Stradivari's creations would be superior.

*The Wood, Part 3:* One test found evidence that Stradivari's wood had decayed slightly prior to being worked, displaying properties similar to wood submerged for a prolonged period.

*The Varnish:* As Stradivari's varnish is darker than contemporaries', it has been suggested that the varnish may hold the key. Some experiments claim to have discovered unusual substances in the varnish, including borax, chromium, fluorides, and iron salts. How that might impact sound quality has yet to be well articulated.

*The Mind:* It is possible that Stradivari's superiority is nothing more than 300-year-old self-fulfilling prophecy. Several experiments by scientists appear to support that claim. Musicians, however, are not on board. Most continue crediting the instruments with remarkable properties.

*The Right Time:* Stradivari instruments may not have been objectively better but were best suited to a changing musical scene. As the size of venues and audiences grew, the stronger tones and sounds of his instruments were simply more useful. A preference developed for Stradivari's instruments, which eventually took on a life of its own.

### *Elite Artisans*

Stradivari can serve as a template for an elite artisan in any genre. Allowing such an individual to exceed the +1/2TL guideline requires forethought but need not break a game. Such craftspeople are profoundly rare. At most, a handful exist in the world at any given time and seldom in the same discipline. Engaging their services typically necessitates travel that might constitute an adventure in itself. They can be extremely choosy regarding clientele, likely requiring Wealth, Status, or a favorable reaction roll (or all three) before accepting a commission. Creating a character with a pre-existing relationship to an elite artisan necessitates Patron with the Special Abilities enhancement (p. B73) and could also require Unusual Background. To justify such abilities, an NPC artisan needs skills of, conservatively, 20+ in the primary craft and 14+ in supporting skills.

### *Legacy*

Stradivari's reputation as history's top luthier began in the late 18th century and continued growing. By the late 19th century, thefts targeting his instruments and the sale of violins with counterfeit Stradivari labels became a problem.

About 650 Stradivari instruments survive today, though only half remain playable. His instruments are preferred by many classical superstars, including Yo-Yo Ma, Annie Akiko Meyers, Itzhak Perlman, and Julian Lloyd Weber.

The value of Stradivari's instruments has risen along with his reputation, hitting astronomical levels in the late 20th century. Since 1990, about a dozen of his instruments have sold for more than \$1 million. The record holder is the Lady Blunt, a 1721 violin which sold at auction for \$15 million. Even using a median price of \$2.5 million, a 1-lb. Stradivari violin

is, by weight, one of the most valuable objects in the world, worth more than 150 times its weight in gold.

## **CREMONA**

Stradivari was a homebody. Encountering him meant visiting Cremona. Throughout the 16th and 17th centuries, it was a turbulent if fascinating place. A frequent pawn of European territorial ambition, it was under Spanish domination from 1513-1701, French until 1707, and passed to Austria until Napoleon. The early 17th century was especially brutal. War, famine, and economic malaise buffeted the duchy. Between 1600 and 1650, Cremona's population decreased from 37,000 to 17,000. That drop includes refugees (possibly Stradivari's parents) as well as fatalities. By Stradivari's peak years, the city had probably recovered to around 40,000.

Cremona's musical reputation began in the 12th century. By the 16th century, it also was renowned for musical instrument production. Of special note was Andrea Amati, father of Stradivari's mentor, Nicola. Andrea's material impact on music is, arguably, greater than Stradivari's. He was the individual most responsible for the giving the violin family (including viola, cello, and bass) their modern forms, along with the idea of standardized sizes and the addition of a fourth string. Niccolo Sfondrato, Bishop of Cremona (who, in 1590, became Pope Gregory XIV) was a lifelong music patron, further enhancing the city's reputation.

By the time of Stradivari's apprenticeship, this tiny Italian duchy was already home to two of Europe's top luthier families, the Amati and Guarneri. Stradivari soon joined the list and, late in his life, a fourth family, the Bergonzi.

Instrument makers, including the Amati and Guarneri, clustered around the Piazza San Domenico, a square at the heart of Cremona. In 1680, they were joined by Stradivari, who purchased a large house on the piazza, using the attic and loft as a workshop and the remaining space as a living area for his family. From a roleplaying perspective, relations between these families appear to have been disgustingly harmonious, taking each other's sons as apprentices and collaborating on projects. The GM who desires a more underhanded and Machiavellian aspect to Cremona's luthiers can, of course, alter that.

*Batman: Catwoman's up there, and she's about to make off with a bundle if we let her.*

*Commissioner Gordon: But Batman, we still don't know what she's stealing.*

*Batman: Eight pieces of catgut.*

*Chief O'Hara: How much could they be worth?*

*Batman: Plenty! They're attached to two Stradivarius violins. Each one is being sold today for a quarter of a million dollars.*

– **Batman** #2.4

## Other Hometown Heroes

Beyond Cremona's master luthiers, apprentices, and their families, two other historical figures with strong roleplaying possibilities can be found in Cremona during Stradivari's lifetime.

*Luigi Grandi* (1671-1742) was a priest and scientist who contributed to mathematics, engineering, and philosophy. Born in Cremona, Grandi left the city after completing studies at Cremona's Jesuit College at 16 to take his vows and continue his education. Until then, he may be encountered on the city's streets or places of learning, already inquisitive and intellectually precocious. There is no evidence that Grandi and Stradivari met, but it is possible.

*Tarquino Merula* (1595-1665) was an innovative composer who helped define Baroque music. He was also a gifted organist and violinist. Merula held important musical appointments throughout Europe but consistently ran afoul of his patrons and faced accusations of indecency with students, often fleeing back to Cremona for safety. Merula spent his final decades there, dying as Stradivari was coming to prominence. Given the alignment of their professions, the two were certainly acquainted.

## STRADIVARI IN OTHER GENRES

Stradivari's gaming potential is not limited to *Low-Tech*. Many genres have a place for a master craftsman whose output can, conservatively, be called wondrous and awe inspiring.

*Secret Magic*: Stradivari might be *easier* to believe in a secret-magic world. In such an environment, his creations are suitable for enchanting. Stradivari could be a mage, likely with a high level of Magery aspected in the Enchantment College. Here, his instruments are "normal" +2 equipment, enchanted with +1 or +2 to Musical Instrument skill. Other enchantments are up to the GM but will be subtle.

*Full Magic*: The gloves are off in such a campaign. With the full panoply of magic available to back his talent, the GM can allow Stradivari's instruments to duplicate any feat performed by instruments in myth or legend.

*Illuminati*: Stradivari's anomalous talent fits well into a conspiratorial game. Whether he is just a tool or an illuminatus himself, only the uninitiated would think his secret techniques and the instruments they create are intended for something as prosaic as listening pleasure. Their real purpose is anyone's guess.

*Fantasy*: Stradivari makes an excellent template for a legendary, and possibly magical, craftsman in such settings.

*Horror*: Stradivari's instruments can come into a horror campaign in several ways. First, they make an excellent obsession for a musically inclined madman in a Gothic, psychological horror, or unusual slasher campaign. Second, stringed instruments are often reputed to sooth, or at least sedate, things that go bump in the night. If "the stars just became right" and a violin solo is all that keeps the Great Old Ones on their side of the threshold, do PCs really want to equip themselves with anything but the very best? Finally, an instrument could itself be haunted or possessed.

*Alt-History*: An alternative timeline highlighting Stradivari would be an unusual one. But he makes good local color to showcase a world's differences. Perhaps he has been ennobled by a prematurely unified Kingdom of Italy. Or, in a different Italy, assassinated by the Medici as the warning to the Sforza and their Cremonese vassals. In a world where the Franks lost at Tours, Antuni As-Stradiwari might craft ouds and lutes coveted by caliphs from Grenada to Mumbai.

### A World Without Stradivari

Born in an age of chaos, Stradivari could easily have died before his first strings sounded, or circumstances could have forced him into a humbler trade. On the surface, Stradivari's absence from history changes surprisingly little. TL5+ stringed instruments might look and sound a little different. Large performance venues might take longer to become popular. Someone else, probably an Amati or a Guarneri, would be viewed as history's top luthier. But it is unlikely that, 300 years later, his name would be known outside classical music. Therein lies the real impact of Stradivari's absence. Without the mythology that grew up around Stradivari and his instruments (influencing what came after), music as phenomenon might lose some of its power, mystique, and wonder.

## STRADIVARI ADVENTURE IDEAS

Below are several plot hooks for incorporating Stradivari and his instruments into adventures. TL and genre suggestions are included for each.

*Violin Hero* (TL4, any): The party's bard (or friendly NPC) has rashly accepted a challenge from a superior musician. The only way he'll win is with a Stradivari in his hands. So, it's off to Cremona to beg, borrow, or steal an instrument from the master.

*The Switch* (TL4, any): The PCs have been dispatched to retrieve a Stradivarius their Patron ordered for his daughter's wedding. On their return, the party discovers they were given a less impressive violin instead. Unfortunately, their instrument is now in the hands of powerful noble, who likes his new toy. Can the party find a solution that makes both men happy and allows the party to keep their reputations (and skins) intact?

*The Luthier's Apprentice* (TL4, any): The adventurers have been hired by a rival luthier to infiltrate Stradivari's workshop and learn his secrets. Adventures will simultaneously have to earn Stradivari's trust while snooping around. Alternately, Stradivari may have learned that he has already been infiltrated, and he hires the party to find the mole.

*Dragon Fat Varnish* (TL4, open magic): Gearing up for his most powerfully enchanted violin yet, the wizard Stradivari has a list of exotic materials needed for the project. He is too busy (and sane) to get them himself. Fortunately, the party's reputation has reached his ears.

*Musical Thrones and Powers* (TL4, Illuminati): It's 1683, and the Freemasons, Templars, and Hellfire Club have called a truce in order to turn the Assassins and their minions back from the gates of Vienna. They've hatched a plan.

Only Grand Masters know the specifics, but it draws upon the talents of Stradivari, Bach, Corelli, and Newton, combining them into one mysterious “Great Work.” The adventurers are hired (or threatened or duped) into facilitating the cooperation of these four temperamental masters while dodging everything the Assassins can throw at them.

*The Cremonese Job* (TL5+, any): Visiting Cremona, the protagonists uncover a clue to the location of a journal detailing Stradivari’s secrets. There are, of course, other interested parties. Depending on the era, this could pit young nobles on their Grand Tour against corrupt local officials, GIs against Nazis, historical researchers against a greedy corporation, or any other trope.

*Symphony of Thieves* (TL6/TL8^, time or dimension travel): In the 1920s, Pennsylvania businessman Rodman Wanamaker amassed a collection of 65 instruments made by Stradivari and other top luthiers. The “Cappella Collection” was divided following Wanamaker’s 1928 death. At TL8 prices, Cappella’s value easily exceeds \$100 million, a fact not lost on a larcenously inclined group with access to a time machine or quantum conveyor.

## RESOURCES

Faber, Tony. *Stradivari’s Genius: Five Violins, One Cello, and Three Centuries of Enduring Perfection* (Random House, 2012). Engaging and detailed work covering Stradivari’s life, the science behind his instruments, and Cremona’s musical scene.

Fujika, Yoko. *Stradivari On Gold* (Impex, 2011). Difficult to find but worth it. This audio CD features classical selections performed on the Sunrise Stradivari. Careful attention given to acoustics and recording technology successfully brings out the instrument’s power.

Hill, W. Henry. *Antonio Stradivari: His Life and Work* (Dover, 1902). This early biography of the man and his instruments remains a standard. Despite its age, the text is

surprisingly contemporary. It remains available in print, digital, and online formats.

Various Artists. *A Violin’s Life: Music for the Lipinski Stradivari* (Avie, 2013). This innovative audio CD uses period music to trace the history of this famed 1715 Stradivari over time.

*Violin Masters: Two Gentlemen of Cremona* (John Forsen, 2012). Documentary profiling Stradivari and fellow Cremonese luthier Giuseppe Guarneri. Provides a good feel for 17th- and 18th-century Cremona and examines the enduring popularity of its instruments.

*Every maker has his price –  
the violin says something about its  
player’s status, even before bow is put  
to string – but none commands more  
respect than Antonio Stradivari.*

– Toby Faber,  
*Stradivari’s Genius*

## ABOUT THE AUTHOR

Jon Black is your basic “absinthe and BBQ” guy from Austin, Texas. An internationally published music journalist and music historian, he focuses on blues and country but has written on everything from punk to klezmer to classical (and will travel a long way to hear a Stradivari violin). Jon is also an experienced ghostwriter with one book-length project published and several smaller works in print. He has been playing roleplaying games for more than 30 years and *GURPS* for more than 20 years.

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# TEMPERED PUNKS

BY GRAEME DAVIS

The “-punk” wave is getting earlier and earlier. First, cyberpunk kept gadgeteering at TL8+. Then steampunk moved it back to TL5. More recently dieselpunk, decopunk, and atompunk have filled in TL6-7. Now there is talk of TL4 clockpunk and even TL0 stonepunk. Mixing modern ideas with low-tech materials and technologies, players could make their characters uncomfortably powerful in just about any setting.

Certainly, historical precedents and sources of inspiration exist for pre-industrial gadgetpunks. The Greek scientist Archimedes is said to have created a solar-powered heat weapon capable of destroying ships, among other inventions. The Renaissance polymath Leonardo da Vinci designed a tank, a flying machine, and several other weapons that could make an adventuring group very powerful. The TV series *Da Vinci's Demons* presents a vision of him which many gamers could be inspired to emulate.

Although part of the fun of “-punk” games is allowing gadgeteering gamers to tap into ideas and innovations beyond their era, sometimes tech-savvy players can go *too* far. How, then, can a GM balance fun and control in a low-tech campaign? Here are some systemless ideas.

## BURN THE WITCHES!

The Renaissance astronomer Galileo Galilei was tried for heresy in 1633, and held under house arrest for the rest of his life. His crime was claiming that the sun, and not the earth, was the center of the solar system. Galileo's works were banned, along with those of Nicholaus Copernicus and anyone else who supported the heliocentric model. It was not until 1992 that the Catholic Church publicly admitted he was right.

For much of the Middle Ages in Europe, the Catholic Church claimed a monopoly on learning, and it took a dim view of anyone outside its own ranks who threatened that monopoly. The same might be true of a large, powerful, and authoritarian religion in a fantasy setting, or in another historical period where religion and politics are heavily intertwined – ancient Egypt, for example. Those who become famous as inventors may find themselves having to answer some increasingly uncomfortable questions about just where their ideas come from, and whether they are diabolically inspired.

In a medieval or pseudo-medieval setting, it is not even necessary to invoke the might of the Inquisition. People who are seen using devices that can achieve the impossible – impossible

according to superstitious neighbors, not according to the laws of science – will very quickly come under suspicion, and may find themselves on the receiving end of local justice ranging from shunning to house-burning and lynching. A secure base of operations might make things worse rather than better, as the “mad scientists” (or “mad wizards”) in the mysterious tower or castle find themselves blamed for every disappearance and other mishap in the surrounding area. Torches and pitchforks are the almost inevitable result.

## SAFE HANDS

Nothing in the world excites the avarice of rulers as much as a new technology, especially if it can be weaponized. The power it offers those who control cutting-edge equipment, and the specter of other rulers acquiring it, drove a great deal of the scientific progress achieved during World War II and the Cold War. Gadgeteers who come to the notice of the ruling elite may well find themselves faced with an offer they cannot refuse: work for a ruler or government as virtual prisoners – or else.

Any adventurers worth their salt will refuse, leading to a life on the run as word of their technical prowess gets out and more and more players enter the race to secure their services at any cost. Powers that, for whatever reason, do not expect to win the race to capture the gadgeteers may decide to eliminate them instead – if they cannot have them, then no one can. State governments and ruling dynasties make powerful and enduring enemies.

If the gadgeteers should decide to accept an offer, they will gain a powerful Patron, but they will also lose most of their freedom. Initially, things may go well, with seemingly unlimited funding and other resources, the ear of a ruler or high official, and their every whim indulged. However, this will not last. They will start to receive orders for specific devices, many of which will be impossible to make, accompanied by unreasonable deadlines and ever-shrinking budgets. If they try to explain why a particular commission is impossible, they will be cajoled, threatened (either directly or through Dependents and other loved ones), and accused of disloyalty. All kinds of pressure will be applied to force them to deliver, until it becomes evident that their only hope of survival lies in escape. In Greek myth, the inventor Daedalus faced a very similar situation, creating artificial wings for himself and his son Icarus in order to escape the employ of King Minos of Crete.

Freedom may be short-lived, though: Not only will their former employer want them back (or eliminated), but rival states will make every effort to secure them for themselves.

Even if they find their employment comfortable, the gadgeteers will probably have to contend with plots from enemy states to kill or kidnap them, just like nuclear scientists in Cold War fiction. As an added complication, perhaps their employer's position is insecure, with political rivals seeking any means of seizing power. These attempts might extend to kidnapping the gadgeteers and forcing them to change sides, or simply eliminating them to weaken their employer in preparation for a planned coup.

It has long been said that to sup with the devil, one must have a long spoon. An even longer one is necessary when dealing with ambitious princes.

## VESTED INTERESTS

In the cities of medieval Europe and medieval-fantasy settings, trade guilds are powerful organizations. (See *GURPS Dungeon Fantasy 17: Guilds* and *Pyramid* #3/86: *Organizations* for more ideas on using these groups in adventures.) Guilds exist in large part to protect the interests of their members, who are usually involved in a single trade or industry. Any new invention that threatens to revolutionize an existing trade or craft – especially if it threatens jobs by saving labor – is bound to draw their ire.

Particularly in larger cities, guilds wield significant political and economic power. The guilds – and sometimes the towns in which they operate – usually have paid for royal charters that place them outside the feudal chain of command, answering only to the king. In medieval England, the guilds ensured the king's favor with a steady stream of cash and other gifts, which in turn gave the king a degree of economic freedom from Parliament and the more powerful barons. While kings might ignore or insult Parliament quite freely, they hesitated to alienate the guilds.

This was by no means a purely medieval arrangement. Two stories from Imperial Rome – with similar, yet very different, outcomes – demonstrate how a new invention might be received by an instinctively conservative guild structure.

According to the Roman writers Petronius and Pliny the Elder, the Emperor Tiberius was approached by an inventor who had developed a flexible form of glass. When thrown onto the floor, a goblet of this material dented rather than shattering, and was easily beaten back into shape. The inventor swore that only he knew the secret of manufacturing the unbreakable glass. Tiberius immediately had him executed, on the grounds that such a ground-breaking material could undermine the value of gold and silver, threatening the economy of the whole empire.

A generation later, the Emperor Vespasian undertook a large-scale building program in the city, including the construction of the huge amphitheater known today as the Coliseum. When an inventor approached him with a design for a machine that could transport heavy stone columns more easily, Vespasian declined, saying that he must ensure that the city's laboring classes had enough work to feed themselves. Unlike Tiberius, though, he did reward the engineer for his ingenuity.

The arrival of TL5 industrial machines in Britain provoked a more violent grass-roots response from the Luddites. Self-employed weavers who feared that new looms and spinning frames would see them replaced by lower-paid, less-skilled machine-minders, they smashed the machines and mounted a rebellion in northwestern England that was only put down with significant military force. In a medieval-fantasy setting, it would be quite conceivable for enraged craft guilds to incite riots, bribe watchmen, and even hire assassins in order to stop an operation which they found threatening to their interests.

In most medieval-fantasy settings, the most powerful city guild often belongs to the magicians. As professional wonderworkers, they would feel doubly threatened by new technological developments. Not only would the innovations threaten the livings of guild members, they also would reduce public reliance on magic overall and undermine the position of magicians in society.

Like the Catholic Church in medieval Europe, a fantasy magician's guild is not accustomed to having competition and will almost certainly react violently. If it is uncomfortable to be targeted by the Inquisition, then it must surely be as bad to be targeted by a powerful guild of spellcasters with demons, curses, invisibility spells, and other means at their disposal.

*For a source of low-tech inventing inspiration, see **GURPS Fantasy-Tech 1: The Edge of Reality.***

## FAIR COMPETITION

If Inquisitors, angry mobs, scheming princes, and jealous wizards are not enough to rein in a group of low-tech gadget-punks, the GM's final sanction is to face them with their worst nightmare: themselves.

If the player characters can combine modern ideas with low technology to produce handy gadgets, then others in the setting can do the same thing. Serving the players a dose of their own medicine can be satisfying, but the GM should be warned: While this approach may blunt the group's wilder excesses, it will only sharpen their desire for more gadget-tech. If the group knows it is available elsewhere in the world, they may become obsessed with hunting it down and acquiring it by any means necessary. The result could be an arms race that will inevitably shift the campaign setting into fantastical “-punk” territory forever.

At first glance, this approach runs counter to everything written above. However, it resolves the problem of overpowered gadgeteer characters by making certain NPCs and NPC groups powerful enough to counter the players' worst excesses. If everyone is special, then no one is special; the setting is recalibrated to provide the protagonists with a suitable challenge.

## ABOUT THE AUTHOR

Graeme Davis is the author of *GURPS Vikings*, *GURPS Middle Ages 1*, and *GURPS Faerie*, among other titles. A writer of fiction and video games as well as tabletop role-playing games, he specializes in historical and historical-fantasy settings, folklore, and monsters.

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# RANDOM THOUGHT TABLE

## BREAKING REALITY FOR FUN AND PROFIT

BY STEVEN MARSH, *PYRAMID* EDITOR

Why does tech – any kind of tech – exist in games? There are two fundamental answers I can think of (although there may be more), which strikes to the core of two different groups of gamers.

On the one hand, technology exists to drive the story – warp drives in *Star Trek*, lightsabers in *Star Wars*, the Three Laws of Robotics from Isaac Asimov’s robot stories, etc. In these cases, all technological decisions are arbitrary and designed to further the needs of the stories people want to tell in the settings:

- “Warp factor one” is defined as the speed of light and the heroes are expected to usually travel between warp five and eight (about 200-1,000 times the speed of light).
- The most evocative weapons of the *Star Wars* universe are seemingly weightless, appear to have an unlimited energy supply, and are capable of cutting through most objects with little to no effort (and even deflecting energy-weapon shots with sufficient training).
- The Laws of Robotics – which are considered an integral part of the positronic brains – all interact with each other such that most of the stories revolve around the appearance that one of the Laws has been violated, when (in fact) they almost never were.

In such cases, technology is tweaked to achieve the desired result. A campaign where energy-bladed weapons can only be used for a matter of minutes before needing to be refueled is a very different universe than one where such weapons have unlimited energy. A setting where the Laws of Robotics are laws in the legal sense (violating them has a punishment/cost) rather than a law of the universe is also *incredibly* different.

On the other hand, technology exists as a simulationist construct: Armor provides reasonable protection against swords, a horse can reliably go about 15 miles in a day, a taper candle will generally burn for one hour per inch, and so on. In such a game world, adhering to known realities takes primary importance over any story-driven considerations.

No impermeable walls exist between these two considerations. As the most obvious example, the myriad games based

on the *Star Wars* universe are *simulationist* in their attempts to codify the technological underpinnings of the movies, even though those underlying technologies were originally conceived and determined for *story-driven reasons*. If lightsabers were shown having wielders stuff more D-cell batteries into them every few minutes, then a game based on them would offer weights of the replacement batteries, rules for changing those batteries under challenging situations, and so on.

So why are we talking so much about ultra-tech technowizardry when this is a low-tech-themed issue?

Because there’s little reason the same deliberation that’s used to sort out the dramatic possibilities of ultra-tech can’t be applied to lower-tech advances. In fact, we’ve seen that tension play out many places throughout the gaming community – including the pages of *Pyramid* magazine.

*Reality is merely  
an illusion, albeit  
a very persistent one.*

– Albert Einstein

### STAND UP, TAKE A BOW . . .

Back in *Pyramid* #3/33: *Low-Tech*, we had one of the most ambitious articles ever to appear in our pages: *The Deadly Spring*, a deconstruction of bows in *GURPS*, as presented by Douglas Cole (author of *The Broken Blade* on pp. 4-8). During the development of that article, Douglas had a system that generated bows of all shapes, weights, designs, and other variables. I really liked it, but I wanted to ensure that canonical *GURPS* bows could be created using the same system, so that the numbers matched up.

This resulted in the “cinematic” and “realistic” options for damage (with “cinematic” lining up with the bows from the *GURPS Basic Set*).

Here is the tension of *GURPS* realized in a microcosm: *GURPS* the *game* wants to ensure that bows are a reasonable choice for heroes, while *GURPS* the *simulation* has to do what it can to ensure that bows aren't super-effective killing machines. And this tension plays out in a jillion different ways in most games: How effective is first-aid treatment at keeping someone able to continue fighting? How often do swords become unusable in combat (or at least less worthwhile as melee continues)? How often do adventuring heroes need to hold up the game by stopping for food and drink?

Fortunately, at your own gaming table, you are not beholden to the forces of realism *or* narrative design. Rather, you can drive up in your shiny new GM Fiat, honk the horn, and make the game's reality obey.

## ONE SIMPLE TRICK

If you're willing to get your hands dirty and ignore realism, there's no reason – when deciding on a setting's tech – you can't allow yourself the same narrative-driven design decisions that you would permit in a more ultra-tech setting.

Thus in a science-fiction game, you might designate the specs of your FTL drive so that nearby trading-partner star systems can reach each other in a week or less. In a lower-tech setting, you could describe sea travel just as arbitrarily; if you need 16th-century travel to permit England and North America to reach each other in a week, then *voilà!* 'Tis so. Do you want crossbows to be the commonplace weapon of choice, and people to be primarily unarmored (since having people draped in armor doesn't jibe with the aesthetic you're trying to achieve)? No problem! Wave the magic wand, adjust crossbow damage so that it's at least as effective as other weapons, and adjust your armor stats or rules so that it doesn't work well against crossbows.

Some of you may be clutching your chest in disbelief. (Please don't die; *Pyramid* needs you to keep reading!) But these same design decisions have been used in countless forms of entertainment. The developers of video games – even those games set in low-tech settings – adjust weapons, armor, and combat to ensure a fun experience for their players. The writers of pulp stories handwaved away whatever assumptions they needed. If a swashbuckling hero crashing into windows in a city was unrealistic, it at least made for a darn good story.

In many ways, games attempt to get around the plot-based limitations of reality in different ways, depending on what outlook the game is trying to emulate (see below). Thus, a game might give heroes a way to shrug off injury (such as using the rules and advice from *GURPS Power-Ups 5: Impulse Buys*), or permit sufficiently high skill levels to do greater-than-normal damage or use devices in somewhat predictably advantageous ways. (For example, *GURPS Action* presumes

that all heroes will have Luck or something similar.) But it's equally possible that stuff just works *differently* in your world.

For example, while the protagonist of the 2001 film *A Knight's Tale* was clearly better than his peers, the film itself was filled with plenty of anachronisms and near-impossibilities for its tech; the story was more important than historical accuracy. Likewise, plenty of all-ages cinematic swashbuckler films have swords or other weapons that never seem capable of delivering anything more deadly than a flesh wound (regardless of the side the wielder is on). Consider that it's not the *heroes* that are bending the world to their will; maybe the tech of the world just isn't that good.

After all, if we can accept *Star Wars* shootists being terrible shots regardless of what side they're on (and most folks seem unconcerned enough to not bother with armor), why can't we accept horses that can ride 20 hours straight, swords that never break, or sea vessels that can circumnavigate the world in a month? Reality is what you make it; go nuts!

## THE FUNDAMENTAL DIVIDE

As I'm pretty sure I've mentioned in an earlier column, one of the fundamental divides in gaming is attempting to define both the nature of reality, and the nature of what we're attempting to simulate at the gaming table. Put another way, if the Omaha Beach invasion on D-Day had a casualty rate of 50%, do the PCs have special abilities or training that enable them to more realistically be part of that 50%, or should all PCs (and NPCs on the same side) be designed so that they have about a 50% chance of surviving the scenario?

There's no right or wrong answer. Upping the odds of heroic survival gives the players more room to engage in storylines and subplots but risks some of the tensions of survivability. Meanwhile, focusing on a devotion to realism means that – if the heroes *do* triumph – then that victory is the players'.

However, that tension is at play when attempting to resolve some of the differences in this article. Sure, some folks have been killed with single arrow bolts, and it's cool if/when the heroes accomplish that . . . but how likely to do you want that to be, and how likely do you want the opposing side to reciprocate? Are the protagonist investigators of *CSI Whatever* the ultimate pinnacle of their profession, or are they representative samples? (See *Check Out the Big Brain . . .* from *GURPS Action 1: Heroes* for more insight into this.)

Every adventurer's life is a case study with no control group. Part of the challenge is trying to figure out if you want to focus on a D-Day hero who's most likely part of the group that survives, or trying to ensure that things are as realistic as possible where 50% of the D-Day invasion force does *survive* . . . and part of that group might even be the heroes.

## 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.

# SHORT BURSTS

## TEN MINUTES IN OCTOBER

BY STEVEN MARSH

*The next edition of **Car Wars** is coming! To help prepare, Pyramid proudly presents this vignette, spotlighting one aspect of its bold new world. Visit [carwars.sjgames.com](http://carwars.sjgames.com) to keep abreast of the latest developments!*

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It'd been decades since October regained its bite – before Maya Prashad was born – and she didn't appreciate the Colorado chill. She wrapped her overshirt closer and rubbed her temples. Denver stubbornly remained 100 miles away; it might as well be a million, with two flat tires on the Odisha Tiger. The sharpened debris that littered these roads endured even after the pavement self-repaired. Maya kicked the Tiger's front right tire, hitting the rim with her boot. She instantly regretted it, cursing as she briefly hopped on her heel.

She weighed her options. She had a phone with one bar; she could call Sara, cashing in the life-debt chip Maya earned with blood in Portland. But Maya swore she would only do that in an *extreme* emergency; she didn't think she was there yet. Besides, in a best-case scenario, Sara was likely a thousand miles away, which would take nearly a day to drive under ideal circumstances. *Maybe she can go all 21st-cent and fly over*, Maya mused bitterly to herself.

Hitchhike? It could be a day or more before she saw anyone else. Anyone she met was likely no one she *wanted* to meet. She might as well write a suicide note beforehand – and Maya *hated* handwriting.

Fix the tire? Unlikely. The emergency repair kit could only patch one, and she didn't have the skill to jury-rig a second repair. She was a good duelist – better than most – but she

didn't feel like it was in her veins . . . not like some she'd met on the coast. The driving, the shooting – a means to an end. Every dollar, eye on the prize: college. The possibility of getting an ultratech job went from "impossible" to "really difficult" with a degree. Alternatively, enough seed money would let her parlay an education into becoming a duelist designer; so much off-the-shelf gear needs to be kitbashed into something useful.

She sighed again; the dollars unspent on the no-flat tires seemed so insignificant now. *Save the money for a tombstone, for all the good . . .* Her thoughts were interrupted by a tiny glistening on the I-70 horizon. A car – at least one.

Maya weighed her options. She had her code – always the code. Some days she felt that was all that kept her alive, even when her own skill failed her. She could buy, barter, beg, or even steal . . . but she wouldn't attack unless attacked – and certainly wouldn't kill unprovoked.

She said a quick prayer as the vehicle approached. Then she got behind the wheel of the Tiger. Maya looked in the rear-view mirror. One vehicle. Alone. Closer. Closer.

It was going to pass her. She'd be stuck. She would die . . . or worse, have to call Sara.

Suddenly the Tiger echoed with a rapid rainfall of plinks. Machine-gun fire. Whoever this was, they either weren't friendly, or – most likely – the haze made the austere Tiger seem like an abandoned heap that would be fun for target practice. She smiled and pressed the button.

The discreet rear-facing rocket launcher roared into life, sending its deadly hidden payload backward while lurching her own stationary vehicle forward several feet with a grind of metal on pavement.

The approaching ramshackle patchwork vehicle swerved to avoid it, but the driver was just as clueless at maneuvering as they were at picking targets. The jalopy opened its front left tire into the oncoming rocket, causing a chain reaction where swerve transformed into spin into tumble into crash. Maya never heard a scream.

It took over an hour to excavate two tires from the vehicle's debris field. Maya didn't see a body (or bodies), but she also didn't look. The tires were mismatched and made the Tiger handle terribly for the day's drive to civilization. But it was still better than calling Sara.

### About the Author

Steven Marsh has written over 100 articles and edited or reviewed many more for Steve Jackson Games.



## ABOUT *GURPS*

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

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