

# PYRAMID



Issue 3/52 February '13

## LOW-TECH III

### LORD OF THE MANOR

by Matt Riggsby

#### CONCEALED ARMOR

by Dan Howard

#### THE PUCKLE GUN

by Graeme Davis

#### DELAYED GRATIFICATION

by Douglas H. Cole

#### LOW-TECH ARMOR DESIGN

by David L. Pulver

#### RETURN TO EIN ARRIS

by Dan Howard

# STEVE JACKSON GAMES

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## Article Colors

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

*Pale Blue:* In This Issue

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

*Dark Blue:* *GURPS* Features

*Purple:* Systemless Features

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### INTERIOR ART

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Dan Howard

From crops to caravanserais . . .

# IN THIS ISSUE

Once upon a time, a group of heroes could make a difference with well-honed swords, polished armor, and quality gear. This month's *Pyramid* once again steps back into an era of tech where "the net" was what you used to set a trap!

When you have farmers, lands, and crops, you are the *Lord of the Manor*. Matt Riggsby, co-author of *GURPS Low-Tech Companion 3: Daily Life and Economics*, uses the foundations laid by *GURPS Low-Tech* to help you figure out how many households and which crops you need to provide yourself with a suitable income befitting your Wealth. Use the six sample domains as inspiration or to drop into your favorite setting.

Few towns warmly welcome strangers kitted for battle. For those times when you need to appear less dangerous than you are, let Dan Howard, co-author of *GURPS Low-Tech*, demonstrate how you can have *Concealed Armor*. You'll get tips for hiding defenses, historical examples, and *GURPS* stats for protection designed especially for those who believe being discreet is the better part of valor.

When the dozens of offerings in *GURPS Low-Tech* just won't do, you need to explore the optional world of *Low-Tech Armor Design*. In this month's Eidetic Memory, David L. Pulver – co-designer of *GURPS Basic Set* – takes you through the steps necessary to make your own defensive gear, whether you want it primitive, modern, or supernatural.

Delve deeper into the history and variations of *The Puckle Gun* with the co-author of *GURPS Crusades*, Graeme Davis. Get additional *GURPS* stats and adventure seeds for an invention that was strangely ahead of its time.

Many unarmed and low-tech combat situations involve attacks that depend on each other, demonstrating the benefits of *Delayed Gratification*. Learn how to use this optional new *GURPS* maneuver to make your close-quarters battles more effective.

Now that you have new gear, new tips for hiding it, and a new maneuver, you need to *Return to Ein Arris* via a popular traveler stop. Get an overview of caravanserais and the specifics for an example establishment, including a map, suggested residents and regulars, adventure ideas, and a random visitors table. A classic adventure is so much easier when you're well rested!

This month's Random Thought Table considers how to shake up tech expectations, while Odds and Ends suggests ways that *worse* can be better – and includes a *Murphy's Rules* that strikes at the sole. How will you reimagine the wheel with this issue of *Pyramid*?

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# FROM THE EDITOR

## PASSPORT, PAST-PORT?

"The past is a foreign country: they do things differently there." Thus began L.P. Hartley in his novel *The Go-Between*, and it's been true for a long time (even though that book was published in 1953).

Of course, it's not just the culture or attitudes of the past that makes it "foreign"; it's the tech (or lack thereof) that makes it so strange to us. Yes, the lack of modern conveniences is a challenge, but there's also something *fun* about having legitimate excuses to make use of horses, swords, and trebuchets.

As gamers, we have the power to engage with our fake wares in ways that aren't possible with less immersive pastimes. One of the articles I found fascinating from the old *Roleplayer* contained rules about how to give **GURPS** stats to your horse. The game has evolved a lot since that 1990 article, but the desire to codify, tinker, and personalize our accouterments remains as strong as ever.

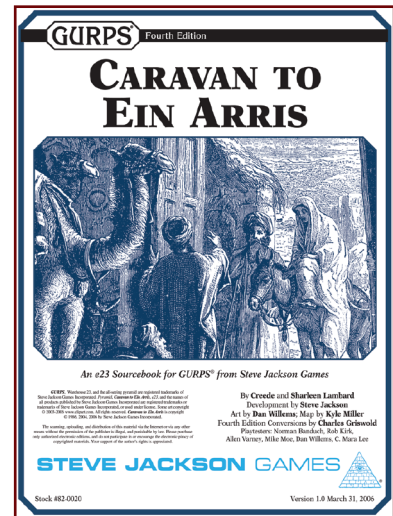
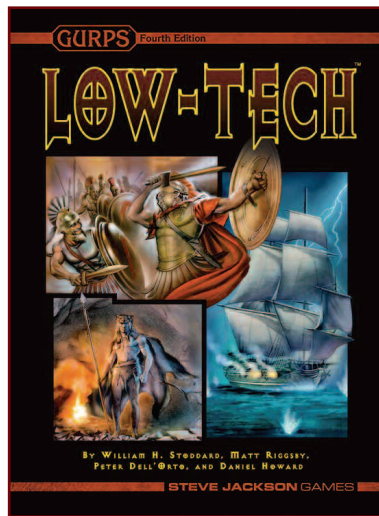
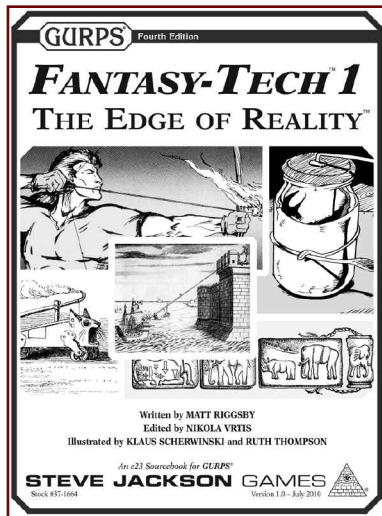
Plus, the more technological lore we internalize as gamers, the more exotic and entertaining we make our "foreign country"

feel. It's in this spirit that we present our second issue in support of the ways and means of the past. Use the contents herein to tweak the expectations of the players, enhance the options they have during war or peace, and provide new opportunities and locales to impress (or anger) the natives.

If we've done our job right, hopefully there's information in this era that will inspire a creation or revelation that provides as much joy as the detailed horse stats that some of us labored over decades ago. (Happy pastures to you, Thunderhoof . . . wherever your character sheet is today.)

## WRITE HERE, WRITE NOW

Speaking of inspiration and perspiration, how did the dwarven forges of our wordsmiths do this month? Did we craft anything whose praises will be sung in odes to come? Or did something emerge that should best be tossed into Mount Doom? Let our meditative monks know how were doing privately at [pyramid@sjgames.com](mailto:pyramid@sjgames.com), or join the drunken revelry that is the taverns of [forums.sjgames.com](http://forums.sjgames.com).



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## Overlord Income Table

CR	TL1-2	TL3	TL4
<b>Income (\$)</b>			
1	\$19.38	\$38.75	\$88.75
2	\$38.75	\$77.50	\$176.88
3	\$58.13	\$116.25	\$265.63
4	\$77.50	\$154.38	\$353.75
5	\$96.88	\$193.13	\$442.50
6	\$116.25	\$231.88	\$530.63

### Income (lbs. of grain)

1	31	62	142
2	62	124	283
3	93	186	425
4	124	247	566
5	155	309	708
6	186	371	849

## Conditional Modifiers

The *Conditional Modifier Table* (below) gives modifiers to income per household based on environmental and other conditions. The environmental quality modifiers refer to the levels in *GURPS Low-Tech Companion 3* (p. 11); they're different from the raw production modifiers because they deal with the difference between subsistence income (which is steady across environmental quality levels) and total production. Harvest-period modifiers concern the length of the harvest season; see *Pyramid* #3/33 (p. 20). In some climates, rapid weather fluctuations force farmers to race against the changing seasons and end up with greater losses than farmers in more gentle climates will get. With a short harvest period, crop losses begin after a month. With a very short harvest region, crop losses begin after two weeks. The "Magic" entry describes the use of the Bless Plants spell (*GURPS Magic*, p. 161). Modifiers are cumulative.

Environmental quality and harvest period are not necessarily related. Areas with good soil and pleasant weather during the growing season may nevertheless have *short* growing seasons, limited by rapid transitions to winter or monsoon seasons, while some equatorial regions with little or no transition between seasons may nevertheless suffer from poor soil and rainfall.

## Conditional Modifier Table

	TL1-2	TL3	TL4
<b>Environmental Quality</b>			
Excellent	+66%	+50%	+37%
Good	+40%	+30%	+22%
Typical	–	–	–
Poor	-40%	-30%	-23%
Very Poor	-66%	-50%	-38%
<b>Harvest Period</b>			
Short Harvest	-10%	-7%	-5%
Very Short Harvest	-28%	-21%	-16%
<b>Magic</b>			
Bless Plants Used	+260%	+180%	+135%

## Magic!

In a fantasy campaign, magic can provide a massive boost to productivity, but the logistics may be tight. A ceremonial casting of Bless Plants with 100 spectators – presumably local farmers who can be assumed to be universally in favor of the spell's success – only covers about as much land as a single farmer would have actively under cultivation during any given season. Assuming a household can provide four participants (a household of five, one of whom is too young to meaningfully contribute) and that the ritual castings can be performed at a rate of 10 per day (the caster paces himself by putting in a bare minimum of energy), a hamlet of 25 households could get all of their fields blessed in two and a half days. Round that up to three to account for travel and a little additional rest for the exhausted caster. If repeated ceremonial castings dressed up as planting festivals can go on for a month, a single caster can cover 250 households, which is suitable for a couple of sizable agricultural villages.

This may strain the plausible number of spell casters available in the campaign. If agricultural mages are less common, Bless Plants will probably be used by growers of cash crops. At skill 15, the spell also fails about 4.5% of the time and *critically* fails nearly 2% of the time. Over the course of 250 castings, several farmers' fields will produce distinctly less than their neighbors' (possibly leading to accusations of witchcraft and other malicious magic), and the caster has a reasonable chance of blowing up, being eaten by a demon, or otherwise suffering significant ill effects. In settings where Bless Plants is regularly used to increase farm yields, it may be used by holy people who have special protection from exceptional ill effects.

*Example:* In a region with Good environmental quality, the TL3/CR3 overlord from the example on p. 4 gets \$151.13 per month per household. If that region is also a short harvest region, it's \$142.99 per month.

## CASH CROPS

With his subsistence needs comfortably met and then some, an overlord can do something subsistence farmers can't: invest in lucrative but nonsubsistence production. He can divert some of his income to such ventures as wine-making, ranching, and olive-oil production. Using hired labor, the overlord keeps proceeds from sales himself.

The *Cash Crops Table* (p. 6) lists income produced by a single household for a crop or type of animal husbandry. To cultivate these, an overlord may employ households of non-subsistence farmers by diverting goods with the value of a sharecropper's income (*Low-Tech Companion 3*, p. 48).

*Example:* A TL3/CR3 overlord on land with Typical environmental quality might devote the income of three households (\$116.25 each) to the support of a single household tending sheep. Instead of settling for about \$348 worth of income from selling the grain, he can get \$836 from the sale of lamb, sheep's milk cheese, wool, and kid leather.

# EIDETIC MEMORY

## LOW-TECH ARMOR DESIGN

BY DAVID L. PULVER

Low-tech armor design has long been a contentious subject in *GURPS*. Game designers have used historical and archeological scholarship, along with information gleaned from modern testing by armorers and enthusiasts who recreate ancient and medieval armor. Yet this approach can be hampered by a lack of hard data, largely due to the relatively few instances in the last century or two of people using real low-tech weapons against people protected by real low-tech armor with intent to kill.

In contrast, we have very good data on the penetration of modern and historical ballistic weapons through materials like iron and steel, as well the weights by thickness per unit area of such plating, and, from anatomical studies, of the area of the human body. Moreover, *GURPS* has already set specific values for the protective qualities of such materials. These values have, of necessity, been calculated for the vehicular design rules I've worked on, and some of them may be applicable to personal armor as well. I have used them for this purpose, on occasion, in my own *GURPS* campaigns.

What this article provides are *highly optional* rules for a "ground up" look at TL1-4 armor design, using a system based on that used to calculate vehicular and high-tech armor. These rules are not intended to replace those found in *GURPS Low-Tech*, but rather to provide further options for the GM who likes tinkering with the way armor is created. The system is by no means as historical as *Low-Tech*, but it is highly customizable, and does offer some further flexibility and insight into the nature of armor.

### SYSTEM OVERVIEW

This system uses surface area and material values to build armor on a piece-by-piece basis. In both *GURPS Third Edition* and *GURPS Fourth Edition*, a basic principle of *GURPS* has been that one point of Damage Resistance is equal to the protection of 1/70 of an inch of rolled homogeneous armor steel plate (RHA for short). That is, RHA steel has DR 70 per inch. (Typical mild steel, like that used in a ship hull or a car body, has about DR 50-55 per inch.) These statistics have set the damage and protection of most TL5+ weapons and armor. What is RHA? It's a general term used for the grade of modern steel armor used as a basis of TL6-7

tank hulls and other applications, and is essentially a standard, good-quality high-strength low-alloy steel. As the name suggests, it is homogenous rather than face-hardened, to avoid making it too brittle.

Another concept used in armor discussions is weight of armor per square foot. How is this derived? Quite simply: RHA is steel, and typical steel has a density of 490 lbs. per cubic foot. An inch is 1/12 of a foot, so a square foot of steel therefore weighs  $490/12 = 40.83$  lbs. Since one inch of RHA is set at DR 70 in *GURPS*, then that means that each point of RHA DR weighs  $40.83/70 = 0.583$  lbs. per square foot. Similar calculations can be used for other armor materials if the density is known and the armor's DR per inch can be estimated. (Armor DR per inch can be estimated from bullet- and projectile-penetration studies.) Material values of this type, derived from armor tables developed for designing vehicular armor, are presented below.

You can also use it to build multiple pieces at once, by selecting a greater coverage of armor – though doing so may be less realistic than designing each piece individually. These rules can be used with options in *Low-Tech* or the *Basic Set*.

Follow this step-by-step procedure to design new armor. Most of the steps are very fast!

*Step 1: Tech Level and Name.* Pick the TL at which the armor is built, as well as an appropriate name.

*Step 2: Coverage and Surface Area.* Decide on the hit location – or partial location – that will be protected by the piece of armor being built. Calculate its surface area coverage in square feet. Record this value.

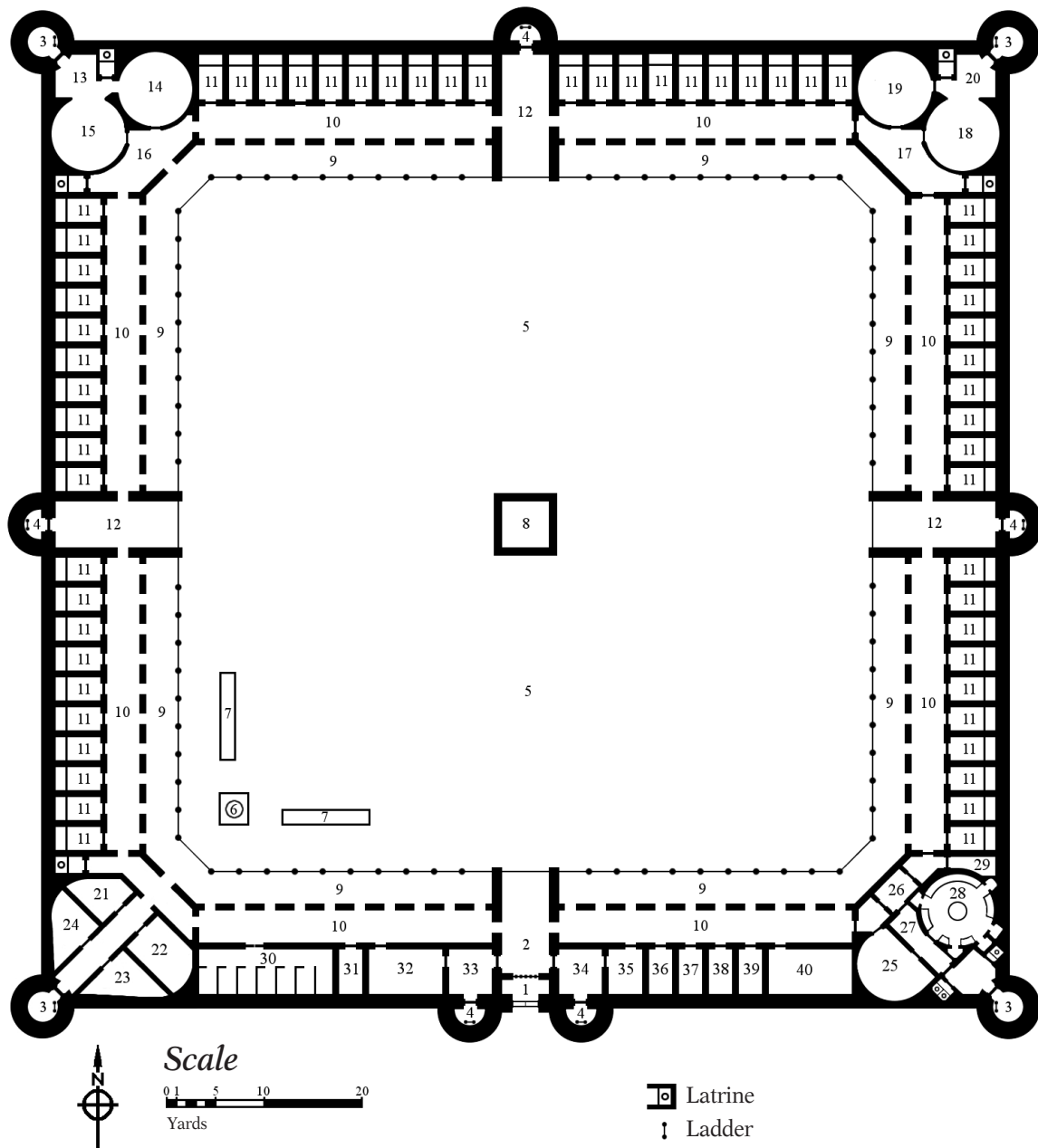
*Step 3: Armor Material.* Choose the material used in that piece of armor. Record its material weight and cost multipliers.

*Step 4: Construction Type.* Choose a construction type, such as mail or plate. Some types are only available for certain materials.

*Step 5: Damage Resistance.* Decide on the armor's DR.

*Step 6: Time to Don.* Determine if the armor counts as flexible, and calculate the time it takes to put it on. (This works with the rules on p. 102 of *Low-Tech*.)

*Step 7: Weight and Cost.* Calculate these stats using a formula based on the values determined in steps 1-5.



**Key**

- |                                     |   |                          |
|-------------------------------------|---|--------------------------|
| 1. Gatehouse                        | 14. Mill                                    | 27. Baths – warm room    |
| 2. Entry hall                       | 15. Kitchen                                 | 28. Baths – hot room     |
| 3. Round tower                      | 16. Refectory                               | 29. Baths – furnace Room |
| 4. Semi-circular tower              | 17. VIP quarters – servants’ room           | 30. Stables              |
| 5. Courtyard                        | 18. VIP quarters – men                      | 31. Captain’s quarters   |
| 6. Well                             | 19. VIP quarters – women                    | 32. Barracks             |
| 7. Water trough                     | 20. VIP quarters – storage and guards’ room | 33. Guard room           |
| 8. Mosque ( <i>masjid</i> )         | 21. Cobbler’s shop                          | 34. Manager’s office     |
| 9. Columned portico                 | 22. Workshops                               | 35. Manager’s quarters   |
| 10. Hallway                         | 23. Farrier’s smithy                        | 36. Courier’s quarters   |
| 11. Sleeping cell                   | 24. Quartermaster                           | 37. Janitor’s quarters   |
| 12. Decorated hall ( <i>ayvān</i> ) | 25. Barber’s room                           | 38. Imam’s quarters      |
| 13. Pantry                          | 26. Baths – undressing room                 | 39. Doctor’s room        |
|                                     |   | 40. Infirmary            |

**MAP OF THE PROPHET’S REST**



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

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

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